

**2001**  
**Wisconsin Research Report of**

**STUDIES ON  
CULTURAL PRACTICES AND  
MANAGEMENT SYSTEMS FOR  
CORN**

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# 2001 Wisconsin Research Report of Studies on Cultural Practices and Management Systems for Corn

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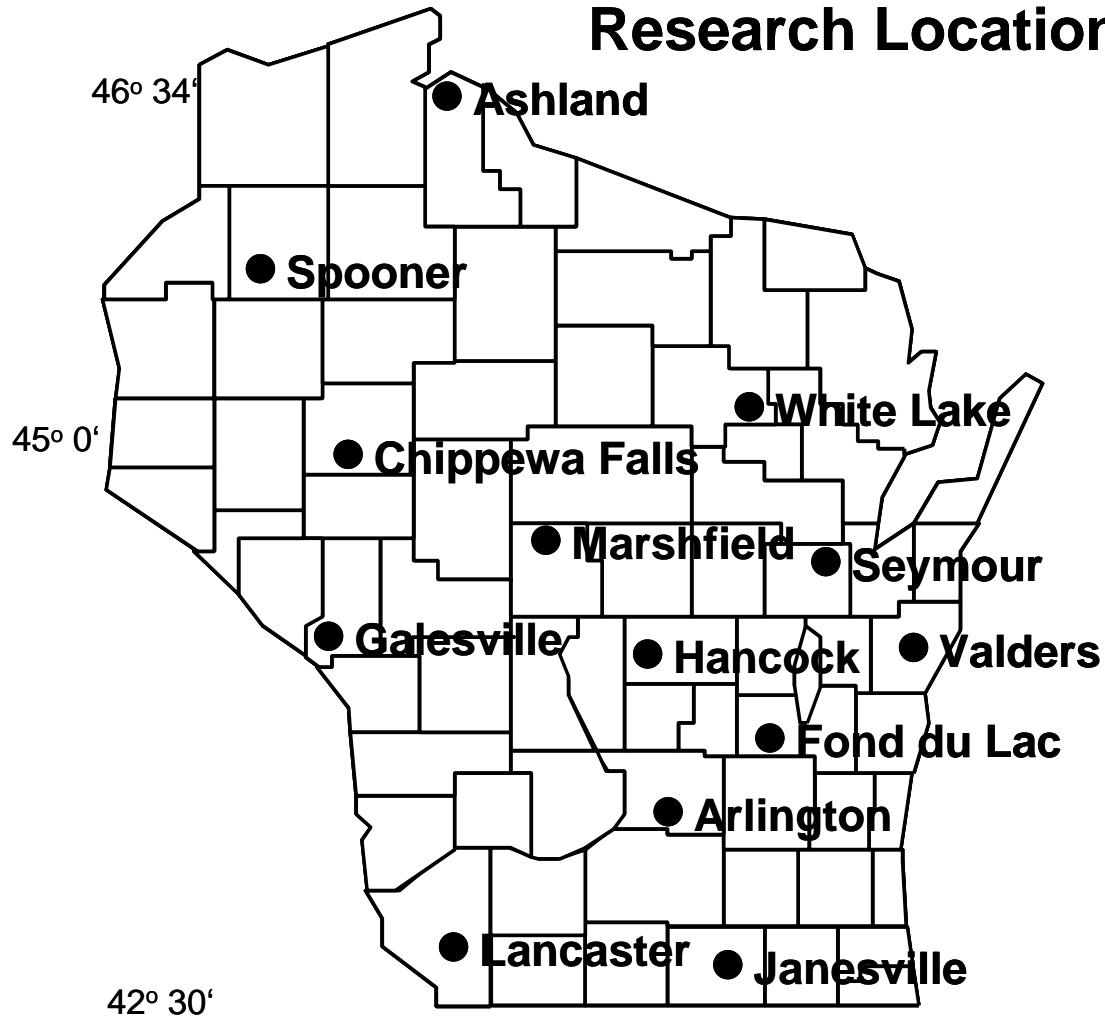
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# UW Corn Agronomy Research Locations



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## TABLE OF CONTENTS

|   | Location           | Experiment | Page | Table         |
|---|--------------------|------------|------|---------------|
| <b>Growing Conditions and Measurements</b>            |                    |            |      |               |
| Arlington Daily Rainfall, Temperature and GDU         | Arlington          |            | 2    | A-1           |
| Arlington Monthly Rainfall 1982-2001                  | Arlington          |            | 6    | A-2           |
| Arlington Monthly Temperatures 1982-2001              | Arlington          |            | 7    | A-3           |
| Observations, Data Collected and Statistical Analysis |                    |            | 11   | B-1           |
| <b>Corn Hybrid Maturity</b>                           |                    |            |      |               |
| Hybrid Maturity                                       | Chippewa Falls     | 01         | 17   | C-1           |
|   | Marshfield         | 01         | 19   | C-2           |
|   | Seymour            | 01         | 21   | C-3           |
|   | Valders            | 01         | 23   | C-4           |
| Hybrid Growth & Development                           | Arlington          | 01         | 25   | C-5 and C-6   |
| <b>Round-up Ready</b>                                 | Arlington          | 01         | 31   | C-7           |
| <b>Monsanto Bt Comparisons</b>                        | Southern Zone      | 01         | 34   | C-8           |
|   | South Central Zone | 01         | 35   | C-9           |
|   | North Central Zone | 01         | 36   | C-10          |
|   | Northern Zone      | 01         | 37   | C-11          |
| <b>Private Silage</b>                                 |                    |            |      |               |
| AgReliant   | Arlington          | 01         | 38   | C-12          |
|   | Lancaster          | 01         | 40   | C-13          |
|   | Fond du Lac        | 01         | 42   | C-14          |
|   | Galesville         | 01         | 44   | C-15          |
|   | Marshfield         | 01         | 46   | C-16          |
|   | Valders            | 01         | 48   | C-17          |
| IFSI  | Arlington          | 01         | 50   | C-18          |
|   | Lancaster          | 01         | 52   | C-19          |
| Thurston  | Arlington          | 01         | 54   | C-20          |
|   | Lancaster          | 01         | 56   | C-21          |
|   | Fond du Lac        | 01         | 58   | C-22          |
|   | Galesville         | 01         | 60   | C-23          |
|   | Arlington          | 02         | 62   | C-24          |
| <b>Plant Density</b>                                  | Arlington          | 02         | 62   | C-24          |
| <b>Planting Date</b>                                  | Arlington          | 03         | 65   | C-25 and C-26 |
| <b>Plant Density x Planting Date</b>                  | Arlington          | 04         | 71   | C-27          |
| <b>Row Spacing</b>                                    | Arlington          | 05         | 76   | C-28          |
| <b>Row Spacing x Plant Density</b>                    | Arlington          | 06         | 78   | C-29          |
| <b>Plant Density x Planting Date x Row Spacing</b>    | Arlington          | 07         | 81   | C-30          |
| <b>Seed Treatments</b>                                |                    |            |      |               |
| Fungicides (Gustafson)                                | Arlington          | 08         | 83   | C-31          |
|   | Marshfield         | 08         | 85   | C-32          |
|   | Seymour            | 08         | 87   | C-33          |

|   | <b>Location</b>  | <b>Experiment</b> | <b>Page</b> | <b>Table</b> |
|---|------------------|-------------------|-------------|--------------|
|   | Valders          | 08                | 89          | C-34         |
| Syngenta Crop Protection                              | Arlington        | 08                | 91          | C-35         |
|   | Fond du Lac      | 08                | 93          | C-36         |
| Syngenta Seeds  | Arlington        | 08                | 95          | C-37         |
|   | Marshfield       | 08                | 97          | C-38         |
| <b>20 Year Corn-Soybean Rotation Study</b>            | Arlington        |                   | 99          |              |
| Corn - Yield Data                                     |                  | 09                | 100         | C-39         |
| Soybean - Yield Data                                  |                  | 09                | 102         | C-40         |
| Soybean - Disease Rating                              |                  | 09                | 106         | C-41         |
| Soybean - Leaf Area Index                             |                  | 09                | 107         | C-42         |
| Soybean - Multi-spectral Radiometer Readings          |                  | 09                | 108         | C-43         |
| Soybean - Biomass, Height and Growth Stage            |                  | 09                | 109         | C-44         |
| Soybean - Gravimetric Soil Moisture                   |                  | 09                | 110         | C-45         |
| <b>Foliar Treatments</b>                              |                  |                   |             |              |
| Tilt Fungicide (Novartis)                             | Arlington        | 10                | 111         | C-46         |
| <b>Cutting Height</b>                                 | Arlington        | 10                | 113         | C-47         |
| <b>Hail Damage</b>                                    | Arlington        | 11                | 115         | C-48         |
| <b>Harvest Date</b>                                   | Arlington - 2000 | 15                | 117         | C-49         |
| <b>Plant Responses to Spacing and Population</b>      |                  |                   |             |              |
| Clipping  | Arlington        | 16                | 119         | C-50         |
| Cohort  | Arlington        | 16                | 121         | C-51         |
| Gap   | Arlington        | 16                | 123         | C-52         |
| Thin  | Arlington        | 16                | 125         | C-53         |
| Stand Variability                                     | Arlington        | 16                | 127         | C-54         |
|   | Fond du Lac      | 16                | 129         | C-55         |
|   | Galesville       | 16                | 131         | C-56         |
|   | Janesville       | 16                | 133         | C-57         |
| <b>Tillage in Corn and Soybean Production Systems</b> | Corn             | 17                | 135         | C-58         |
|   | Soybean          | 17                | 137         | C-59         |
| <b>On Farm Test Results</b>                           |                  |                   | 139         |              |
| WAPAC   | 95 Day A         |                   | 144         |              |
|   | 95 Day B         |                   | 146         |              |
|   | 100 Day          |                   | 148         |              |
|   | 105 Day          |                   | 150         |              |
|   | 110 Day          |                   | 152         |              |

# 2001 Wisconsin Growing Conditions

(Derived from USDA Reports)

## Corn

Corn planting started in earnest in late April and, after spring rain delayed earlier attempts. Planting progress in the central and northern districts remains behind schedule. By the middle of May cornrows were visible throughout the state, as corn started to emerge after a period of cool weather in April. At the end of May and the beginning of June, some emerge corn fields had shades of yellow, showing stress from the excess moisture experience thus far. Corn planting, emergence, and height were all behind last year and the five-year average in early June. Increased temperatures were needed for corn plants to grow and return to healthy green foliage. By the end of June, time to replant time to plant or replant was ending, as wet field conditions continued. By the first week in July, farmers East Central Wisconsin were faced with the reality that some fields would remain unplanted. Reporters throughout the state commented on uneven corn stands across fields. Corn started to pollinate during mid July's dry spell. By the end of July, rolled leaves were a common sight, even though the state received scattered rainfall. Corn reached silk stage late July, much behind both five-year average and 2000. Farmers reported more herbicide injury than previous years, possibly due to fluctuations in temperature during herbicide applications. At the end of July fields were variable in stand and progress across state. In early August sun corn reached dough stage. Mid-August brought comments of corn borer problems in southeastern Wisconsin. By the end of August, corn reaching down stage was well behind both 2000 and the five-year average. September started with silage harvest in East Central and Southern Wisconsin. Corn crop conditions were rated least 57 percent good to excellent during September. October saw the start of high moisture corn harvest. Some farmers reported fields with better grain yields than they expected. However, the majority of reports indicated harvest yields were variable. Statewide, farmers waited until moisture levels dropped even though grain harvest lagged behind 2000 and the five-year average. The late fall moisture levels were great for selling high moisture corn, but poor for grain harvest. Stand ability was a concern, as corn was left in the field longer than desired. Some fields throughout the state were showing signs of lodging. As November progressed, potential mold and storage problems were concerns as grain harvest continued.

Wisconsin corn production dropped 9% in 2001 to 330 million bushels. Part of the reason for the drop in production is because farmers planted about 3.40 million acres of corn for all purposes in 2001, down 3% from 2001. Acres harvested for grain dropped 5% in to 2.60 million acres. Lower yields also contributed to the lower production. Yields for grain and dropped from 132 bushels per acre in 2000 to 127 bushels per acre for the 2001 crop. Acres of corn harvested for silage in the state total of 780,000 acres in 2001, up 60,000 acres from 2002. Delayed planting and dry weather in July had farmers harvesting more corn for silage rather than grain. The average yield for silage was down 2.00 tons to 14.5 tons per acre. Silage production, and at 11.3 million tons was down 5% from 2000. Nationally corn for grain production totaled 9.51 billion bushels, down 4% from 2000 but the fourth largest crop since 1994. The grain yield of 138.2 bushels per acre rose 1.3 bushels from 2000 and was the second highest yield on record

## Soybeans

Soybean planting started in Wisconsin by the middle of May, well behind 2000, yet close to the five-year average. As the wet spring continued, many farmers change planting intentions from corn to soybeans. Soybean progress in the southern Districts was comparable to 2000 and the five-year average. Progress in the northern districts, delayed by the weather, fell behind last year and the five-year average. Soybean emergence was delayed due to cool temperatures. By mid June, soybeans in southern Wisconsin were reported in the unifoliate to trifoliate leaf stage, regardless of planting date. By mid July blossoms could be found in Wisconsin soybean fields, considerably later than last year and the five-year average. Soybean plants set pods from late July into August. By the end of August farmers reported soybeans and not setting pods well, with fewer pods per node compared to recent years and early planted fields with pods that were still flat. Disease was now a concern after a stress filled growing season. Soybean leaves began turning yellow in early September, slightly later than normal. Harvest began in mid

September, but progressed slowly. Soybeans were confronted with a heavy morning dew and scattered rain during plant drydown. Combining neared completion in mid November with average to below average soybean yields. Farmers around the state were able to bale soybean straw for bedding with November's dry conditions.

Producers planted 1.60 million acres of soybeans in 2001, a record high acreage for Wisconsin. This acreage was 3% above the 1.55 million acres planted in 2000. Producers harvested a record 1.57 million acres, up 70,000 acres from 2000. Many producers were disappointed when yields for 2001 fell to 38 bushels per acre, down from 40 bushels per acre the previous year and 46 bushels per acre in 1999. Production dropped to 59.7 million bushels, falling 1% from the record 60.0 million bushels produced in 2000. Nationally, soybean production totaled 2.89 billion bushels, up 5% from 2000 and a record high. The average yield per acre in 2001 was 39.6 bushels, up 1.5 bushels from 2000.

## **Winter Wheat**

Winter dormancy ended in early April, when fields started greening. Winter freeze damage to the crop was rated 59% none, 30 percent light, 9% moderate, and 2% severe in Wisconsin at the end of April. Winter wheat benefited from the wet spring weather and was rated 90% good to excellent by mid May. Winter wheat grew fast with the continual wet weather and headed out by mid June in southern Wisconsin. By mid July, winter wheat began reaching maturity, and harvest started by the end of the month, behind 2000 and the five-year average. Harvest was approximately half complete by the end of July and reached completion in mid August. Statewide, a record high yield was reached this year. Sowing of winter wheat started in northern Wisconsin mid September. This fall's mild temperatures and regular rain enabled many winter wheat fields to be well established, covering the ground with a green blanket before snowfall. Central Wisconsin reported some wheat fields showing signs of disease and mid November.

Wisconsin farmers seeded 180,000 acres of winter wheat for 2002, up 6% from 2001. Nationally winter wheat seeded for 2002 is expected to total 41.0 million acres., down fractionally from 2001. This is the smallest area since 1971.

## **Statistical Analysis**

All data are analyzed using generally accepted statistical tests. In most cases the probabilities of main effect and interaction are shown. The number listed as a percent probability that the main effect differences due to chance (i.e. not due to the treatment). A Fishers' Protected Least Significant Difference (LSD) is calculated for all main effect probabilities of 10% or less.

## Observations and Data Collected

### Corn Measurements

|               |               |   |
|---------------|---------------|---|
| Grower Return | Units         | \$/acre   |
|               | Formula       | (weighted price per bushel x bushels per acre) - handling - hauling - drying costs.   |
|               | Determination | Handling cost = \$0.017 per bushel<br>Hauling cost = \$0.04 per bushel<br>On-farm drying cost = \$0.015 per point per bushel<br>Weighted Price per Bushel = \$2.196 per bushel = (50% December Average Cash price) + (25% March CBOT Futures price) + (25% July CBOT Futures price).<br>December Average Cash price derived from Wisconsin Ag Statistics; CBOT Futures prices derived from closing price on first business day in December. |
| Grain Yield   | Units         | Bu/acre   |
|               | Formula       | $\frac{43560}{(\text{plot width} * \text{plot length in feet})} * \text{weight of sample in lbs.} * \frac{100 - \text{sample moisture}}{100 - 15.5 \{ \text{moisture standard} \}} / 56 \text{ lb/bu}$  |
| Moisture      | Units         | %   |
|               | Determination | GRAIN: determined by detector on combine or wet weight method 15.5% is standard corn moisture<br>WHOLE PLANT: moisture of subsample of chopped whole plant moisture of subsample of chopped stover (whole plant less ears)  |
| Test Weight   | Units         | lbs/bushel  |
|               | Determination | weight of known volume converted to lbs/bushel  |
| Plant Height  | Units         | inches or centimeters   |
|               | Determination | plant height from soil surface to top of canopy.  |
|               | Observations  | average of several plants in each plot  |
| Ear Height    | Units         | inches  |
|               | Determination | height from soil surface to base of ear   |
|               | Observations  | average of several plants in each plot  |
| Broken Stalks | Units         | %   |
|               | Determination | at harvest  |
|               | Observations  | number of stalks broken below the ear + number of plants lodged at >45% from the whole plot (22' x 2 rows)  |
|               | Formula       | $\frac{\text{broken stalks} + \text{lodged plants}}{\text{total stalks}} * 100\%$   |
| Kernel Weight | Units         | mg/seed   |
|               | Determination | weight of 100 seeds converted to mg/seed  |
| Plant Density | Units         | plants per acre   |
|               | Determination | Early = plants at v3-v5 stage<br>Late = just prior to harvest   |
|               | Observations  | plants counts on whole plot (22' x 2 rows)  |
| Ear Density   | Units         | Ears per acre   |



|                    |               |  |
|--------------------|---------------|--|
|                    | Determination | Just prior to harvest  |
|                    | Observations  | Ear counts are taken from whole plot (22' x 2 rows) taken  |
| % Survival         | Units         | %  |
|                    | Formula       | Early stand / late stand count x 100%  |
| Leaf Development   | Units         | none   |
|                    | Determination | count of leaf number   |
|                    | Observations  | LEAF COLLARS: total number of visible leaf collars<br>HAIL ADJUSTERS: total number of drooping leaves<br>TOTAL: total number of leaves visible |
| Kernel Milk        | Units         | %  |
|                    | Determination | percent milk remaining in kernel at harvest  |
|                    | Observations  | visual average of three ears from a non-harvest row  |
| Crude Protein (CP) | Units         | %  |
|                    | Determination | wet lab or NIRS procedure on plot subsample  |
| NDF                | Units         | %  |
|                    | Determination | wet lab or NIRS procedure on plot subsample  |
| ADF                | Units         | %  |
|                    | Determination | wet lab or NIRS procedure on plot subsample  |
| Digestibility      | Units         | %  |
|                    | Determination | invitro wet lab or NIRS procedure on plot subsample  |
| Kernel Rot         | Units         | none   |
|                    | Determination | visual average of 5 plants at V2-V4  |
|                    | Scale         | 1=deterioration<br>2=no deterioration  |
| Root Discoloration | Units         | none   |
|                    | Determination | visual average of 5 plants at V2-V4  |
|                    | Scale         | 1=none<br>2=trace<br>3=light<br>4=moderate<br>5=severe   |
| Primary Root       | Units         | none   |
| Longevity          | Determination | visual average of 5 plants at V2-V4  |
|                    | Scale         | 1=living<br>2=blighted<br>3=dead or pruned   |
| Emergence          | Units         | %  |
|                    | Formula       | Early stand / late stand count x 100%  |
| Extended Leaf      | Units         | inches   |

Height

Determination height of plant with leaves extended in upright position

Starch

Units %

Determination wet lab or NIRS on plot subsample

### Soybean Parameters

Grain Yield

Units Bu/acre

Formula  $(43560 / (\text{plot width} * \text{plot length in feet})) * \text{weight of sample in lbs.} * ((100 - \text{sample moisture}) / (100 - 13\{\text{moisture standard}\})) / 60 \text{ lb/bu}$

Grain Moisture

Units %

Determination determined by detector on combine 13% is standard soybean moisture

Plant Height

Units inches

Determination plant height from soil surface to tip of main stem

Observations average of several plants in each plot

Plant Lodging

Units none

Determination based on average erectness of main stem of plant

Observations whole plot is assessed

Scale  
1=ALL PLANTS ERECT  
2=SLIGHT LODGING  
3=PLANTS LODGED AT 45 DEGREE ANGLE  
4=PLANTS LODGED AT 60-80 DEGREE ANGLE

Seed Weight

Units seeds/lb

Determination weight of 300 seeds converted to seeds/lb

Plant Density

Units plants per acre

Determination early = plants at V3 to V5 stage

late = just prior to harvest

Observations plants counts are taken from 5 linear feet of plot X the harvested area

% Survival

Units %

Formula  $\text{Early stand} / \text{late stand count} * 100\%$

Protein And Oil

Units %

Determination determined by Iowa State Grain Quality Laboratory on a 100 g sample from each plot

Maturity Date

Units day of year

Determination the day that 95% of pods in a plot have reached their mature color

Observations every 3 to 5 days throughout the soybean maturing period

Disease

Units % of plant area symptomatic

Determination during season

Scale  
Horsefall-Barratt Scale  
0% = NO SYMPTOMS  
1 = 0-3%  
2 = 3-6%

- 3 = 6-12%
- 4 = 12-25%
- 5 = 25-50%
- 6 = 50-75%
- 7 = 75-87%
- 8 = 87-94%
- 9 = 94-97%
- 10 = 97-100%
- 11 = 100%

|                    |               |  |
|--------------------|---------------|--|
| Disease Area Index | Units         | none   |
| (For Bsr)          | Formula       | <b>AREA UNDER DISEASE PROGRESS CURVE</b> = (Rating 1*Days Between Date2&1)+((Rate2-Rate1)*0.5*Days Between Date 2&1)+(Rating 2*Days Between Date3&2)+((Rate3-Rate2)*0.5*Days Between Date 3&2)+ (Rating 3*Days Between Date4&3)+((Rate4-Rate3)*0.5*Days Between Date 4&3)+ (Rating 4*Days Between Date5&4)+((Rate5-Date4)*0.5*Days Between Date 5&4) |
|                    | Determination | Disease rating taken from start of foliar symptoms to leaf drop  |
|                    | Observations  | For Brown Stem Rot - every 4 to 6 days   |
| Aphid Numbers      | Scale         | 1 = 0 Aphids<br>2 = 1-10 Aphids<br>3 = 11-25 Aphids<br>4 = 26-50 Aphids<br>5 = 50-100 Aphids<br>6 = 101-200 Aphids<br>7 = 200+ Aphids  |
| Virus Rating       | Units         | % crop canopy expressing virus-like symptoms   |
|                    | Determination | growing season   |
|                    | Scale         | Horsefall-Barratt Scale  |
| Virus Incidence    | Units         | % plots with infected plants or % infected plants  |
|                    | Determination | ELISA (Enzyme-Linked Immunoassay)  |
| Virus Acronyms     | AMV           | Alfalfa Mosaic Virus   |
|                    | BPMV          | Bean Pod Mottle Virus  |
|                    | SMV           | Soybean Mosaic Virus   |
|                    | TSV           | Tobacco Streak Virus   |
| Mottling           | Units         | %  |
|                    | Determination | seed with bleeding hila  |

## Soils Information

| Location<br>Lat - Long                 | Soil Series                                 | Soil Family                                       | Soil Subgroup          |
|--|---|---|------------------------|
| Ashland ARS<br>46 ° 34 ' - 90 ° 58 '   | Portwing silt loam<br>(Predominant soil)    | Fine, mixed,<br>superactive, frigid               | Oxyaquic Glossudalfs   |
|  | Allendale loamy fine<br>sand                | Sandy over clayey,<br>mixed semiactive,<br>frigid | Alfic Epiaquods        |
| Arlington ARS<br>43 ° 18 ' - 89 ° 21 ' | Plano silt loam<br>(predominant soil)       | Fine-silty, mixed,<br>mesic                       | Typic Argiudoll        |
|  | Ringwood silt loam                          | Fine-loamy, mixed,<br>mesic                       | Typic Argiudoll        |
|  | Saybrook silt loam                          | Fine-silty, mixed,<br>mesic                       | Typic Argiudoll        |
|  | Radford silt loam                           | Fine-silty, mixed,<br>mesic                       | Fluvaquentic Hapludoll |
|  | Sable silt loam                             | Fine-silty, mixed,<br>mesic                       | Typic Haplaquoll       |
|  | Huntsville silt loam                        | Fine-silty, mixed,<br>mesic                       | Cumulic Hapludoll      |
|  | Elburn silt loam                            | Fine-silty, mixed<br>mesic                        | Aquic Argiudoll        |
| Hancock ARS<br>44 ° 7 ' - 89 ° 32 '    | Channahon silt loam                         | Loamy, mixed, mesic                               | Lithic Argiudoll       |
|  | Plainfield loamy sand<br>(Predominant soil) | Mixed, mesic                                      | Typic Udipsamment      |
| Lancaster ARS<br>42 ° 50 ' - 90 ° 47 ' | Sparta loamy sand                           | Sandy, mixed, mesic                               | Entic Hapludoll        |
|  | Fayette silt loam                           | Fine-silty, mixed,<br>mesic                       | Typic Hapludalf        |
|  | Rozetta silt loam                           | Fine-silty, mixed,<br>mesic                       | Typic Hapludalf        |
| Dubuque silt loam                      | Dubuque silt loam                           | Fine-silty, mixed,<br>mesic                       | Typic Hapludalf        |
|  | Marshfield ARS<br>44 ° 39 ' - 90 ° 8 '      | Withee silt loam<br>(Predominant soil)            | Fine-loamy, mixed      |
| Spooner ARS<br>45 ° 49 ' - 91 ° 53 '   | Marshfield silt loam                        | Fine-loamy, mixed,<br>frigid                      | Typic Ochraqualf       |
|  | Chetek sandy loam                           | Coarse-loamy, mixed                               | Eutric Glossaboralf    |
|  | Pence sandy loam                            | Sandy, mixed, frigid                              | Entic Haplorthod       |
| Omega loamy sand                       | Omega loamy sand                            | Sandy, mixed, frigid                              | Typic Udipsamment      |
|  | Antigo silt loam                            | Well drained silt loam-<br>sandy loam soils       |                        |

**Table A-1. Summary of Rainfall, Solar Radiation, Temperatures and Growing Degree Units.  
Arlington Research Station - 2001 Growing Season.**

| Day of<br>Year | Precip.<br>mm | Average                          |         | Soil Temperature at 2" |      |         | Air Temperature |      |                        | Growing Degrees |                        |       |     |
|----------------|---------------|----------------------------------|---------|------------------------|------|---------|-----------------|------|------------------------|-----------------|------------------------|-------|-----|
|                |               | Daily Solar<br>Radiation<br>W/m2 | Average | Max                    | Min  | Average | Max             | Min  | Base 30/10 °C<br>Daily | Total           | Base 86/50 °F<br>Daily | Total |     |
| 121            | 1-May         | 25.40                            | 237.7   | 19.1                   | 24.5 | 14.5    | 21.0            | 27.6 | 14.4                   | 11.0            | 11                     | 19.8  | 20  |
| 122            | 2-May         | 7.11                             | 128.2   | 18.6                   | 22.9 | 15.5    | 20.3            | 25.6 | 16.0                   | 10.8            | 22                     | 19.4  | 39  |
| 123            | 3-May         | 9.40                             | 88.8    | 16.7                   | 21.9 | 13.2    | 15.6            | 20.0 | 11.5                   | 5.7             | 28                     | 10.3  | 50  |
| 124            | 4-May         | 0.00                             | 138.2   | 13.2                   | 16.6 | 10.7    | 11.9            | 15.7 | 8.7                    | 2.9             | 30                     | 5.1   | 55  |
| 125            | 5-May         | 4.83                             | 75.8    | 11.2                   | 12.7 | 9.2     | 11.1            | 13.2 | 8.1                    | 1.6             | 32                     | 2.9   | 58  |
| 126            | 6-May         | 0.00                             | 152.3   | 13.5                   | 18.1 | 9.9     | 14.8            | 18.9 | 10.8                   | 4.9             | 37                     | 8.7   | 66  |
| 127            | 7-May         | 6.60                             | 185.4   | 14.9                   | 20.4 | 10.2    | 15.1            | 19.3 | 8.1                    | 4.6             | 42                     | 8.4   | 75  |
| 128            | 8-May         | 0.00                             | 316.8   | 13.5                   | 21.0 | 7.4     | 14.8            | 22.3 | 4.9                    | 6.1             | 48                     | 11.0  | 86  |
| 129            | 9-May         | 0.00                             | 261.8   | 15.4                   | 24.0 | 7.8     | 17.4            | 25.8 | 5.6                    | 7.9             | 56                     | 14.2  | 100 |
| 130            | 10-May        | 21.59                            | 225.6   | 17.7                   | 24.0 | 13.6    | 19.0            | 25.3 | 14.4                   | 9.9             | 65                     | 17.7  | 118 |
| 131            | 11-May        | 0.00                             | 98.4    | 15.1                   | 18.6 | 11.1    | 13.0            | 16.5 | 7.0                    | 3.3             | 69                     | 5.9   | 123 |
| 132            | 12-May        | 0.00                             | 318.7   | 14.9                   | 22.8 | 9.2     | 11.0            | 17.7 | 5.1                    | 3.8             | 72                     | 6.9   | 130 |
| 133            | 13-May        | 0.00                             | 298.2   | 14.6                   | 22.2 | 8.1     | 13.2            | 20.3 | 4.9                    | 5.2             | 78                     | 9.3   | 140 |
| 134            | 14-May        | 0.00                             | 110.6   | 13.1                   | 17.2 | 9.9     | 13.7            | 19.2 | 8.0                    | 4.6             | 82                     | 8.2   | 148 |
| 135            | 15-May        | 0.00                             | 304.4   | 20.1                   | 27.2 | 13.7    | 23.6            | 30.3 | 15.1                   | 12.6            | 95                     | 22.6  | 171 |
| 136            | 16-May        | 0.00                             | 304.1   | 21.5                   | 28.5 | 16.7    | 22.6            | 28.0 | 16.5                   | 12.2            | 107                    | 22.0  | 193 |
| 137            | 17-May        | 0.00                             | 257.6   | 19.9                   | 27.7 | 14.2    | 20.7            | 29.7 | 12.6                   | 11.2            | 118                    | 20.1  | 213 |
| 138            | 18-May        | 0.00                             | 291.2   | 18.2                   | 24.9 | 12.9    | 17.3            | 23.4 | 9.3                    | 6.7             | 125                    | 12.1  | 225 |
| 139            | 19-May        | 0.00                             | 332.3   | 18.0                   | 27.2 | 10.3    | 17.6            | 25.8 | 6.9                    | 7.9             | 133                    | 14.2  | 239 |
| 140            | 20-May        | 19.30                            | 205.6   | 18.4                   | 24.7 | 14.5    | 19.2            | 25.7 | 13.5                   | 9.6             | 142                    | 17.2  | 256 |
| 141            | 21-May        | 17.02                            | 93.4    | 16.0                   | 18.3 | 12.6    | 15.1            | 18.9 | 10.0                   | 4.4             | 147                    | 8.0   | 264 |
| 142            | 22-May        | 7.62                             | 260.2   | 14.0                   | 18.3 | 10.7    | 9.6             | 14.1 | 5.9                    | 2.1             | 149                    | 3.7   | 268 |
| 143            | 23-May        | 3.81                             | 162.0   | 11.9                   | 15.1 | 9.3     | 7.9             | 11.8 | 4.7                    | 0.9             | 150                    | 1.6   | 269 |
| 144            | 24-May        | 7.62                             | 125.5   | 11.3                   | 16.0 | 8.6     | 8.6             | 14.2 | 4.4                    | 2.1             | 152                    | 3.7   | 273 |
| 145            | 25-May        | 0.00                             | 162.9   | 12.0                   | 16.7 | 8.3     | 9.7             | 16.5 | 3.8                    | 3.3             | 155                    | 5.9   | 279 |
| 146            | 26-May        | 0.00                             | 198.5   | 12.2                   | 16.4 | 8.4     | 10.7            | 16.4 | 4.9                    | 3.2             | 158                    | 5.8   | 285 |
| 147            | 27-May        | 0.00                             | 265.6   | 13.6                   | 20.9 | 8.3     | 11.9            | 18.7 | 5.7                    | 4.3             | 163                    | 7.8   | 293 |
| 148            | 28-May        | 0.00                             | 271.5   | 15.5                   | 22.0 | 10.7    | 15.3            | 21.7 | 8.8                    | 5.9             | 168                    | 10.6  | 303 |
| 149            | 29-May        | 0.00                             | 267.2   | 15.0                   | 21.6 | 10.3    | 13.8            | 19.0 | 8.1                    | 4.5             | 173                    | 8.1   | 311 |
| 150            | 30-May        | 0.00                             | 298.3   | 13.8                   | 20.3 | 8.2     | 12.5            | 19.0 | 4.3                    | 4.5             | 177                    | 8.1   | 319 |
| 151            | 31-May        | 12.70                            | 121.2   | 11.3                   | 14.7 | 8.6     | 10.5            | 16.0 | 6.4                    | 3.0             | 180                    | 5.4   | 325 |
| 152            | 1-Jun         | 10.16                            | 209.8   | 13.5                   | 20.0 | 9.6     | 11.3            | 18.9 | 6.8                    | 4.4             | 185                    | 8.0   | 333 |
| 153            | 2-Jun         | 2.79                             | 73.8    | 11.8                   | 13.3 | 10.3    | 9.9             | 11.9 | 7.5                    | 1.0             | 186                    | 1.7   | 335 |
| 154            | 3-Jun         | 0.00                             | 159.7   | 12.1                   | 14.7 | 8.8     | 10.1            | 13.2 | 5.3                    | 1.6             | 187                    | 2.8   | 337 |
| 155            | 4-Jun         | 0.00                             | 84.6    | 12.2                   | 13.6 | 10.8    | 10.8            | 13.1 | 8.2                    | 1.6             | 189                    | 2.8   | 340 |
| 156            | 5-Jun         | 15.75                            | 54.6    | 11.4                   | 13.2 | 9.6     | 11.0            | 14.4 | 7.3                    | 2.2             | 191                    | 3.9   | 344 |
| 157            | 6-Jun         | 0.00                             | 76.4    | 13.4                   | 15.2 | 11.6    | 13.9            | 16.8 | 11.2                   | 4.0             | 195                    | 7.2   | 351 |
| 158            | 7-Jun         | 2.29                             | 176.9   | 15.6                   | 19.9 | 12.9    | 16.1            | 22.9 | 11.8                   | 7.4             | 203                    | 13.3  | 365 |
| 159            | 8-Jun         | 0.25                             | 311.8   | 17.6                   | 23.1 | 12.9    | 17.8            | 25.4 | 11.4                   | 8.4             | 211                    | 15.1  | 380 |
| 160            | 9-Jun         | 0.00                             | 285.8   | 18.2                   | 24.1 | 12.6    | 20.4            | 28.0 | 11.5                   | 9.7             | 221                    | 17.5  | 397 |
| 161            | 10-Jun        | 0.25                             | 191.3   | 18.7                   | 22.3 | 16.1    | 21.5            | 28.5 | 16.3                   | 12.4            | 233                    | 22.2  | 419 |
| 162            | 11-Jun        | 25.40                            | 331.1   | 20.6                   | 27.6 | 14.3    | 23.2            | 31.4 | 13.6                   | 11.8            | 245                    | 21.2  | 441 |
| 163            | 12-Jun        | 16.00                            | 196.2   | 20.3                   | 23.4 | 17.8    | 21.6            | 26.6 | 17.6                   | 12.1            | 257                    | 21.7  | 462 |
| 164            | 13-Jun        | 0.00                             | 316.0   | 22.3                   | 27.0 | 18.0    | 25.7            | 31.8 | 18.1                   | 14.1            | 271                    | 25.3  | 488 |
| 165            | 14-Jun        | 21.34                            | 215.5   | 22.0                   | 27.4 | 19.7    | 23.6            | 31.2 | 17.6                   | 13.8            | 285                    | 24.8  | 513 |
| 166            | 15-Jun        | 9.65                             | 171.0   | 19.4                   | 21.6 | 16.3    | 19.0            | 22.7 | 13.7                   | 8.2             | 293                    | 14.8  | 527 |
| 167            | 16-Jun        | 0.00                             | 329.1   | 19.4                   | 25.3 | 15.4    | 19.2            | 26.2 | 13.2                   | 9.7             | 303                    | 17.5  | 545 |

Continued

**Table A-1. Summary of Rainfall, Solar Radiation, Temperatures and Growing Degree Units.  
Arlington Research Station - 2001 Growing Season.**

| Day of<br>Year | Precip.<br>mm | Average<br>Daily Solar<br>Radiation<br>W/m2 | Soil Temperature at 2" |              |              | Air Temperature  |              |              | Growing Degrees        |                        |                        |                        |      |
|----------------|---------------|---|------------------------|--------------|--------------|------------------|--------------|--------------|------------------------|------------------------|------------------------|------------------------|------|
|                |               |   | Average<br>Deg C       | Max<br>Deg C | Min<br>Deg C | Average<br>Deg C | Max<br>Deg C | Min<br>Deg C | Base 30/10 °C<br>Daily | Base 30/10 °C<br>Total | Base 86/50 °F<br>Daily | Base 86/50 °F<br>Total |      |
| 168            | 17-Jun        | 6.10  | 309.6                  | 20.1         | 26.1         | 14.3             | 21.0         | 28.5         | 11.3                   | 9.9                    | 303                    | 17.8                   | 545  |
| 169            | 18-Jun        | 3.81  | 158.6                  | 20.0         | 22.5         | 18.2             | 22.9         | 28.0         | 17.4                   | 12.7                   | 306                    | 22.9                   | 550  |
| 170            | 19-Jun        | 0.00  | 184.7                  | 19.4         | 21.9         | 16.2             | 19.1         | 25.2         | 13.0                   | 9.1                    | 315                    | 16.4                   | 567  |
| 171            | 20-Jun        | 0.00  | 322.8                  | 18.8         | 23.8         | 13.9             | 18.7         | 26.2         | 10.5                   | 8.3                    | 323                    | 15.0                   | 582  |
| 172            | 21-Jun        | 8.64  | 164.8                  | 18.2         | 21.3         | 16.2             | 17.3         | 22.4         | 13.0                   | 7.7                    | 331                    | 13.8                   | 595  |
| 173            | 22-Jun        | 0.00  | 266.9                  | 17.7         | 22.0         | 14.3             | 15.9         | 21.3         | 11.2                   | 6.3                    | 337                    | 11.3                   | 607  |
| 174            | 23-Jun        | 0.00  | 328.6                  | 17.9         | 23.2         | 12.5             | 18.0         | 24.5         | 9.0                    | 7.3                    | 344                    | 13.1                   | 620  |
| 175            | 24-Jun        | 0.00  | 302.8                  | 18.4         | 22.4         | 13.6             | 19.7         | 26.2         | 10.8                   | 8.5                    | 353                    | 15.3                   | 635  |
| 176            | 25-Jun        | 0.00  | 312.0                  | 20.6         | 25.1         | 16.3             | 23.1         | 29.4         | 15.6                   | 12.5                   | 365                    | 22.5                   | 658  |
| 177            | 26-Jun        | 0.00  | 325.2                  | 21.3         | 26.1         | 17.0             | 23.2         | 29.4         | 15.8                   | 12.6                   | 378                    | 22.6                   | 680  |
| 178            | 27-Jun        | 0.00  | 320.0                  | 21.4         | 26.6         | 16.5             | 23.5         | 30.3         | 14.9                   | 12.5                   | 390                    | 22.4                   | 703  |
| 179            | 28-Jun        | 0.00  | 315.0                  | 21.7         | 26.6         | 17.3             | 23.4         | 29.4         | 16.1                   | 12.8                   | 403                    | 23.0                   | 726  |
| 180            | 29-Jun        | 0.00  | 287.5                  | 21.2         | 25.5         | 17.1             | 23.0         | 28.9         | 16.1                   | 12.5                   | 416                    | 22.5                   | 748  |
| 181            | 30-Jun        | 0.00  | 279.6                  | 22.0         | 26.0         | 18.2             | 24.2         | 31.0         | 17.6                   | 13.8                   | 429                    | 24.9                   | 773  |
| 182            | 1-Jul         | 0.76  | 343.2                  | 23.1         | 34.4         | 15.3             | 16.9         | 21.2         | 9.3                    | 5.6                    | 435                    | 10.1                   | 783  |
| 183            | 2-Jul         | 0.00  | 297.5                  | 21.1         | 33.0         | 11.1             | 15.9         | 22.0         | 5.2                    | 6.0                    | 441                    | 10.8                   | 794  |
| 184            | 3-Jul         | 4.57  | 306.6                  | 25.7         | 38.4         | 16.5             | 21.7         | 27.7         | 14.7                   | 11.2                   | 452                    | 20.1                   | 814  |
| 185            | 4-Jul         | 0.00  | 345.0                  | 25.1         | 36.9         | 17.4             | 21.3         | 26.7         | 13.1                   | 9.9                    | 462                    | 17.8                   | 832  |
| 186            | 5-Jul         | 0.00  | 361.1                  | 24.4         | 38.6         | 13.6             | 15.8         | 22.1         | 9.2                    | 6.0                    | 468                    | 10.9                   | 843  |
| 187            | 6-Jul         | 0.00  | 256.9                  | 22.3         | 32.4         | 13.5             | 18.4         | 25.0         | 7.4                    | 7.5                    | 476                    | 13.5                   | 856  |
| 188            | 7-Jul         | 0.00  | 189.7                  | 25.9         | 35.1         | 20.1             | 24.0         | 28.9         | 18.8                   | 13.8                   | 490                    | 24.9                   | 881  |
| 189            | 8-Jul         | 0.00  | 328.5                  | 29.1         | 42.1         | 17.8             | 25.2         | 33.1         | 14.9                   | 12.5                   | 502                    | 22.4                   | 904  |
| 190            | 9-Jul         | 0.00  | 338.9                  | 30.9         | 44.3         | 20.9             | 25.9         | 32.8         | 18.9                   | 14.5                   | 516                    | 26.0                   | 930  |
| 191            | 10-Jul        | 0.00  | 312.3                  | 29.0         | 40.7         | 20.2             | 23.4         | 29.8         | 12.6                   | 11.2                   | 528                    | 20.2                   | 950  |
| 192            | 11-Jul        | 0.00  | 314.6                  | 27.3         | 40.9         | 16.1             | 18.8         | 25.5         | 9.7                    | 7.7                    | 535                    | 13.9                   | 964  |
| 193            | 12-Jul        | 0.00  | 312.7                  | 28.1         | 42.2         | 17.8             | 20.7         | 28.1         | 11.7                   | 9.9                    | 545                    | 17.8                   | 982  |
| 194            | 13-Jul        | 0.00  | 343.6                  | 28.4         | 43.1         | 17.5             | 20.2         | 28.3         | 12.3                   | 10.3                   | 556                    | 18.5                   | 1000 |
| 195            | 14-Jul        | 0.00  | 306.6                  | 28.2         | 42.2         | 16.9             | 21.8         | 29.7         | 12.4                   | 11.0                   | 567                    | 19.9                   | 1020 |
| 196            | 15-Jul        | 0.00  | 303.2                  | 27.9         | 40.4         | 18.2             | 22.4         | 29.5         | 14.1                   | 11.8                   | 578                    | 21.3                   | 1041 |
| 197            | 16-Jul        | 0.00  | 279.3                  | 27.6         | 38.5         | 17.3             | 22.8         | 29.3         | 12.0                   | 10.7                   | 589                    | 19.2                   | 1060 |
| 198            | 17-Jul        | 41.40                                       | 235.5                  | 26.1         | 35.2         | 20.3             | 23.6         | 30.3         | 19.0                   | 14.5                   | 604                    | 26.1                   | 1087 |
| 199            | 18-Jul        | 0.51  | 197.3                  | 25.5         | 34.1         | 21.6             | 23.9         | 30.4         | 19.9                   | 15.0                   | 619                    | 26.9                   | 1113 |
| 200            | 19-Jul        | 0.25  | 207.9                  | 25.8         | 31.6         | 21.1             | 24.1         | 29.8         | 19.4                   | 14.6                   | 633                    | 26.3                   | 1140 |
| 201            | 20-Jul        | 0.00  | 278.7                  | 27.6         | 35.8         | 21.3             | 25.6         | 31.1         | 20.3                   | 15.1                   | 648                    | 27.3                   | 1167 |
| 202            | 21-Jul        | 0.00  | 267.8                  | 29.2         | 37.6         | 23.6             | 27.2         | 32.8         | 22.9                   | 16.4                   | 665                    | 29.6                   | 1197 |
| 203            | 22-Jul        | 16.51                                       | 181.7                  | 26.8         | 33.9         | 22.6             | 24.9         | 31.1         | 21.7                   | 15.9                   | 681                    | 28.5                   | 1225 |
| 204            | 23-Jul        | 0.00  | 175.6                  | 26.1         | 33.4         | 21.5             | 24.6         | 29.0         | 21.1                   | 15.1                   | 696                    | 27.1                   | 1252 |
| 205            | 24-Jul        | 1.78  | 297.9                  | 27.6         | 38.4         | 18.8             | 24.8         | 30.9         | 18.7                   | 14.3                   | 710                    | 25.8                   | 1278 |
| 206            | 25-Jul        | 0.51  | 120.7                  | 22.8         | 27.8         | 17.0             | 19.3         | 22.1         | 14.7                   | 8.4                    | 718                    | 15.2                   | 1293 |
| 207            | 26-Jul        | 0.00  | 255.7                  | 21.9         | 33.3         | 14.6             | 18.2         | 25.2         | 12.5                   | 8.8                    | 727                    | 15.9                   | 1309 |
| 208            | 27-Jul        | 0.00  | 279.1                  | 23.1         | 34.8         | 13.6             | 18.6         | 25.4         | 10.5                   | 7.9                    | 735                    | 14.3                   | 1323 |
| 209            | 28-Jul        | 5.84  | 105.3                  | 22.3         | 26.6         | 18.6             | 21.4         | 26.0         | 16.5                   | 11.3                   | 746                    | 20.3                   | 1344 |
| 210            | 29-Jul        | 0.00  | 263.3                  | 25.8         | 35.7         | 17.9             | 22.5         | 30.2         | 16.4                   | 13.2                   | 760                    | 23.8                   | 1367 |
| 211            | 30-Jul        | 0.00  | 274.5                  | 27.8         | 38.6         | 20.4             | 24.4         | 31.9         | 18.9                   | 14.5                   | 774                    | 26.0                   | 1393 |
| 212            | 31-Jul        | 0.00  | 289.4                  | 30.0         | 40.9         | 21.6             | 27.4         | 33.7         | 20.3                   | 15.1                   | 789                    | 27.2                   | 1421 |
| 213            | 1-Aug         | 29.72                                       | 203.2                  | 28.1         | 38.6         | 23.3             | 25.8         | 32.7         | 21.3                   | 15.6                   | 805                    | 28.2                   | 1449 |
| 214            | 2-Aug         | 37.85                                       | 190.3                  | 26.5         | 35.5         | 21.5             | 24.0         | 30.1         | 19.9                   | 14.9                   | 820                    | 26.9                   | 1476 |
| 215            | 3-Aug         | 0.00  | 227.7                  | 25.8         | 34.6         | 19.1             | 22.8         | 29.6         | 16.4                   | 13.0                   | 833                    | 23.4                   | 1499 |
| 216            | 4-Aug         | 0.00  | 281.2                  | 26.6         | 34.9         | 19.3             | 23.8         | 30.7         | 16.7                   | 13.3                   | 846                    | 24.0                   | 1523 |

Continued

**Table A-1. Summary of Rainfall, Solar Radiation, Temperatures and Growing Degree Units.  
Arlington Research Station - 2001 Growing Season.**

| Day of Year | Precip. | Average Daily Solar Radiation | Soil Temperature at 2" |      |      | Air Temperature |      |      | Growing Degrees |               |       |       |       |
|-------------|---------|-------------------------------|------------------------|------|------|-----------------|------|------|-----------------|---------------|-------|-------|-------|
|             |         |                               | Average                | Max  | Min  | Average         | Max  | Min  | Base 30/10 °C   | Base 86/50 °F | Daily | Total | Daily |
|             | mm      | W/m2                          | Deg C                  |      |      | Deg C           |      |      | Daily           | Total         | Daily | Total |       |
| 217         | 5-Aug   | 0.00                          | 277.4                  | 26.8 | 34.9 | 20.0            | 24.9 | 30.8 | 18.3            | 14.2          | 834   | 25.5  | 1501  |
| 218         | 6-Aug   | 0.00                          | 275.2                  | 28.3 | 37.0 | 21.2            | 26.3 | 31.4 | 20.5            | 15.2          | 849   | 27.4  | 1529  |
| 219         | 7-Aug   | 0.00                          | 269.1                  | 31.0 | 39.9 | 24.2            | 28.3 | 33.8 | 24.2            | 17.1          | 866   | 30.8  | 1559  |
| 220         | 8-Aug   | 0.00                          | 291.5                  | 30.4 | 38.7 | 24.2            | 26.6 | 31.5 | 22.2            | 16.1          | 882   | 29.0  | 1588  |
| 221         | 9-Aug   | 0.25                          | 253.9                  | 28.7 | 37.3 | 22.5            | 25.4 | 32.0 | 17.7            | 13.8          | 896   | 24.9  | 1613  |
| 222         | 10-Aug  | 0.00                          | 292.8                  | 25.6 | 35.3 | 18.4            | 17.7 | 23.6 | 12.6            | 8.1           | 904   | 14.6  | 1628  |
| 223         | 11-Aug  | 0.00                          | 256.1                  | 24.9 | 32.9 | 18.7            | 18.9 | 26.2 | 12.9            | 9.5           | 914   | 17.1  | 1645  |
| 224         | 12-Aug  | 6.10                          | 269.8                  | 24.7 | 34.7 | 16.5            | 19.8 | 27.1 | 10.6            | 8.9           | 923   | 16.0  | 1661  |
| 225         | 13-Aug  | 0.25                          | 304.3                  | 23.3 | 32.4 | 16.2            | 17.7 | 23.9 | 11.1            | 7.5           | 930   | 13.4  | 1674  |
| 226         | 14-Aug  | 0.00                          | 265.6                  | 21.5 | 30.7 | 13.4            | 17.4 | 24.6 | 8.7             | 7.3           | 937   | 13.1  | 1687  |
| 227         | 15-Aug  | 8.64                          | 69.3                   | 18.8 | 21.0 | 16.8            | 16.6 | 19.6 | 13.2            | 6.4           | 944   | 11.6  | 1699  |
| 228         | 16-Aug  | 4.32                          | 150.1                  | 19.7 | 25.5 | 17.0            | 16.9 | 21.9 | 14.4            | 8.2           | 952   | 14.7  | 1714  |
| 229         | 17-Aug  | 0.00                          | 237.9                  | 21.7 | 29.4 | 15.6            | 18.8 | 24.7 | 13.2            | 8.9           | 961   | 16.1  | 1730  |
| 230         | 18-Aug  | 0.76                          | 147.0                  | 20.5 | 25.2 | 17.7            | 18.0 | 21.8 | 15.6            | 8.7           | 970   | 15.7  | 1746  |
| 231         | 19-Aug  | 0.51                          | 223.9                  | 22.1 | 30.4 | 16.4            | 18.1 | 24.3 | 11.7            | 8.0           | 978   | 14.3  | 1760  |
| 232         | 20-Aug  | 0.51                          | 118.1                  | 18.8 | 22.5 | 14.5            | 18.4 | 23.9 | 11.1            | 7.5           | 985   | 13.5  | 1773  |
| 233         | 21-Aug  | 4.57                          | 76.3                   | 20.8 | 24.6 | 18.9            | 20.7 | 24.9 | 17.4            | 11.2          | 996   | 20.1  | 1793  |
| 234         | 22-Aug  |                               |                        |      |      |                 | 21.4 | 23.9 | 19.4            | 11.7          | 1008  | 21.0  | 1814  |
| 235         | 23-Aug  |                               |                        |      |      |                 | 22.2 | 27.0 | 18.9            | 13.0          | 1021  | 23.3  | 1838  |
| 236         | 24-Aug  |                               |                        |      |      |                 | 21.6 | 26.7 | 17.8            | 12.3          | 1033  | 22.1  | 1860  |
| 237         | 25-Aug  | 29.97                         | 47.4                   | 21.8 | 23.3 | 20.3            | 21.0 | 23.6 | 18.2            | 10.9          | 1044  | 19.6  | 1879  |
| 238         | 26-Aug  | 0.25                          | 262.8                  | 23.3 | 31.1 | 17.6            | 21.0 | 28.7 | 15.5            | 12.1          | 1056  | 21.8  | 1901  |
| 239         | 27-Aug  | 2.03                          | 0.0                    | 22.5 | 28.3 | 18.8            | 20.9 | 26.3 | 14.3            | 10.3          | 1066  | 18.5  | 1920  |
| 240         | 28-Aug  | 0.00                          | 0.0                    | 21.1 | 28.6 | 14.9            | 18.9 | 27.1 | 10.6            | 8.9           | 1075  | 16.0  | 1936  |
| 241         | 29-Aug  | 0.00                          | 0.0                    | 20.1 | 26.9 | 14.7            | 19.5 | 25.9 | 11.2            | 8.5           | 1084  | 15.4  | 1951  |
| 242         | 30-Aug  | 2.29                          |                        | 21.9 | 28.0 | 17.3            | 22.8 | 27.4 | 20.0            | 13.7          | 1098  | 24.7  | 1976  |
| 243         | 31-Aug  | 0.00                          | 171.6                  | 17.8 | 22.2 | 13.8            | 15.2 | 20.6 | 8.1             | 5.3           | 1103  | 9.5   | 1985  |
| 244         | 1-Sep   | 0.00                          | 274.6                  | 18.0 | 26.1 | 11.2            | 13.5 | 21.6 | 5.1             | 5.8           | 1109  | 10.4  | 1996  |
| 245         | 2-Sep   | 0.00                          | 281.9                  | 19.4 | 26.9 | 12.4            | 17.6 | 25.7 | 8.5             | 7.8           | 1117  | 14.1  | 2010  |
| 246         | 3-Sep   | 2.79                          | 222.3                  | 20.9 | 28.9 | 15.1            | 20.1 | 28.2 | 11.1            | 9.6           | 1126  | 17.4  | 2027  |
| 247         | 4-Sep   | 0.00                          | 278.5                  | 19.2 | 27.2 | 12.2            | 16.6 | 24.2 | 7.4             | 7.1           | 1133  | 12.8  | 2040  |
| 248         | 5-Sep   | 0.00                          | 272.2                  | 19.8 | 27.4 | 12.7            | 17.1 | 25.1 | 7.6             | 7.5           | 1141  | 13.6  | 2053  |
| 249         | 6-Sep   | 1.27                          | 148.2                  | 20.7 | 27.1 | 15.8            | 20.7 | 28.1 | 13.1            | 10.6          | 1151  | 19.1  | 2072  |
| 250         | 7-Sep   | 33.78                         | 151.2                  | 22.1 | 26.1 | 20.0            | 22.2 | 27.7 | 18.8            | 13.3          | 1165  | 23.9  | 2096  |
| 251         | 8-Sep   | 8.38                          | 122.2                  | 20.5 | 23.5 | 17.6            | 19.6 | 23.0 | 14.1            | 8.5           | 1173  | 15.3  | 2112  |
| 252         | 9-Sep   | 13.72                         | 30.3                   | 16.0 | 17.6 | 13.3            | 13.6 | 15.1 | 11.4            | 3.2           | 1176  | 5.8   | 2117  |
| 253         | 10-Sep  | 0.25                          | 272.3                  | 16.0 | 22.1 | 11.3            | 14.2 | 21.3 | 7.4             | 5.6           | 1182  | 10.1  | 2128  |
| 254         | 11-Sep  | 0.00                          | 262.0                  | 16.9 | 24.1 | 10.4            | 15.9 | 24.9 | 6.1             | 7.4           | 1189  | 13.4  | 2141  |
| 255         | 12-Sep  | 0.00                          | 227.5                  | 18.3 | 24.2 | 12.5            | 18.2 | 26.6 | 9.3             | 8.3           | 1198  | 14.9  | 2156  |
| 256         | 13-Sep  | 0.25                          | 130.8                  | 16.0 | 20.9 | 11.4            | 13.6 | 18.5 | 6.3             | 4.2           | 1202  | 7.6   | 2164  |
| 257         | 14-Sep  | 0.00                          | 207.7                  | 14.3 | 20.2 | 9.0             | 11.0 | 17.3 | 4.2             | 3.6           | 1206  | 6.6   | 2170  |
| 258         | 15-Sep  | 0.00                          | 158.9                  | 16.2 | 22.0 | 12.0            | 13.5 | 19.5 | 7.8             | 4.8           | 1210  | 8.6   | 2179  |
| 259         | 16-Sep  | 0.00                          | 190.4                  | 16.4 | 22.3 | 10.6            | 14.1 | 20.9 | 6.0             | 5.5           | 1216  | 9.8   | 2188  |
| 260         | 17-Sep  | 9.91                          | 58.9                   | 15.9 | 18.1 | 14.2            | 14.2 | 16.5 | 11.1            | 3.8           | 1220  | 6.8   | 2195  |
| 261         | 18-Sep  |                               |                        |      |      |                 | 15.2 | 20.0 | 11.7            | 5.9           | 1225  | 10.5  | 2206  |
| 262         | 19-Sep  |                               |                        |      |      |                 | 15.3 | 16.0 | 14.0            | 5.0           | 1230  | 9.0   | 2215  |
| 263         | 20-Sep  | 2.03                          | 234.2                  | 17.0 | 23.5 | 11.6            | 15.5 | 22.3 | 10.1            | 6.2           | 1237  | 11.1  | 2226  |
| 264         | 21-Sep  | 1.02                          | 162.9                  | 16.9 | 22.3 | 13.0            | 14.9 | 19.9 | 8.7             | 4.9           | 1242  | 8.9   | 2235  |

Continued

**Table A-1. Summary of Rainfall, Solar Radiation, Temperatures and Growing Degree Units.  
Arlington Research Station - 2001 Growing Season.**

| Day of<br>Year | Precip.<br>mm | Average<br>Daily Solar<br>Radiation<br>W/m2 | Soil Temperature at 2" |              |              | Air Temperature  |              |              | Growing Degrees        |                        |                        |                        |      |
|----------------|---------------|---|------------------------|--------------|--------------|------------------|--------------|--------------|------------------------|------------------------|------------------------|------------------------|------|
|                |               |   | Average<br>Deg C       | Max<br>Deg C | Min<br>Deg C | Average<br>Deg C | Max<br>Deg C | Min<br>Deg C | Base 30/10 °C<br>Daily | Base 30/10 °C<br>Total | Base 86/50 °F<br>Daily | Base 86/50 °F<br>Total |      |
| 265            | 22-Sep        | 4.06  | 209.6                  | 17.3         | 22.9         | 11.9             | 16.2         | 22.4         | 9.5                    | 6.2                    | 1237                   | 11.2                   | 2226 |
| 266            | 23-Sep        | 24.89                                       | 42.9                   | 14.3         | 17.4         | 9.5              | 11.9         | 15.8         | 5.5                    | 2.9                    | 1240                   | 5.2                    | 2231 |
| 267            | 24-Sep        | 0.00  | 209.6                  | 10.9         | 16.1         | 7.4              | 6.6          | 12.7         | 1.6                    | 1.3                    | 1241                   | 2.4                    | 2234 |
| 268            | 25-Sep        | 0.00  | 233.5                  | 10.5         | 16.4         | 5.7              | 7.6          | 14.9         | 0.5                    | 2.4                    | 1243                   | 4.4                    | 2238 |
| 269            | 26-Sep        | 0.00  | 209.5                  | 12.2         | 18.0         | 8.1              | 12.1         | 19.6         | 5.8                    | 4.8                    | 1248                   | 8.7                    | 2247 |
| 270            | 27-Sep        | 0.00  | 227.9                  | 12.3         | 19.2         | 6.5              | 9.6          | 18.2         | 1.8                    | 4.1                    | 1252                   | 7.4                    | 2254 |
| 271            | 28-Sep        | 0.00  | 74.9                   | 10.7         | 14.2         | 7.6              | 7.8          | 12.1         | 2.4                    | 1.0                    | 1253                   | 1.9                    | 2256 |
| 272            | 29-Sep        | 0.00  | 213.7                  | 12.6         | 19.4         | 7.4              | 10.1         | 19.2         | 2.9                    | 4.6                    | 1258                   | 8.3                    | 2264 |
| 273            | 30-Sep        | 0.00  | 214.6                  | 12.9         | 20.2         | 6.9              | 11.7         | 21.5         | 2.0                    | 5.8                    | 1264                   | 10.4                   | 2275 |
| 274            | 1-Oct         | 0.00  | 191.1                  | 15.3         | 22.2         | 11.1             | 15.4         | 23.5         | 7.6                    | 6.7                    | 1270                   | 12.1                   | 2287 |
| 275            | 2-Oct         |   |                        |              |              |                  | 21.1         | 22.8         | 20.0                   | 11.4                   | 1282                   | 20.5                   | 2307 |
| 276            | 3-Oct         | 0.00  | 120.4                  | 15.3         | 20.8         | 12.9             | 15.7         | 21.1         | 11.6                   | 6.3                    | 1288                   | 11.4                   | 2319 |
| 277            | 4-Oct         | 0.00  | 64.8                   | 12.9         | 15.6         | 10.4             | 11.7         | 15.4         | 7.2                    | 2.7                    | 1291                   | 4.9                    | 2324 |
| 278            | 5-Oct         | 0.00  | 99.5                   | 9.4          | 13.3         | 6.0              | 6.2          | 10.4         | 1.5                    | 0.2                    | 1291                   | 0.3                    | 2324 |
| 279            | 6-Oct         | 0.00  | 166.6                  | 7.2          | 13.2         | 2.2              | 2.1          | 8.4          | -4.8                   | 0.0                    | 1291                   | 0.0                    | 2324 |
| 280            | 7-Oct         | 0.00  | 177.6                  | 6.9          | 14.1         | 0.1              | 3.9          | 11.5         | -6.3                   | 0.8                    | 1292                   | 1.4                    | 2325 |
| 281            | 8-Oct         | 1.52  | 139.3                  | 9.7          | 14.8         | 5.0              | 10.6         | 17.7         | 2.6                    | 3.8                    | 1296                   | 6.9                    | 2332 |
| 282            | 9-Oct         | 0.25  | 84.8                   | 12.8         | 15.9         | 10.0             | 16.1         | 19.9         | 12.8                   | 6.3                    | 1302                   | 11.4                   | 2344 |
| 283            | 10-Oct        | 3.56  | 21.2                   | 14.0         | 16.3         | 10.4             | 14.8         | 18.5         | 9.5                    | 4.3                    | 1306                   | 7.7                    | 2351 |
| 284            | 11-Oct        | 0.00  | 156.3                  | 12.0         | 18.0         | 7.1              | 11.1         | 18.4         | 4.4                    | 4.2                    | 1310                   | 7.5                    | 2359 |
| 285            | 12-Oct        | 0.00  | 149.1                  | 11.7         | 17.3         | 9.2              | 10.5         | 16.8         | 7.1                    | 3.4                    | 1314                   | 6.1                    | 2365 |
| 286            | 13-Oct        | 5.84  | 18.8                   | 12.2         | 13.8         | 9.4              | 12.3         | 14.9         | 7.9                    | 2.5                    | 1316                   | 4.4                    | 2369 |
| 287            | 14-Oct        | 0.00  | 122.7                  | 10.8         | 14.9         | 7.8              | 9.4          | 15.3         | 5.8                    | 2.6                    | 1319                   | 4.7                    | 2374 |
| 288            | 15-Oct        | 0.00  | 104.6                  | 8.9          | 12.0         | 5.9              | 7.2          | 10.0         | 3.3                    | 0.0                    | 1319                   | 0.0                    | 2374 |
| 289            | 16-Oct        | 0.00  | 114.4                  | 7.6          | 11.7         | 3.6              | 4.7          | 9.0          | -1.4                   | 0.0                    | 1319                   | 0.0                    | 2374 |
| 290            | 17-Oct        | 0.00  | 181.6                  | 6.1          | 12.1         | 1.2              | 4.0          | 10.9         | -4.2                   | 0.4                    | 1319                   | 0.8                    | 2375 |
| 291            | 18-Oct        | 0.00  | 95.9                   | 7.8          | 11.7         | 4.9              | 9.0          | 15.3         | 1.6                    | 2.6                    | 1322                   | 4.8                    | 2380 |
| 292            | 19-Oct        | 0.00  | 130.0                  | 7.4          | 12.5         | 3.4              | 7.6          | 16.2         | -0.7                   | 3.1                    | 1325                   | 5.6                    | 2385 |
| 293            | 20-Oct        | 0.00  | 103.0                  | 8.8          | 13.0         | 4.7              | 9.6          | 16.8         | 2.9                    | 3.4                    | 1328                   | 6.1                    | 2391 |
| 294            | 21-Oct        | 0.00  | 139.9                  | 9.3          | 15.1         | 5.3              | 8.3          | 17.0         | 1.2                    | 3.5                    | 1332                   | 6.3                    | 2398 |
| 295            | 22-Oct        | 18.03                                       | 76.7                   | 8.5          | 13.0         | 3.4              | 8.2          | 16.6         | -0.5                   | 3.3                    | 1335                   | 5.9                    | 2403 |
| 296            | 23-Oct        | 0.00  | 36.1                   | 11.2         | 13.3         | 10.2             | 11.5         | 13.9         | 10.2                   | 2.1                    | 1337                   | 3.7                    | 2407 |
| 297            | 24-Oct        | 6.60  | 31.4                   | 10.1         | 13.2         | 4.9              | 9.0          | 14.1         | 1.7                    | 2.1                    | 1339                   | 3.7                    | 2411 |
| 298            | 25-Oct        | 0.00  | 25.9                   | 3.5          | 4.9          | 2.9              | 2.0          | 3.0          | 1.1                    | 0.0                    | 1339                   | 0.0                    | 2411 |
| 299            | 26-Oct        | 0.00  | 40.1                   | 3.1          | 4.3          | 2.4              | 2.9          | 4.2          | 2.1                    | 0.0                    | 1339                   | 0.0                    | 2411 |
| 300            | 27-Oct        |   |                        |              |              |                  |              |              |                        | 0.0                    | 1339                   | 0.0                    | 2411 |
| 301            | 28-Oct        |   |                        |              |              |                  |              |              |                        | 0.0                    | 1339                   | 0.0                    | 2411 |
| 302            | 29-Oct        | 0.00  | 143.2                  | 6.8          | 11.5         | 3.4              | 7.5          | 13.1         | 2.5                    | 1.6                    | 1341                   | 2.8                    | 2414 |
| 303            | 30-Oct        | 2.29  | 56.1                   | 6.5          | 9.7          | 3.9              | 6.5          | 10.9         | 2.9                    | 0.4                    | 1341                   | 0.8                    | 2414 |
| 304            | 31-Oct        | 0.25  | 89.3                   | 9.4          | 13.0         | 6.8              | 12.9         | 18.5         | 6.9                    | 4.3                    | 1346                   | 7.7                    | 2422 |



**Table A-2. Growing season monthly and total annual rainfall data for the Arlington Research Station, 1982-2001.**

| YEAR            | GROWING SEASON MONTH        |      |      |      |      |       |      | ANNUAL |
|-----------------|-----------------------------|------|------|------|------|-------|------|--------|
|                 | APRIL                       | MAY  | JUNE | JULY | AUG. | SEPT. | OCT. |        |
|                 | - TOTAL RAINFALL (INCHES) - |      |      |      |      |       |      |        |
| 1982            | 3.80                        | 3.98 | 3.09 | 2.00 | 3.19 | 0.98  | 1.27 | 30.92  |
| 1983            | 1.75                        | 1.32 | 1.75 | 4.38 | 6.32 | 3.06  | 3.64 | 33.79  |
| 1984            | 4.07                        | 3.21 | 7.57 | 2.90 | 1.76 | 3.67  | 5.91 | 36.42  |
| 1985            | 2.36                        | 2.47 | 3.50 | 5.86 | 3.63 | 6.85  | 3.05 | 40.07  |
| 1986            | 2.73                        | 2.07 | 4.18 | 4.63 | 4.94 | 10.73 | 1.88 | 37.50  |
| 1987            | 2.64                        | 4.70 | 0.61 | 4.02 | 4.94 | 4.91  | 1.45 | 32.15  |
| 1988            | 3.27                        | 0.97 | 1.53 | 1.55 | 2.91 | 3.90  | 2.18 | 20.30  |
| 1989            | 1.36                        | 1.76 | 2.01 | 3.78 | 4.34 | 3.83  | 2.37 | 28.06  |
| 1990            | 2.49                        | 4.25 | 6.32 | 1.57 | 5.36 | 1.22  | 2.29 | 34.21  |
| 1991            | 4.52                        | 1.91 | 2.63 | 3.75 | 1.78 | 4.70  | 6.75 | 35.33  |
| 1992            | 3.96                        | 1.22 | 1.19 | 5.20 | 1.91 | 7.46  | 1.26 | 33.83  |
| 1993            | 7.06                        | 4.52 | 6.10 | 9.40 | 3.20 | 4.20  | 1.17 | 42.25  |
| 1994            | 2.28                        | 1.99 | 7.93 | 6.10 | 4.03 | 4.65  | 0.50 | 27.48  |
| 1995            | 4.12                        | 5.95 | 2.15 | 2.81 | 5.02 | 1.78  | 4.80 | 31.64  |
| 1996            | 2.61                        | 3.58 | 8.69 | 2.78 | 2.00 | 1.21  | 3.42 | 28.68  |
| 1997            | 2.36                        | 2.08 | 5.00 | 6.06 | 3.23 | 1.40  | 1.08 | 26.43  |
| 1998            | 3.71                        | 4.76 | 7.13 | 1.87 | 6.08 | 3.45  | 2.89 | 38.27  |
| 1999            | 6.28                        | 3.79 | 4.78 | 5.27 | 2.96 | 1.68  | 1.31 | 30.91  |
| 2000            | 2.45                        | 8.44 | 9.19 | 3.34 | 3.88 | 3.08  | 0.77 | 39.21  |
| 2001            | 3.14                        | 5.63 | 4.82 | 2.84 | 5.04 | 4.03  | 1.51 | 30.46  |
| 20 year<br>Mean | 3.35                        | 3.43 | 4.51 | 4.01 | 3.83 | 3.84  | 2.48 | 32.90  |

**Table A-3. Growing season monthly and annual temperature data for the Arlington Research Station, 1982-2001.**

| YEAR                   | GROWING SEASON MONTH |      |      |      |      |       |      | ANNUAL |
|------------------------|----------------------|------|------|------|------|-------|------|--------|
|                        | APRIL                | MAY  | JUNE | JULY | AUG. | SEPT. | OCT. |        |
| AVERAGE TEMPERATURE °F |                      |      |      |      |      |       |      |        |
| 1982                   | 41.4                 | 61.7 | 61.9 | 71.8 | 67.9 | 59.9  | 51.6 | 45.5   |
| 1983                   | 42.7                 | 53.0 | 66.6 | 74.5 | 73.7 | 61.8  | 51.4 | 46.3   |
| 1984                   | 45.8                 | 54.5 | 68.8 | 69.1 | 71.6 | 60.7  | 51.8 | 46.4   |
| 1985                   | 51.7                 | 62.4 | 64.0 | 70.4 | 65.6 | 61.7  | 49.5 | 44.9   |
| 1986                   | 50.3                 | 59.0 | 66.2 | 71.7 | 64.1 | 61.7  | 50.5 | 46.2   |
| 1987                   | 50.6                 | 60.7 | 70.6 | 74.4 | 68.4 | 61.5  | 45.0 | 49.2   |
| 1988                   | 55.0                 | 62.6 | 71.6 | 75.0 | 74.7 | 64.4  | 44.6 | 49.6   |
| 1989                   | 45.2                 | 57.6 | 66.3 | 72.8 | 69.5 | 59.4  | 51.2 | 45.3   |
| 1990                   | 48.7                 | 54.8 | 67.7 | 69.9 | 70.0 | 64.0  | 48.4 | 45.6   |
| 1991                   | 49.6                 | 62.7 | 70.3 | 70.9 | 69.6 | 59.3  | 49.8 | 46.8   |
| 1992                   | 42.5                 | 57.8 | 64.2 | 65.8 | 64.5 | 58.3  | 46.7 | 44.7   |
| 1993                   | 41.6                 | 57.2 | 63.9 | 69.0 | 69.3 | 54.5  | 46.3 | 43.8   |
| 1994                   | 46.2                 | 56.1 | 67.6 | 67.4 | 66.1 | 63.4  | 52.4 | 59.9   |
| 1995                   | 44.0                 | 57.4 | 71.8 | 73.4 | 75.6 | 60.0  | 51.7 | 46.9   |
| 1996                   | 41.2                 | 52.9 | 66.1 | 66.8 | 67.4 | 59.2  | 48.0 | 57.4   |
| 1997                   | 42.5                 | 51.4 | 67.5 | 68.7 | 63.3 | 59.8  | 47.6 | 43.9   |
| 1998                   | 62.6                 | 62.6 | 65.8 | 69.7 | 69.2 | 63.2  | 50.5 | 48.9   |
| 1999                   | 47.8                 | 60.0 | 65.3 | 73.9 | 65.9 | 57.7  | 47.5 | 46.4   |
| 2000                   | 44.9                 | 59.3 | 65.4 | 68.2 | 68.8 | 60.1  | 51.9 | 46.8   |
| 2001                   | 49.9                 | 58.6 | 66.1 | 71.8 | 69.6 | 57.7  | 48.1 | 49.4   |
| 20 year<br>Mean        | 47.2                 | 58.1 | 66.9 | 70.8 | 68.7 | 60.4  | 49.2 | 47.7   |

## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity  
**Experiment:** 01 Growth and Development **Trial ID:** 2233 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, K.D. Kohn and J.Clark  
**Location:** Chippewa Falls, WI **County:** Chippewa  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Corn **Soil Type:** Sattre Silt Loam  
**Soil Test:** **Date:** 11/1 /01 **pH** 5.8 **OM (%)** 2.9 **P (ppm)** 27 **K (ppm)** 115

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Cultivated  
**Fertilizer:** **Preplant Analysis:** 28-0-0 **Rate lbs/A:** 150 actual **Date:** N/A  
**Starter Analysis:** 6-24-24 **Rate lbs/A:** 150 **Date:** 4 /26/01  
**Post plant Analysis:** N/A **Rate lbs/A:** N/A **Date:** N/A  
**Manure:**  
**Herbicide:** Harness 1.7 qt/A **Insecticide:** Lorsban @ 7 lbs/A  
Hornet 2.4 oz/A **Hybrid:** See Factors  
**Irrigation:** none  
**Planting Date:** 4/26/01 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/17/01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23.2' x 5' **Experiment Size:** 0.12 A  
**Harvest Plot Size:** 22 'x 5' **Harvest Plant Density:** 29000 plants per acre

### Factors/Treatments:

#### Hybrids:

|                  |               |                    |
|------------------|---------------|--------------------|
| Jung 2178        | Dahlman 1488  | Cargill 4521Bt     |
| Kaltenberg K3303 | Dekalb DK440  | Pioneer 35R58      |
| Renk RK232       | Pioneer 38P05 | Midwest 7711       |
| Wensman W5088Bt  | Pioneer 37R71 | US Seeds USC1119RR |
| NK Brand N2555Bt | Cargill 4111  |                    |

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**Results: Table C-1.**

**Table C-1. Determining Corn Hybrid Maturity - Comparison of Hybrids  
Chippewa Falls, WI - 2001**

| Hybrid                       | Relative maturity | Grain yield<br>bu/A | Grain moisture<br>% | Test weight<br>lbs/bu | Lodging<br>% | Grower return<br>\$/A |
|------------------------------|-------------------|---------------------|---------------------|-----------------------|--------------|-----------------------|
| Jung 2178                    | 78                | 74                  | 20.8                | 56                    | 15           | 159                   |
| Kaltenberg K3303             | 82                | 132                 | 20.1                | 57                    | 1            | 283                   |
| Renk RK232                   | 85                | 145                 | 19.6                | 58                    | 1            | 311                   |
| Wensman W5088Bt              | 85                | 152                 | 21.9                | 57                    | 1            | 326                   |
| NK Brand N2555Bt             | 88                | 142                 | 21.6                | 57                    | 0            | 303                   |
| Dahlman 1488                 | 90                | 129                 | 20.1                | 55                    | 3            | 276                   |
| Dekalb DK440                 | 90                | 163                 | 20.3                | 54                    | 2            | 350                   |
| Pioneer 38P05                | 95                | 161                 | 21.3                | 58                    | 2            | 345                   |
| Pioneer 37R71                | 97                | 169                 | 21.5                | 53                    | 1            | 362                   |
| Cargill 4111                 | 102               | 183                 | 21.7                | 55                    | 1            | 391                   |
| Cargill 4521Bt               | 105               | 185                 | 22.4                | 54                    | 1            | 395                   |
| Pioneer 35R58                | 105               | 190                 | 26.9                | 52                    | 0            | 407                   |
| Midwest 7711                 | 111               | 160                 | 31.6                | 51                    | 1            | 342                   |
| US Seeds USC1119RR           | 111               | 171                 | 30.1                | 50                    | 0            | 366                   |
| Mean                         |                   | 154                 | 22.6                | 55                    | 2            | 330                   |
| <b><u>Probability(%)</u></b> |                   |                     |                     |                       |              |                       |
| Hybrid (H)                   |                   | 0.0                 | 0.0                 | 0.0                   | 0.0          | 0.0                   |
| <b><u>LSD(0.10)</u></b>      |                   |                     |                     |                       |              |                       |
| Hybrid (H)                   |                   | 20.5                | 0.9                 | 0.7                   | 2.5          | 43.8                  |
| <b><u>CV(%)</u></b>          |                   |                     |                     |                       |              |                       |
|                              |                   | 10                  | 3                   | 1                     | 81           | 10                    |

## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity  
**Experiment:** 01 Growth and Development **Trial ID:** 2235 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Marshfield, WI **County:** Wood  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Loyal Silt Loam  
**Soil Test:** **Date:** 11/1 /01 **pH** 7.2 **OM (%)** 3 **P (ppm)** 48 **K (ppm)** 147

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### Plot Management

**Tillage Operations:** Field Cultivator Cultivated

**Fertilizer:** **Preplant Analysis:** **Rate lbs/A:** **Date:** N/A  
**Starter Analysis:** 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /18/01  
**Post plant Analysis:** 34-0-0 **Rate lbs/A:** 350 **Date:** N/A  
**Manure:**

**Herbicide:** Harness 1.0 qt/A **Insecticide:** None  
Hornet 2.4 oz/A **Hybrid:** See Factors

**Irrigation:** None

**Planting Date:** 5/18/01 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 11/5/01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23.2' x 5' **Experiment Size:** 0.12 A  
**Harvest Plot Size:** 22 'x 5' **Harvest Plant Density:** 25500 plants per acre

### Factors/Treatments:

#### Hybrids:

|                  |               |                    |
|------------------|---------------|--------------------|
| Jung 2178        | Dahlman 1488  | Cargill 4521Bt     |
| Kaltenberg K3303 | Dekalb DK440  | Pioneer 35R58      |
| Renk RK232       | Pioneer 38P05 | Midwest 7711       |
| Wensman W5088Bt  | Pioneer 37R71 | US Seeds USC1119RR |
| NK Brand N2555Bt | Cargill 4111  |                    |

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**Results: Table C-2.**

**Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids  
Marshfield, WI - 2001**

| Hybrid                       | Relative maturity | Grain yield<br>bu/A | Grain moisture<br>% | Test weight<br>lbs/bu | Lodging<br>% | Grower return<br>\$/A |
|------------------------------|-------------------|---------------------|---------------------|-----------------------|--------------|-----------------------|
| Jung 2178                    | 78                | 112                 | 21.2                | 54                    | 5            | 240                   |
| Kaltenberg K3303             | 84                | 128                 | 21.2                | 52                    | 1            | 273                   |
| Wensman W5088Bt              | 84                | 134                 | 20.5                | 52                    | 2            | 287                   |
| Renk RK232                   | 85                | 133                 | 20.0                | 53                    | 10           | 286                   |
| NK Brand N2555Bt             | 88                | 138                 | 22.4                | 52                    | 0            | 294                   |
| Dahlman 1488                 | 90                | 131                 | 23.7                | 48                    | 4            | 280                   |
| Dekalb DK440                 | 90                | 119                 | 25.7                | 48                    | 2            | 253                   |
| Pioneer 38P05                | 95                | 133                 | 24.8                | 50                    | 1            | 285                   |
| Pioneer 37R71                | 97                | 123                 | 25.9                | 47                    | 1            | 263                   |
| Cargill 4111                 | 102               | 115                 | 24.1                | 47                    | 3            | 246                   |
| Cargill 4521Bt               | 105               | 94                  | 24.6                | 50                    | 1            | 202                   |
| Pioneer 35R58                | 105               | 102                 | 37.8                | 44                    | 2            | 219                   |
| Midwest 7711                 | 111               | 105                 | 35.5                | 45                    | 1            | 225                   |
| US Seeds USC1119RR           | 111               | 120                 | 41.2                | 45                    | 2            | 258                   |
| Mean                         |                   | 121                 | 26.6                | 49                    | 2            | 258                   |
| <b><u>Probability(%)</u></b> |                   |                     |                     |                       |              |                       |
| Hybrid (H)                   |                   | 82.6                | 0.0                 | 0.0                   | 27.6         | 82.6                  |
| <b><u>LSD(0.10)</u></b>      |                   |                     |                     |                       |              |                       |
| Hybrid (H)                   |                   | NS                  | 5.0                 | 2.3                   | NS           | NS                    |
| <b><u>CV(%)</u></b>          |                   |                     |                     |                       |              |                       |
|                              |                   | 23                  | 13                  | 3                     | 149          | 23                    |

## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity  
**Experiment:** 01 Growth and Development **Trial ID:** 2236 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Seymour, WI **County:** Outagamie  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Corn **Soil Type:** Clay Loam  
**Soil Test:** **Date:** N/A **pH:** 7.1 **OM (%):** 3.7 **P (ppm):** 42 **K (ppm):** 210

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher Cultivated  
**Fertilizer:** **Preplant Analysis:** N/A **Rate lbs/A:** **Date:** N/A  
**Starter Analysis:** 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /15/01  
**Post plant Analysis:** N/A **Rate lbs/A:** N/A **Date:** N/A  
**Manure:** 9000gal/A  
**Herbicide:** Accent 0.33 oz/A **Insecticide:** Lorsban @ 7 lbs/A  
Northstar 4.0 oz/A **Hybrid:** See Factors  
**Irrigation:** none  
**Planting Date:** 5/15/01 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/29/01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23.2' x 5' **Experiment Size:** 0.12 A  
**Harvest Plot Size:** 22 'x 5' **Harvest Plant Density:** 29000 plants per acre

### Factors/Treatments:

#### Hybrids:

|                  |               |                    |
|------------------|---------------|--------------------|
| Jung 2178        | Dahlman 1488  | Cargill 4521Bt     |
| Kaltenberg K3303 | Dekalb DK440  | Pioneer 35R58      |
| Renk RK232       | Pioneer 38P05 | Midwest 7711       |
| Wensman W5088Bt  | Pioneer 37R71 | US Seeds USC1119RR |
| NK Brand N2555Bt | Cargill 4111  |                    |

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**Results:** Table C-3.

**Table C-3. Determining Corn Hybrid Maturity - Comparison of Hybrids  
Seymour, WI - 2001**

| Hybrid                       | Relative maturity | Grain yield<br>bu/A | Grain moisture<br>% | Test weight<br>lbs/bu | Lodging<br>% | Grower return<br>\$/A |
|------------------------------|-------------------|---------------------|---------------------|-----------------------|--------------|-----------------------|
| Jung 2178                    | 78                | 80                  | 18.5                | 56                    | 7            | 171                   |
| Kaltenberg K3303             | 82                | 150                 | 18.2                | 55                    | 4            | 322                   |
| Renk RK232                   | 85                | 150                 | 19.4                | 54                    | 3            | 321                   |
| Wensman W5088Bt              | 85                | 138                 | 20.1                | 56                    | 1            | 295                   |
| NK Brand N2555Bt             | 88                | 143                 | 20.6                | 55                    | 1            | 306                   |
| Dahlman 1488                 | 90                | 152                 | 18.9                | 52                    | 7            | 324                   |
| Dekalb DK440                 | 90                | 167                 | 21.2                | 50                    | 4            | 357                   |
| Pioneer 38P05                | 95                | 165                 | 20.8                | 54                    | 4            | 354                   |
| Pioneer 37R71                | 97                | 190                 | 22.6                | 50                    | 3            | 407                   |
| Cargill 4111                 | 102               | 160                 | 22.5                | 51                    | 5            | 342                   |
| Cargill 4521Bt               | 105               | 181                 | 22.0                | 51                    | 1            | 387                   |
| Pioneer 35R58                | 105               | 186                 | 26.6                | 50                    | 2            | 397                   |
| Midwest 7711                 | 111               | 157                 | 31.8                | 49                    | 4            | 337                   |
| US Seeds USC1119RR           | 111               | 149                 | 33.4                | 48                    | 2            | 320                   |
| Mean                         |                   | 155                 | 22.6                | 52                    | 3            | 331                   |
| <b><u>Probability(%)</u></b> |                   |                     |                     |                       |              |                       |
| Hybrid (H)                   |                   | 0.0                 | 0.0                 | 0.0                   | 32.6         | 0.0                   |
| <b><u>LSD(0.10)</u></b>      |                   |                     |                     |                       |              |                       |
| Hybrid (H)                   |                   | 24.7                | 0.9                 | 0.8                   | NS           | 53                    |
| <b><u>CV(%)</u></b>          |                   |                     |                     |                       |              |                       |
|                              |                   | 11                  | 3                   | 1                     | 93           | 11                    |



## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity  
**Experiment:** 01 Growth and Development **Trial ID:** 2234 **Year:** 2001  
**Personnel:** J.G. Lauer, K.D. Kohn, P.J. Flannery, S. Hendrickson  
**Location:** Valders, WI **County:** Manitowoc  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Corn **Soil Type:** Kewanee Clay Loam  
**Soil Test:** **Date:** 11/1 /01 **pH** 7.8 **OM (%)** 2.8 **P (ppm)** 40 **K (ppm)** 204

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### Plot Management

**Tillage Operations:** Moldboard Plow Field Cultivator Cultivated

**Fertilizer:** **Preplant Analysis:** **Rate lbs/A:** **Date:** N/A  
**Starter Analysis:** 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /2 /01  
**Post plant Analysis:** N/A **Rate lbs/A:** N/A **Date:** N/A  
**Manure:** 9000 gal/A

**Herbicide:** Surpass 1.0 pt/A **Insecticide:** Lorsban @ 7 lbs/A  
Accent 0.33 oz/A **Hybrid:** See Factors  
Distinct 4.0 oz/A

**Irrigation:** None

**Planting Date:** 5/2/01 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 11/1/01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23.2' x 5' **Experiment Size:** 0.12 A  
**Harvest Plot Size:** 22 'x 5' **Harvest Plant Density:** 29000 plants per acre

### **Factors/Treatments:**

#### Hybrids:

|                  |               |                    |
|------------------|---------------|--------------------|
| Jung 2178        | Dahlman 1488  | Cargill 4521Bt     |
| Kaltenberg K3303 | Dekalb DK440  | Pioneer 35R58      |
| Renk RK232       | Pioneer 38P05 | Midwest 7711       |
| Wensman W5088Bt  | Pioneer 37R71 | US Seeds USC1119RR |
| NK Brand N2555Bt | Cargill 4111  |                    |

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**Results: Table C-4.**

**Table C-4. Determining Corn Hybrid Maturity - Comparison of Hybrids  
Valders, WI -2001**

| Hybrid                       | Relative maturity | Grain yield<br>bu/A | Grain moisture<br>% | Test weight<br>lbs/bu | Lodging<br>% | Grower return<br>\$/A |
|------------------------------|-------------------|---------------------|---------------------|-----------------------|--------------|-----------------------|
| Kaltenberg K3303             | 82                | 70                  | 18.0                | 57                    | 0            | 150                   |
| Renk RK232                   | 85                | 73                  | 19.1                | 56                    | 1            | 156                   |
| Wensman W5088Bt              | 85                | 54                  | 22.4                | 50                    | 0            | 115                   |
| NK Brand N2555Bt             | 88                | 58                  | 21.7                | 54                    | 1            | 124                   |
| Dahlman 1488                 | 90                | 44                  | 24.0                | 44                    | 3            | 94                    |
| Dekalb DK440                 | 90                | 74                  | 25.5                | 50                    | 0            | 158                   |
| Pioneer 38P05                | 95                | 65                  | 24.8                | 53                    | 0            | 139                   |
| Pioneer 37R71                | 97                | 65                  | 22.6                | 50                    | 1            | 139                   |
| Cargill 4111                 | 102               | 44                  | 27.4                | 50                    | 1            | 95                    |
| Cargill 4521Bt               | 105               | 55                  | 25.6                | 50                    | 0            | 117                   |
| Pioneer 35R58                | 105               | 114                 | 29.1                | 51                    | 0            | 243                   |
| Midwest 7711                 | 111               | 61                  | 32.2                | 49                    | 0            | 130                   |
| US Seeds USC1119RR           | 111               | 50                  | 28.1                | 50                    | 0            | 107                   |
| Mean                         |                   | 63                  | 24.4                | 51                    | 1            | 135                   |
| <b><u>Probability(%)</u></b> |                   |                     |                     |                       |              |                       |
| Hybrid (H)                   |                   | 14.4                | 0.3                 | 2.7                   | 57.7         | 14.4                  |
| <b><u>LSD(0.10)</u></b>      |                   |                     |                     |                       |              |                       |
| Hybrid (H)                   |                   | NS                  | 2.2                 | 2.7                   | NS           | NS                    |
| <b><u>CV(%)</u></b>          |                   |                     |                     |                       |              |                       |
|                              |                   | 24                  | 6                   | 3                     | 156          | 24                    |

## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity  
**Experiment:** 01 Growth and Development **Trial ID:** 2232 **Year:** 2001  
**Personnel:** J.G. Lauer, P. J. Flannery, and K. D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** HATCH

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### Site Information

**Field:** ARS408 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 11/19/01 **pH** 6.7 **OM (%)** 3.1 **P (ppm)** 83 **K (ppm)** 182

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Soil Finisher Cultivated on 6/14/01  
**Fertilizer:** **Preplant Analysis:** 46-0-0 **Rate lbs/A:** 325 **Date:** N/A  
**Starter Analysis:** 6-24-24 **Rate lbs/A:** 150 **Date:** 4 /25/01  
**Post plant Analysis:** N/A **Rate lbs/A:** N/A **Date:** N/A  
**Manure:** None  
**Herbicide:** Harness @ 1.5 pt/A **Insecticide:** None  
Permit @ 0.66 oz/A **Hybrid:** See Factors  
**Irrigation:** none  
**Planting Date:** 4/28/01 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/16/01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23.2' x 10' **Experiment Size:** 0.24 A  
**Harvest Plot Size:** 22 'x 5' **Harvest Plant Density:** 29000 plants per acre

### Factors/Treatments:

#### Hybrids:

|                  |               |                    |
|------------------|---------------|--------------------|
| Jung 2178        | Dahlman 1488  | Cargill 4521Bt     |
| Kaltenberg K3303 | Dekalb DK440  | Pioneer 35R58      |
| Renk RK232       | Pioneer 38P05 | Midwest 7711       |
| Wensman W5088Bt  | Pioneer 37R71 | US Seeds USC1119RR |
| NK Brand N2555Bt | Cargill 4111  |                    |

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**Results:** Table C-5 and C-6.

**Table C-5. Determining Corn Hybrid Maturity - Comparison of Hybrids  
Arlington, WI - 2001**

| Hybrid                       | Relative maturity | Grain yield<br>bu/A | Grain moisture<br>% | Test weight<br>lb/bu | Lodging<br>% | Grower return<br>\$/A | 50% Silk<br>day of year | Plant height<br>inches |
|------------------------------|-------------------|---------------------|---------------------|----------------------|--------------|-----------------------|-------------------------|------------------------|
| Jung 2178                    | 78                | 148                 | 20.7                | 58                   | 0            | 316                   | 194                     | 70                     |
| Kaltenberg K3303             | 82                | 168                 | 20.2                | 59                   | 0            | 358                   | 199                     | 91                     |
| Renk RK232                   | 85                | 188                 | 20.3                | 58                   | 0            | 402                   | 199                     | 90                     |
| Wensman W5088Bt              | 85                | 181                 | 21.8                | 58                   | 0            | 388                   | 197                     | 91                     |
| NK Brand N2555Bt             | 88                | 188                 | 21.8                | 58                   | 0            | 402                   | 197                     | 94                     |
| Dahlman 1488                 | 90                | 175                 | 19.7                | 56                   | 4            | 375                   | 198                     | 93                     |
| Dekalb DK440                 | 90                | 214                 | 21.0                | 56                   | 0            | 457                   | 199                     | 96                     |
| Pioneer 38P05                | 95                | 195                 | 21.8                | 58                   | 0            | 418                   | 198                     | 89                     |
| Pioneer 37R71                | 97                | 203                 | 21.5                | 53                   | 0            | 434                   | 197                     | 96                     |
| Cargill 4111                 | 102               | 219                 | 22.4                | 56                   | 0            | 468                   | 202                     | 99                     |
| Cargill 4521Bt               | 105               | 220                 | 22.6                | 56                   | 1            | 471                   | 202                     | 105                    |
| Pioneer 35R58                | 105               | 237                 | 24.1                | 53                   | 0            | 508                   | 202                     | 97                     |
| Midwest 7711                 | 111               | 247                 | 26.7                | 52                   | 3            | 528                   | 203                     | 96                     |
| US Seeds USC1119RR           | 111               | 238                 | 26.2                | 51                   | 1            | 509                   | 203                     | 99                     |
| Mean                         |                   | 201                 | 22.2                | 56                   | 1            | 431                   | 199                     | 93                     |
| <b><u>Probability(%)</u></b> |                   |                     |                     |                      |              |                       |                         |                        |
| Hybrid (H)                   |                   | 0.0                 | 0.0                 | 0.0                  | 0.3          | 0.0                   | 0.0                     | 0.0                    |
| <b><u>LSD(0.10)</u></b>      |                   |                     |                     |                      |              |                       |                         |                        |
| Hybrid (H)                   |                   | 12                  | 0.3                 | 1                    | 2            | 25                    | 1                       | 4                      |
| <b><u>CV(%)</u></b>          |                   |                     |                     |                      |              |                       |                         |                        |
|                              |                   | 4                   | 1                   | 1                    | 175          | 4                     | 1                       | 3                      |

**Table C-5. Determining Corn Hybrid Maturity - Comparison of Hybrids  
Arlington, WI - 2001**

| Hybrid                       | Relative maturity | Kernel Milk on Day of Year |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------------------------|-------------------|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                              |                   | 229                        | 233 | 236 | 240 | 242 | 247 | 250 | 253 | 257 | 261 | 264 | 268 | 271 | 275 |
|                              |                   | ----- % -----              |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Jung 2178                    | 78                | 72                         | 57  | 50  | 32  | 13  | 5   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Kaltenberg K3303             | 82                | 97                         | 82  | 85  | 60  | 45  | 37  | 28  | 12  | 0   | 0   | 0   | 0   | 0   | 0   |
| Renk RK232                   | 85                | 100                        | 100 | 100 | 70  | 52  | 48  | 38  | 28  | 12  | 0   | 0   | 0   | 0   | 0   |
| Wensman W5088Bt              | 85                | 97                         | 88  | 77  | 50  | 42  | 23  | 15  | 5   | 0   | 0   | 0   | 0   | 0   | 0   |
| NK Brand N2555Bt             | 88                | 92                         | 87  | 82  | 53  | 37  | 33  | 22  | 10  | 0   | 0   | 0   | 0   | 0   | 0   |
| Dahlman 1488                 | 90                | 98                         | 97  | 93  | 60  | 48  | 45  | 40  | 23  | 0   | 0   | 0   | 0   | 0   | 0   |
| Dekalb DK440                 | 90                | 100                        | 95  | 85  | 70  | 57  | 48  | 37  | 25  | 23  | 12  | 0   | 0   | 0   | 0   |
| Pioneer 38P05                | 95                | 97                         | 82  | 87  | 57  | 47  | 38  | 28  | 13  | 5   | 3   | 0   | 0   | 0   | 0   |
| Pioneer 37R71                | 97                | 100                        | 100 | 93  | 72  | 57  | 47  | 38  | 28  | 15  | 8   | 0   | 0   | 0   | 0   |
| Cargill 4111                 | 102               | 100                        | 100 | 100 | 98  | 78  | 57  | 50  | 42  | 28  | 23  | 13  | 2   | 0   | 0   |
| Cargill 4521Bt               | 105               | 100                        | 100 | 100 | 97  | 85  | 68  | 57  | 43  | 27  | 27  | 17  | 10  | 2   | 0   |
| Pioneer 35R58                | 105               | 100                        | 98  | 95  | 80  | 75  | 67  | 62  | 53  | 40  | 32  | 20  | 7   | 2   | 0   |
| Midwest 7711                 | 111               | 100                        | 100 | 100 | 98  | 98  | 77  | 67  | 58  | 50  | 43  | 28  | 15  | 8   | 3   |
| US Seeds USC1119RR           | 111               | 100                        | 100 | 100 | 100 | 100 | 78  | 70  | 53  | 40  | 42  | 25  | 17  | 10  | 2   |
| Mean                         |                   | 97                         | 92  | 89  | 71  | 60  | 48  | 39  | 28  | 17  | 14  | 7   | 4   | 2   | 0   |
| <b><u>Probability(%)</u></b> |                   |                            |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Hybrid (H)                   |                   | 0.0                        | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.6 |
| <b><u>LSD(0.10)</u></b>      |                   |                            |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Hybrid (H)                   |                   | 3                          | 5   | 8   | 9   | 9   | 8   | 7   | 7   | 6   | 5   | 5   | 3   | 4   | 2   |
| <b><u>CV(%)</u></b>          |                   |                            |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                              |                   | 2                          | 4   | 7   | 9   | 11  | 13  | 13  | 22  | 25  | 27  | 45  | 61  | 164 | 300 |

**Table C-6. Determining Corn Hybrid Maturity - Comparison of Hybrids  
Arlington, WI - 2001**

| Hybrid             | Relative maturity | Day of year | Leaf Development          |                                       |                           | Plant height<br>inches |
|--------------------|-------------------|-------------|---------------------------|---------------------------------------|---------------------------|------------------------|
|                    |                   |             | Leaf collars<br>no./plant | Hail adjusters<br>method<br>no./plant | Total leaves<br>no./plant |                        |
|                    |                   | 136         | 1.9                       | 1.9                                   | 3.2                       | 3.3                    |
|                    |                   | 151         | 3.5                       | 4.5                                   | 6.8                       | 7.5                    |
|                    |                   | 159         | 4.1                       | 5.7                                   | 7.4                       | 9.3                    |
|                    |                   | 169         | 6.7                       | 9.8                                   | 11.3                      | 23.1                   |
|                    |                   | 184         | 10.7                      | 13.4                                  | 14.9                      | 55.6                   |
|                    |                   | 196         | 15.8                      | 16.1                                  | 17.1                      | 78.5                   |
| Jung 2178          | 78                |             | 6.6                       | 7.7                                   | 9.1                       | 28.6                   |
| Kaltenberg K3303   | 82                |             | 7.0                       | 8.7                                   | 10.1                      | 28.5                   |
| Renk RK232         | 85                |             | 7.3                       | 8.6                                   | 10.1                      | 31.1                   |
| Wensman W5088Bt    | 85                |             | 7.3                       | 8.5                                   | 10.1                      | 29.5                   |
| NK Brand N2555Bt   | 88                |             | 7.6                       | 8.7                                   | 10.6                      | 29.9                   |
| Dahlman 1488       | 90                |             | 7.2                       | 9.0                                   | 10.5                      | 29.6                   |
| Dekalb DK440       | 90                |             | 7.0                       | 8.5                                   | 9.9                       | 28.6                   |
| Pioneer 38P05      | 95                |             | 7.8                       | 9.3                                   | 10.8                      | 30.4                   |
| Pioneer 37R71      | 97                |             | 7.2                       | 8.8                                   | 10.2                      | 29.4                   |
| Cargill 4111       | 102               |             | 7.0                       | 8.6                                   | 10.1                      | 30.5                   |
| Cargill 4521Bt     | 105               |             | 7.1                       | 9.0                                   | 10.4                      | 30.4                   |
| Pioneer 35R58      | 105               |             | 6.9                       | 8.2                                   | 9.9                       | 31.3                   |
| Midwest 7711       | 111               |             | 6.8                       | 8.2                                   | 9.9                       | 28.0                   |
| US Seeds USC1119RR | 111               |             | 6.9                       | 8.2                                   | 9.6                       | 28.0                   |
| Jung 2178          | 78                | 136         | 2.0                       | 1.8                                   | 3.0                       | 3.6                    |
| Kaltenberg K3303   | 82                | 136         | 1.8                       | 1.8                                   | 3.2                       | 3.0                    |
| Renk RK232         | 85                | 136         | 2.0                       | 2.0                                   | 3.0                       | 3.1                    |
| Wensman W5088Bt    | 85                | 136         | 2.0                       | 2.0                                   | 3.7                       | 3.6                    |
| NK Brand N2555Bt   | 88                | 136         | 2.0                       | 2.0                                   | 3.7                       | 3.4                    |
| Dahlman 1488       | 90                | 136         | 2.0                       | 1.8                                   | 3.0                       | 3.2                    |
| Dekalb DK440       | 90                | 136         | 1.7                       | 1.7                                   | 3.0                       | 2.8                    |
| Pioneer 38P05      | 95                | 136         | 2.0                       | 2.0                                   | 3.5                       | 3.2                    |
| Pioneer 37R71      | 97                | 136         | 2.0                       | 1.8                                   | 3.2                       | 3.5                    |
| Cargill 4111       | 102               | 136         | 2.0                       | 2.0                                   | 3.0                       | 3.5                    |
| Cargill 4521Bt     | 105               | 136         | 2.0                       | 2.0                                   | 3.2                       | 3.1                    |
| Pioneer 35R58      | 105               | 136         | 1.8                       | 1.8                                   | 3.2                       | 3.3                    |
| Midwest 7711       | 111               | 136         | 1.8                       | 1.7                                   | 3.0                       | 3.1                    |
| US Seeds USC1119RR | 111               | 136         | 1.7                       | 1.7                                   | 3.0                       | 3.1                    |

continued

**Table C-6. Determining Corn Hybrid Maturity - Comparison of Hybrids**  
(continued) **Arlington, WI - 2001**

| Hybrid             | Relative maturity | Day of year | Leaf Development |                       |              | Plant height |
|--------------------|-------------------|-------------|------------------|-----------------------|--------------|--------------|
|                    |                   |             | Leaf collars     | Hail adjusters method | Total leaves |              |
|                    |                   |             | no./plant        | no./plant             | no./plant    |              |
| Jung 2178          | 78                | 151         | 3.0              | 3.8                   | 6.3          | 8.7          |
| Kaltenberg K3303   | 82                | 151         | 3.7              | 4.8                   | 7.0          | 7.7          |
| Renk RK232         | 85                | 151         | 4.0              | 4.5                   | 7.0          | 7.3          |
| Wensman W5088Bt    | 85                | 151         | 3.8              | 4.0                   | 7.0          | 7.6          |
| NK Brand N2555Bt   | 88                | 151         | 3.8              | 4.2                   | 6.8          | 9.8          |
| Dahlman 1488       | 90                | 151         | 3.5              | 4.7                   | 7.0          | 7.0          |
| Dekalb DK440       | 90                | 151         | 3.3              | 4.5                   | 6.5          | 6.5          |
| Pioneer 38P05      | 95                | 151         | 3.7              | 5.0                   | 6.7          | 7.8          |
| Pioneer 37R71      | 97                | 151         | 3.0              | 5.0                   | 7.0          | 6.8          |
| Cargill 4111       | 102               | 151         | 3.5              | 4.8                   | 6.7          | 7.8          |
| Cargill 4521Bt     | 105               | 151         | 3.3              | 4.8                   | 6.8          | 7.3          |
| Pioneer 35R58      | 105               | 151         | 3.7              | 4.2                   | 6.8          | 8.0          |
| Midwest 7711       | 111               | 151         | 3.0              | 4.0                   | 6.7          | 7.0          |
| US Seeds USC1119RR | 111               | 151         | 3.2              | 4.2                   | 6.3          | 6.3          |
|                    |                   |             |                  |                       |              |              |
| Jung 2178          | 78                | 159         | 4.0              | 4.5                   | 7.0          | 11.6         |
| Kaltenberg K3303   | 82                | 159         | 4.0              | 6.0                   | 7.7          | 8.5          |
| Renk RK232         | 85                | 159         | 4.2              | 5.7                   | 7.5          | 9.5          |
| Wensman W5088Bt    | 85                | 159         | 4.0              | 5.7                   | 7.5          | 10.3         |
| NK Brand N2555Bt   | 88                | 159         | 4.3              | 5.7                   | 7.7          | 10.2         |
| Dahlman 1488       | 90                | 159         | 4.0              | 6.0                   | 7.7          | 8.9          |
| Dekalb DK440       | 90                | 159         | 4.0              | 6.0                   | 7.3          | 8.7          |
| Pioneer 38P05      | 95                | 159         | 4.7              | 5.8                   | 7.8          | 9.3          |
| Pioneer 37R71      | 97                | 159         | 4.0              | 6.0                   | 7.5          | 7.6          |
| Cargill 4111       | 102               | 159         | 4.0              | 5.8                   | 7.5          | 10.1         |
| Cargill 4521Bt     | 105               | 159         | 4.0              | 5.8                   | 7.3          | 9.3          |
| Pioneer 35R58      | 105               | 159         | 4.0              | 5.5                   | 7.5          | 9.5          |
| Midwest 7711       | 111               | 159         | 4.0              | 5.3                   | 7.0          | 9.0          |
| US Seeds USC1119RR | 111               | 159         | 4.0              | 5.5                   | 7.0          | 7.8          |
|                    |                   |             |                  |                       |              |              |
| Jung 2178          | 78                | 169         | 6.2              | 9.5                   | 10.8         | 23.6         |
| Kaltenberg K3303   | 82                | 169         | 6.3              | 9.8                   | 10.8         | 22.2         |
| Renk RK232         | 85                | 169         | 6.7              | 10.0                  | 11.5         | 23.8         |
| Wensman W5088Bt    | 85                | 169         | 6.7              | 9.8                   | 11.5         | 22.7         |
| NK Brand N2555Bt   | 88                | 169         | 6.8              | 9.8                   | 11.7         | 23.7         |
| Dahlman 1488       | 90                | 169         | 6.7              | 10.5                  | 11.8         | 23.0         |
| Dekalb DK440       | 90                | 169         | 6.5              | 9.7                   | 11.0         | 21.9         |
| Pioneer 38P05      | 95                | 169         | 7.3              | 10.7                  | 11.8         | 22.6         |
| Pioneer 37R71      | 97                | 169         | 6.7              | 9.7                   | 11.3         | 24.0         |
| Cargill 4111       | 102               | 169         | 6.7              | 9.7                   | 11.5         | 25.3         |
| Cargill 4521Bt     | 105               | 169         | 7.0              | 10.5                  | 11.7         | 23.9         |
| Pioneer 35R58      | 105               | 169         | 6.3              | 9.2                   | 11.0         | 25.3         |
| Midwest 7711       | 111               | 169         | 6.7              | 9.3                   | 10.7         | 21.0         |
| US Seeds USC1119RR | 111               | 169         | 6.8              | 9.5                   | 10.8         | 20.6         |

continued

**Table C-6. Determining Corn Hybrid Maturity - Comparison of Hybrids**  
(continued) **Arlington, WI - 2001**

| Hybrid                | Relative maturity | Day of year | Leaf Development          |                                       |                           | Plant height |
|-----------------------|-------------------|-------------|---------------------------|---------------------------------------|---------------------------|--------------|
|                       |                   |             | Leaf collars<br>no./plant | Hail adjusters<br>method<br>no./plant | Total leaves<br>no./plant |              |
| Jung 2178             | 78                | 184         | 10.2                      | 12.0                                  | 13.3                      | 55.5         |
| Kaltenberg K3303      | 82                | 184         | 10.3                      | 13.5                                  | 14.7                      | 50.7         |
| Renk RK232            | 85                | 184         | 11.0                      | 13.5                                  | 14.7                      | 58.0         |
| Wensman W5088Bt       | 85                | 184         | 10.5                      | 12.7                                  | 14.3                      | 55.8         |
| NK Brand N2555Bt      | 88                | 184         | 11.0                      | 13.0                                  | 15.3                      | 55.3         |
| Dahlman 1488          | 90                | 184         | 10.5                      | 14.0                                  | 15.3                      | 56.8         |
| Dekalb DK440          | 90                | 184         | 10.7                      | 13.3                                  | 14.8                      | 52.5         |
| Pioneer 38P05         | 95                | 184         | 11.7                      | 14.8                                  | 16.3                      | 57.0         |
| Pioneer 37R71         | 97                | 184         | 11.2                      | 14.0                                  | 15.2                      | 57.0         |
| Cargill 4111          | 102               | 184         | 10.7                      | 13.7                                  | 15.3                      | 57.2         |
| Cargill 4521Bt        | 105               | 184         | 11.0                      | 14.0                                  | 15.7                      | 57.7         |
| Pioneer 35R58         | 105               | 184         | 10.3                      | 13.2                                  | 14.5                      | 59.3         |
| Midwest 7711          | 111               | 184         | 10.2                      | 13.7                                  | 15.2                      | 51.8         |
| US Seeds USC1119RR    | 111               | 184         | 10.3                      | 12.7                                  | 14.0                      | 53.7         |
|                       |                   |             |                           |                                       |                           |              |
| Jung 2178             | 78                | 196         | 14.3                      | 14.3                                  | 14.3                      | 68.5         |
| Kaltenberg K3303      | 82                | 196         | 15.8                      | 16.2                                  | 17.3                      | 79.0         |
| Renk RK232            | 85                | 196         | 15.7                      | 15.8                                  | 16.8                      | 85.2         |
| Wensman W5088Bt       | 85                | 196         | 16.7                      | 16.7                                  | 16.7                      | 76.7         |
| NK Brand N2555Bt      | 88                | 196         | 17.3                      | 17.3                                  | 18.3                      | 76.8         |
| Dahlman 1488          | 90                | 196         | 16.5                      | 17.2                                  | 18.0                      | 78.8         |
| Dekalb DK440          | 90                | 196         | 15.7                      | 15.8                                  | 17.0                      | 79.2         |
| Pioneer 38P05         | 95                | 196         | 17.3                      | 17.3                                  | 18.3                      | 82.3         |
| Pioneer 37R71         | 97                | 196         | 16.3                      | 16.3                                  | 17.2                      | 77.8         |
| Cargill 4111          | 102               | 196         | 15.2                      | 15.8                                  | 16.8                      | 79.0         |
| Cargill 4521Bt        | 105               | 196         | 15.5                      | 16.8                                  | 17.7                      | 80.8         |
| Pioneer 35R58         | 105               | 196         | 15.2                      | 15.2                                  | 16.7                      | 82.5         |
| Midwest 7711          | 111               | 196         | 15.0                      | 15.2                                  | 17.2                      | 76.2         |
| US Seeds USC1119RR    | 111               | 196         | 15.3                      | 15.7                                  | 16.7                      | 76.5         |
|                       |                   |             |                           |                                       |                           |              |
| Mean                  |                   |             | 7.1                       | 8.6                                   | 10.1                      | 29.6         |
| <b>Probability(%)</b> |                   |             |                           |                                       |                           |              |
| Hybrid (H)            |                   |             | 0.0                       | 0.0                                   | 0.0                       | 0.6          |
| Day Of Year (D)       |                   |             | 0.0                       | 0.0                                   | 0.0                       | 0.0          |
| H x D                 |                   |             | 0.0                       | 0.3                                   | 0.0                       | 0.0          |
| <b>LSD(0.10)</b>      |                   |             |                           |                                       |                           |              |
| Hybrid (H)            |                   |             | 0.3                       | 0.4                                   | 0.4                       | 1.4          |
| Day Of Year (D)       |                   |             | 0.2                       | 0.2                                   | 0.2                       | 0.7          |
| H x D                 |                   |             | 0.6                       | 0.7                                   | 0.6                       | 2.6          |
| <b>CV(%)</b>          |                   |             | 6                         | 6                                     | 5                         | 7            |



## FIELD EXPERIMENT HISTORY

**Title:** Comparison Between Roundup Ready Hybrids and Isolines.  
**Experiment:** 01Roundup **Trial ID** 1309 **Year:** 2001  
**Personnel:** J.G. Lauer, P. J. Flannery, and K. D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** HATCH

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### Site Information

**Field:** 408 **Previous Crop:** Soybean **Soil Type:** Plano silt loam  
**Soil Test:** **Date:** 10/1 /01 **pH** 6.7 **OM (%)** 2.6 **P (ppm)** 63 **K (ppm)** 137

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher 1 Cultivation 6/14  
**Fertilizer:** **Preplant Analysis:** 46-0-0 **Rate lbs/A:** 325 **Date:** May 9  
**Starter Analysis:** 6-24-24 **Rate lbs/A:** 100 **Date:** May 9  
**Post plant Analysis:** N/A **Rate lbs/A:** N/A **Date:** N/A  
**Manure:** None  
**Herbicide:** Harness @ 2.5 pt/A **Insecticide:** None  
Permit @ 0.66 oz/A **Hybrid:** See Factors  
**Irrigation:** None  
**Planting Date:** May 8 **Planting Depth:** 1.5" **Row Width** 30"  
**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Plot Planter  
**Harvest Date:** October 25 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** split-plot **Replications:** 4  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 25' x 5'  
**Harvest Plot Size:** 22' x 5' **Harvest Plant Density:** 29000 plants per acre

### Factors/Treatments:

#### Hybrids:

|         |         |
|---------|---------|
| DKC3947 | DKC5740 |
| DKC3945 | DKC5738 |
| DKC4628 | DKC5853 |
| DKC4626 | DK585   |
| DKC5333 | DKC6017 |
| DK537   | DKC6015 |

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**Results: Table C-7.**

**Table C-7. Comparison Between Roundup Ready Hybrids and Isoline.**

**Arlington, WI - 2001.**

| Treatment             | Type    | Hybrid         | Relative | Yield |      | Test   |         | Harvest    | Plant  | Ear    | Silk | Grower |
|-----------------------|---------|----------------|----------|-------|------|--------|---------|------------|--------|--------|------|--------|
|                       |         |                | maturity | bu/A  | %    | lbs/bu | Lodging | population | height | height | date | Return |
|                       |         |                |          |       |      |        |         | plants/A   | inches | inches | doy  | \$/A   |
|                       | RR      |                |          | 191   | 22.7 | 53     | 7.7     | 28875      | 92     | 40     | 206  | 386    |
|                       | Isoline |                |          | 197   | 22.6 | 53     | 4.7     | 29205      | 93     | 41     | 206  | 399    |
| 1                     |         | DKC3947/DKC394 | 89       | 171   | 19.6 | 57     | 4.4     | 29502      | 90     | 42     | 202  | 355    |
| 2                     |         | DKC4628/DKC462 | 96       | 160   | 19.7 | 55     | 15.4    | 27225      | 85     | 39     | 204  | 333    |
| 3                     |         | DKC5333/DK537  | 103      | 195   | 20.7 | 53     | 4.3     | 29898      | 94     | 40     | 204  | 401    |
| 4                     |         | DKC5740/DKC573 | 107      | 210   | 23.9 | 51     | 4.0     | 29700      | 94     | 41     | 209  | 423    |
| 5                     |         | DKC5853/DK585  | 108      | 212   | 24.7 | 50     | 3.9     | 28314      | 102    | 46     | 209  | 424    |
| 6                     |         | DKC6017/DKC601 | 110      | 214   | 27.5 | 50     | 5.0     | 29601      | 91     | 35     | 209  | 419    |
| 1                     | RR      | DKC3947        | 89       | 170   | 19.5 | 57     | 6.7     | 29304      | 90     | 42     | 202  | 354    |
| 1                     | Isoline | DKC3945        | 89       | 172   | 19.7 | 57     | 2.0     | 29700      | 89     | 43     | 202  | 357    |
| 2                     | RR      | DKC4628        | 96       | 160   | 19.5 | 55     | 20.9    | 27126      | 88     | 40     | 204  | 333    |
| 2                     | Isoline | DKC4626        | 96       | 161   | 19.8 | 55     | 9.9     | 27324      | 83     | 38     | 204  | 333    |
| 3                     | RR      | DKC5333        | 103      | 181   | 20.3 | 53     | 5.4     | 29304      | 94     | 40     | 204  | 374    |
| 3                     | Isoline | DK537          | 103      | 208   | 21.0 | 53     | 3.2     | 30492      | 94     | 41     | 205  | 428    |
| 4                     | RR      | DKC5740        | 107      | 214   | 24.0 | 52     | 2.0     | 30096      | 93     | 40     | 209  | 430    |
| 4                     | Isoline | DKC5738        | 107      | 207   | 23.8 | 51     | 6.1     | 29304      | 94     | 41     | 209  | 417    |
| 5                     | RR      | DKC5853        | 108      | 206   | 25.1 | 51     | 5.0     | 27918      | 98     | 43     | 209  | 412    |
| 5                     | Isoline | DK585          | 108      | 217   | 24.4 | 50     | 2.8     | 28710      | 105    | 49     | 209  | 436    |
| 6                     | RR      | DKC6017        | 110      | 212   | 27.9 | 50     | 6.1     | 29502      | 91     | 34     | 209  | 415    |
| 6                     | Isoline | DKC6015        | 110      | 216   | 27.1 | 50     | 4.0     | 29700      | 91     | 35     | 209  | 424    |
| <b>Mean</b>           |         |                |          | 194   | 22.7 | 53     | 6.2     | 29040      | 93     | 40     | 206  | 393    |
| <u>Probability(%)</u> |         |                |          |       |      |        |         |            |        |        |      |        |
| Treatment (T)         |         |                |          | 0.0   | 0.0  | 0.0    | 5.8     | 0.2        | 0.0    | 0.0    | 0.0  | 0.0    |
| Type (Y)              |         |                |          | 22.4  | 60.3 | 36.0   | 21.5    | 39.9       | 75.3   | 19.2   | 76.9 | 21.4   |
| T x Y                 |         |                |          | 47.6  | 15.0 | 13.6   | 62.9    | 77.2       | 8.3    | 32.3   | 76.8 | 51.9   |
| <u>LSD(0.10)</u>      |         |                |          |       |      |        |         |            |        |        |      |        |
| Treatment (T)         |         |                |          | 14    | 0.7  | 1      | 5.8     | 801        | 5      | 3      | 1    | 28     |
| Type (Y)              |         |                |          | NS    | NS   | NS     | NS      | NS         | NS     | NS     | NS   | NS     |
| T x Y                 |         |                |          | NS    | NS   | NS     | NS      | NS         | 4.3    | NS     | NS   | NS     |
| <u>CV(%)</u>          |         |                |          |       |      |        |         |            |        |        |      |        |
|                       |         |                |          | 9     | 3    | 1      | 134     | 5          | 4      | 9      | 1    | 9      |

## Field Experiment History

### Comparison of Monsanto Bt and Non Bt Hybrids.

| Location             | Cooperators                                 | Soil Type                    | Previous Crop | Row Width (in) | Planting Date | Harvest Dates          | Ave. Final Stand (plants/A) | Tillage Operations                 | --Soil Test--<br>pH P K<br>--(ppm)-- | --Nitrogen Fertilizer--<br>actual form time<br>(lb/a) | Weed Control                  | Insecticides  |                   |
|----------------------|---|------------------------------|---------------|----------------|---------------|------------------------|-----------------------------|------------------------------------|--------------------------------------|---|-------------------------------|---|-------------------|
| Arlington            | S.Kraak<br>J. Quimby                        | Plano<br>Silt Loam           | Soybean       | 30             | 28-Apr        | GE:16-Oct<br>GL:25-Oct | G:31026                     | Fall Chisel<br>Field Cultivator    | 6.5 125 275                          | 150 9<br>46-0-0<br>6-24-24                            | preplant<br>planting          | Harness 2.5 pt/A<br>Permit 0.66 oz/A<br>cultivate                                       | None              |
| Ashland              | M. Mlynarek                                 | Allendale<br>Loamy Fine Sand | Corn          | 30             | 4-May         | G: 21-Sep              | G:32845                     | Moldboard Plow<br>Disk             | 7.0 165 148                          | 150<br>46-0-0   | preplant                      | Lasso 2.0 qts/A<br>Bladex 2.0 qts/A<br>Permit 1.33 oz/A<br>cultivate                    | None              |
| Chippewa Fal         | J. Clark                                    | Sattre<br>Silt Loam          | Corn          | 30             | 26-Apr        | G: 17-Oct              | G:28791                     | Chisel Plow<br>Field Cultivator    | 5.8 27 115                           | 150 9<br>28-0-0<br>6-24-24                            | preplant<br>planting          | Harness 1.7 qt/A<br>Hornet 2.4 oz/A<br>cultivate  | Lorsban<br>7lbs/A |
| Fond du Lac          | M. Rankin<br>E. Montsma                     | Virgil<br>Silt Loam          | Soybean       | 30             | #####         | G: 29-Oct              | G:29589                     | Moldboard Plow<br>Field Cultivator | 6.9 50 98                            | 107 9 69<br>82-0-0<br>6-24-24<br>46-0-0               | preplant<br>planting<br>post  | Dual II Mag 0.75pt/A<br>Accent Gold 2.9 oz/A<br>Artazine 0.5 lb/A<br>cultivate          | None              |
| Galesville           | K. Congdon<br>J. Zander                     | Downs<br>Silt Loam           | Soybean       | 30             | 26-Apr        | G: 17-Oct              | G:30122                     | Field Cultivator                   | 6.2 60 310                           | 160 9<br>46-0-0<br>6-24-24                            | preplant<br>planting          | Dual II 2.25 pt/A<br>Hornet 5.0 oz/A  | None              |
| Hancock<br>Irrigated | J. Breuer<br>C. Kostichka                   | Plainfield<br>Sand           | Soybean       | 30             | 25-Apr        | G: 12-Oct              | G:29820                     | Moldboard Plow<br>Disk             | 5.5 80 67                            | 9 204<br>6-24-24<br>34-0-0                            | planting<br>post              | Aatrex 4L 0.75 lb/A<br>Lasso 2.0 qt/A   | None              |
| Janesville           | B. Jaynes<br>D. Nehring                     | Plano<br>Silt Loam           | Soybean       | 30             | 30-Apr        | G:11-Oct               | G:31014                     | Chisel Plow<br>Field Cultivator    | 6.9 69 195                           | 160 9<br>28-0-0<br>6-24-24                            | preplant<br>planting          | Harness 2.75 qt/A<br>Hornet 4.5 oz/A<br>cultivate                                       | None              |
| Lancaster            | T. Wood<br>D. Heimdal                       | Fayette<br>Silt Loam         | Soybean       | 30             | 27-Apr        | G: 15-Oct              | G:28598                     | Soil Finisher                      | G: 7.2 48 125                        | 140 9<br>46-0-0<br>6-24-24                            | preplant<br>planting          | Roundup Ultra 1.0 qt/A<br>Aatrex 4L 1.0 qt/A<br>Harness 1.0 qt/A<br>North star 5.0 oz/A | None              |
| Marshfield           | D. Wiersma<br>T. Drendel                    | Loyal<br>Silt Loam           | Soybean       | 30             | #####         | G: 5-Nov               | G:21581                     | Field Cultivator 2x                | 7.2 48 147                           | 9 120<br>6-24-24<br>34-0-0                            | planting<br>post              | Harness 1.0 qt/A<br>Hornet 2.4 oz/A<br>cultivate  | None              |
| Seymour              | R. Vanden Heuvel<br>Z. Miller               | Clay Loam                    | Corn          | 30             | #####         | G: 29-Oct              | G:29276                     | Chisel Plow<br>Soil Finisher       | 7.1 42 210                           | 9 9000 gal/A<br>6-24-24<br>Manure                     | planting<br>preplant          | Accent 0.33 oz/A<br>Northstar 4.0 oz/A<br>cultivate                                     | Lorsban<br>7lbs/A |
| Spooner<br>Dryland   | M. Bertram                                  | Cress<br>Sandy Loam          | Alfalfa       | 30             | 5-May         | G:16-Oct               | G:26318                     | Moldboard Plow<br>Disk             | 6.5 65 296                           | 6 55 13<br>5-10-30<br>46-0-0<br>Ton Sheep Manure      | planting<br>post<br>cultivate | Dual II Mag 1.2 pt/A<br>Northstar 5.0 oz/A<br>cultivate                                 | None              |
| Spooner<br>Irrigated | M. Bertram                                  | Cress<br>Sandy Loam          | Alfalfa       | 30             | 5-May         | G: 12-Oct              | G:32487                     | Moldboard Plow<br>Disk             | 6.5 63 121                           | 6 83 13<br>5-10-30<br>46-0-0<br>Ton Sheep Manure      | planting<br>post<br>cultivate | Dual II Mag 1.2 pt/A<br>Northstar 5.0 oz/A<br>cultivate                                 | None              |
| Spooner<br>Silt Loam | M. Bertram                                  | Antigo<br>Silt Loam          | Corn          | 30             | 5-May         | G: 17-Oct              | G:29265                     | Moldboard Plow<br>Disk             | 7.0 11 58                            | 23 69<br>9-23-30<br>46-0-0                            | planting<br>post              | Roundup Ultra Max 38 oz/<br>Dual II Mag 1.2 pt/A<br>Northstar 5.0 oz/A<br>cultivate     | None              |
| Valders              | S. Hendrickson<br>J. Maney<br>T. & B. Maney | Kewaunee<br>Clay Loam        | Corn          | 30             | 2-May         | G: 1-Nov               | G:29242                     | Moldboard Plow<br>Field Cultivator | 7.8 40 204                           | 9 9000 gal/A<br>6-24-24<br>Manure                     | planting<br>preplant          | Surpass 1.0 pt/A<br>Accent 0.33 oz/A<br>Distinct 4.0 oz/A<br>cultivate                  | Lorsban<br>7lbs/A |

Note: G=Grain, E=Early Trial, L=Late Trial.

**Results: Tables C-8, C-9, C-10, and C-11.**

**Table C-8. Comparison of Monsanto Bt and Non Bt Hybrids.  
Southern Zone 2001.**

| Zone                  | Loc  | Brand       | Hybrid    | Specialty | Yield | Moisture | Test   |         | Grower return |
|-----------------------|------|-------------|-----------|-----------|-------|----------|--------|---------|---------------|
|                       |      |             |           |           |       |          | Weight | Lodging |               |
|                       |      |             |           |           | bu/A  | %        | lbs/bu | %       | \$/A          |
| S                     |      | Corn States | CSEX105   |           | 217   | 24.5     | 54     | 3       | 434           |
| S                     |      | Corn States | CSEX105Bt | Bt        | 228   | 25.8     | 53     | 2       | 453           |
| S                     |      | Corn States | CSEX113   |           | 225   | 25.7     | 52     | 8       | 446           |
| S                     |      | Corn States | CSEX113Bt | Bt        | 225   | 27.0     | 51     | 7       | 442           |
| S                     |      | Dekalb      | DK537     |           | 216   | 22.3     | 55     | 1       | 441           |
| S                     |      | Dekalb      | DK585     |           | 227   | 24.8     | 52     | 5       | 454           |
| S                     | ARL  |             |           |           | 241   | 24.0     | 53     | 4       | 486           |
| S                     | JAN  |             |           |           | 234   | 26.7     | 53     | 7       | 462           |
| S                     | LAN  |             |           |           | 193   | 24.3     | 53     | 2       | 387           |
| S                     | ARL  | Corn States | CSEX105   |           | 251   | 23.4     | 53     | 0       | 507           |
| S                     | ARL  | Corn States | CSEX105Bt | Bt        | 250   | 24.5     | 52     | 3       | 502           |
| S                     | ARL  | Corn States | CSEX113   |           | 246   | 25.1     | 52     | 0       | 491           |
| S                     | ARL  | Corn States | CSEX113Bt | Bt        | 230   | 26.3     | 51     | 14      | 454           |
| S                     | ARL  | Dekalb      | DK537     |           | 240   | 21.1     | 55     | 0       | 494           |
| S                     | ARL  | Dekalb      | DK585     |           | 231   | 23.7     | 53     | 5       | 466           |
| S                     | JAN  | Corn States | CSEX105   |           | 232   | 26.1     | 54     | 5       | 460           |
| S                     | JAN  | Corn States | CSEX105Bt | Bt        | 238   | 27.5     | 53     | 1       | 467           |
| S                     | JAN  | Corn States | CSEX113   |           | 232   | 27.5     | 53     | 21      | 454           |
| S                     | JAN  | Corn States | CSEX113Bt | Bt        | 228   | 29.6     | 51     | 7       | 440           |
| S                     | JAN  | Dekalb      | DK537     |           | 231   | 23.6     | 55     | 2       | 466           |
| S                     | JAN  | Dekalb      | DK585     |           | 245   | 26.0     | 52     | 8       | 486           |
| S                     | LAN  | Corn States | CSEX105   |           | 167   | 23.9     | 55     | 5       | 336           |
| S                     | LAN  | Corn States | CSEX105Bt | Bt        | 196   | 25.3     | 54     | 0       | 390           |
| S                     | LAN  | Corn States | CSEX113   |           | 196   | 24.4     | 52     | 3       | 393           |
| S                     | LAN  | Corn States | CSEX113Bt | Bt        | 216   | 25.2     | 51     | 1       | 431           |
| S                     | LAN  | Dekalb      | DK537     |           | 178   | 22.1     | 56     | 1       | 362           |
| S                     | LAN  | Dekalb      | DK585     |           | 205   | 24.7     | 52     | 3       | 411           |
| S                     | Mean |             |           |           | 223   | 25.0     | 53     | 4       | 445           |
| <b>Probability(%)</b> |      |             |           |           |       |          |        |         |               |
| Hybrid (H)            |      |             |           |           | 15.0  | 0.0      | 0.0    | 4.7     | 43.3          |
| Location (L)          |      |             |           |           | 0.0   | 0.0      | 9.8    | 4.7     | 0.0           |
| H x L                 |      |             |           |           | 0.2   | 6.0      | 1.3    | 3.5     | 0.1           |
| <b>LSD (0.10)</b>     |      |             |           |           |       |          |        |         |               |
| Hybrid (H)            |      |             |           |           | NS    | 0.5      | 1      | 4       | NS            |
| Location (L)          |      |             |           |           | 7     | 0.4      | 0      | 4       | 13            |
| H x L                 |      |             |           |           | 16    | 1.0      | 1      | 8       | 37            |
| <b>CV(%)</b>          |      |             |           |           |       |          |        |         |               |
|                       |      |             |           |           | 5     | 3        | 1      | 135     | 5             |

**Table C-9. Comparison of Monsanto Bt and Non Bt Hybrids.  
South Central Zone 2001.**

| Zone                  | Loc  | Brand       | Hybrid      | Specialty | Yield        | Moisture | Test   |         | Grower return |      |
|-----------------------|------|-------------|-------------|-----------|--------------|----------|--------|---------|---------------|------|
|                       |      |             |             |           |              |          | Weight | Lodging |               |      |
|                       |      |             |             |           | bu/A         | %        | lbs/bu | %       | \$/A          |      |
| SC                    |      | Corn States | CSEXSC095   |           | 179          | 20.6     | 55     | 1       | 371           |      |
| SC                    |      | Corn States | CSEXSC095Bt | Bt        | 182          | 21.2     | 54     | 1       | 374           |      |
| SC                    |      | Corn States | CSEXSC100   |           | 181          | 24.4     | 54     | 1       | 364           |      |
| SC                    |      | Corn States | CSEXSC100Bt | Bt        | 183          | 24.5     | 52     | 3       | 369           |      |
| SC                    |      | Dekalb      | DK440       |           | 182          | 22.1     | 54     | 3       | 372           |      |
| SC                    |      | Asgrow      | RX452       |           | 192          | 24.2     | 54     | 2       | 388           |      |
| SC                    | FON  |             |             |           | 147          | 25.9     | 50     | 2       | 292           |      |
| SC                    | GAL  |             |             |           | 195          | 20.9     | 54     | 2       | 402           |      |
| SC                    | HAN  |             |             |           | 207          | 21.7     | 58     | 2       | 424           |      |
| SC                    | FON  | Corn States | CSEXSC095   |           | 145          | 21.4     | 51     | 2       | 298           |      |
| SC                    | FON  | Corn States | CSEXSC095Bt | Bt        | 152          | 23.1     | 50     | 1       | 308           |      |
| SC                    | FON  | Corn States | CSEXSC100   |           | 136          | 28.9     | 49     | 1       | 263           |      |
| SC                    | FON  | Corn States | CSEXSC100Bt | Bt        | 146          | 29.8     | 47     | 0       | 280           |      |
| SC                    | FON  | Dekalb      | DK440       |           | 153          | 23.8     | 50     | 3       | 308           |      |
| SC                    | FON  | Asgrow      | RX452       |           | 151          | 28.0     | 51     | 3       | 295           |      |
| SC                    | GAL  | Corn States | CSEXSC095   |           | 194          | 20.1     | 55     | 0       | 402           |      |
| SC                    | GAL  | Corn States | CSEXSC095Bt | Bt        | 194          | 19.7     | 55     | 1       | 403           |      |
| SC                    | GAL  | Corn States | CSEXSC100   |           | 197          | 21.8     | 54     | 1       | 404           |      |
| SC                    | GAL  | Corn States | CSEXSC100Bt | Bt        | 189          | 21.2     | 53     | 7       | 388           |      |
| SC                    | GAL  | Dekalb      | DK440       |           | 204          | 20.4     | 55     | 0       | 422           |      |
| SC                    | GAL  | Asgrow      | RX452       |           | 192          | 22.1     | 55     | 2       | 391           |      |
| SC                    | HAN  | Corn States | CSEXSC095   |           | 199          | 20.2     | 60     | 1       | 412           |      |
| SC                    | HAN  | Corn States | CSEXSC095Bt | Bt        | 199          | 20.6     | 58     | 0       | 409           |      |
| SC                    | HAN  | Corn States | CSEXSC100   |           | 209          | 22.4     | 57     | 1       | 425           |      |
| SC                    | HAN  | Corn States | CSEXSC100Bt | Bt        | 216          | 22.5     | 56     | 0       | 438           |      |
| SC                    | HAN  | Dekalb      | DK440       |           | 188          | 22.1     | 57     | 6       | 385           |      |
| SC                    | HAN  | Asgrow      | RX452       |           | 234          | 22.5     | 58     | 1       | 476           |      |
| SC                    | Mean |             |             |           | 183          | 22.8     | 54     | 2       | 373           |      |
| <b>Probability(%)</b> |      |             |             |           |              |          |        |         |               |      |
|                       |      |             |             |           | Hybrid (H)   | 37.5     | 0.0    | 0.0     | 47.6          | 55.2 |
|                       |      |             |             |           | Location (L) | 0.0      | 0.0    | 0.0     | 87.1          | 0.0  |
|                       |      |             |             |           | H x L        | 4.8      | 3.6    | 78.1    | 2.1           | 7.8  |
| <b>LSD (0.10)</b>     |      |             |             |           |              |          |        |         |               |      |
|                       |      |             |             |           | Hybrid (H)   | NS       | 0.8    | 1       | NS            | NS   |
|                       |      |             |             |           | Location (L) | 8        | 1.0    | 1       | NS            | 16   |
|                       |      |             |             |           | H x L        | 18       | 2.4    | NS      | 3             | 23   |
| <b>CV(%)</b>          |      |             |             |           |              |          |        |         |               |      |
|                       |      |             |             |           |              | 7        | 8      | 2       | 135           | 8    |

**Table C-10. Comparison of Monsanto Bt and Non Bt Hybrids.  
North Central Zone 2001.**

| Zone                  | Loc  | Brand       | Hybrid      | Specialty | Yield        | Moisture | Test   |         | Grower return |     |
|-----------------------|------|-------------|-------------|-----------|--------------|----------|--------|---------|---------------|-----|
|                       |      |             |             |           |              |          | Weight | Lodging |               |     |
|                       |      |             |             |           | bu/A         | %        | lbs/bu | %       | \$/A          |     |
| NC                    |      | Corn States | CSEXNC087   |           | 123          | 20.8     | 54     | 1       | 254           |     |
| NC                    |      | Corn States | CSEXNC087Bt | Bt        | 126          | 20.7     | 53     | 1       | 260           |     |
| NC                    |      | Corn States | CSEXNC090   |           | 144          | 21.6     | 55     | 1       | 295           |     |
| NC                    |      | Corn States | CSEXNC090Bt | Bt        | 133          | 20.5     | 56     | 2       | 274           |     |
| NC                    |      | Dekalb      | DK440       |           | 145          | 23.6     | 52     | 4       | 293           |     |
| NC                    |      | Asgrow      | RX452       |           | 155          | 25.5     | 52     | 2       | 310           |     |
| NC                    | CHP  |             |             |           | 156          | 20.8     | 55     | 2       | 322           |     |
| NC                    | MAR  |             |             |           | 142          | 23.9     | 50     | 3       | 286           |     |
| NC                    | SEY  |             |             |           | 156          | 22.2     | 53     | 3       | 317           |     |
| NC                    | VAL  |             |             |           | 83           | 22.6     | 54     | 1       | 169           |     |
| NC                    | CHP  | Corn States | CSEXNC087   |           | 141          | 20.1     | 55     | 1       | 293           |     |
| NC                    | CHP  | Corn States | CSEXNC087Bt | Bt        | 138          | 19.9     | 54     | 0       | 286           |     |
| NC                    | CHP  | Corn States | CSEXNC090   |           | 155          | 20.4     | 57     | 0       | 320           |     |
| NC                    | CHP  | Corn States | CSEXNC090Bt | Bt        | 149          | 19.9     | 57     | 0       | 309           |     |
| NC                    | CHP  | Dekalb      | DK440       |           | 169          | 20.8     | 54     | 4       | 347           |     |
| NC                    | CHP  | Asgrow      | RX452       |           | 175          | 23.7     | 54     | 1       | 353           |     |
| NC                    | MAR  | Corn States | CSEXNC087   |           | 125          | 22.5     | 51     | 2       | 254           |     |
| NC                    | MAR  | Corn States | CSEXNC087Bt | Bt        | 126          | 24.0     | 48     | 0       | 253           |     |
| NC                    | MAR  | Corn States | CSEXNC090   |           | 132          | 24.2     | 49     | 2       | 266           |     |
| NC                    | MAR  | Corn States | CSEXNC090Bt | Bt        | 152          | 20.9     | 53     | 1       | 312           |     |
| NC                    | MAR  | Dekalb      | DK440       |           | 161          | 26.1     | 50     | 6       | 319           |     |
| NC                    | SEY  | Corn States | CSEXNC087   |           | 132          | 20.7     | 54     | 1       | 272           |     |
| NC                    | SEY  | Corn States | CSEXNC087Bt | Bt        | 156          | 19.8     | 52     | 1       | 323           |     |
| NC                    | SEY  | Corn States | CSEXNC090   |           | 152          | 20.8     | 56     | 1       | 313           |     |
| NC                    | SEY  | Corn States | CSEXNC090Bt | Bt        | 146          | 19.9     | 56     | 6       | 303           |     |
| NC                    | SEY  | Dekalb      | DK440       |           | 161          | 24.3     | 51     | 3       | 324           |     |
| NC                    | SEY  | Asgrow      | RX452       |           | 182          | 25.8     | 52     | 4       | 362           |     |
| NC                    | VAL  | Corn States | CSEXNC087   |           | 95           | 19.8     | 56     | 0       | 198           |     |
| NC                    | VAL  | Corn States | CSEXNC087Bt | Bt        | 84           | 21.3     | 54     | 1       | 173           |     |
| NC                    | VAL  | Corn States | CSEXNC090   |           | 123          | 20.0     | 60     | 0       | 255           |     |
| NC                    | VAL  | Corn States | CSEXNC090Bt | Bt        | 68           | 22.0     | 57     | 1       | 139           |     |
| NC                    | VAL  | Dekalb      | DK440       |           | 69           | 24.0     | 52     | 2       | 139           |     |
| NC                    | VAL  | Asgrow      | RX452       |           | 86           | 27.9     | 51     | 0       | 168           |     |
| NC                    | Mean |             |             |           | 138          | 22.2     | 53     | 2       | 281           |     |
| <b>Probability(%)</b> |      |             |             |           |              |          |        |         |               |     |
|                       |      |             |             |           | Hybrid (H)   | 4.3      | 0.0    | 0.0     | 0.3           | 8.5 |
|                       |      |             |             |           | Location (L) | 0.0      | 0.0    | 0.0     | 5.2           | 0.0 |
|                       |      |             |             |           | H x L        | 7.0      | 7.0    | 1.5     | 53.2          | 7.8 |
| <b>LSD (0.10)</b>     |      |             |             |           |              |          |        |         |               |     |
|                       |      |             |             |           | Hybrid (H)   | 13       | 1.0    | 0       | 1             | 25  |
|                       |      |             |             |           | Location (L) | 10       | 0.7    | 1       | 1             | 21  |
|                       |      |             |             |           | H x L        | 27       | 1.9    | 2       | NS            | 56  |
| <b>CV(%)</b>          |      |             |             |           |              |          |        |         |               |     |
|                       |      |             |             |           |              | 14       | 6      | 2       | 110           | 14  |

**Table C-11. Comparison of Monsanto Bt and Non Bt Hybrids.  
Northern Zone 2001.**

| Zone                  | Loc  | Brand       | Hybrid     | Specialty | Yield | Moisture | Lodging | Grower<br>return |
|-----------------------|------|-------------|------------|-----------|-------|----------|---------|------------------|
|                       |      |             |            |           | bu/A  | %        | %       | \$/A             |
| N                     |      | Corn States | CSEXN077   |           | 118   | 24.8     | 1       | 237              |
| N                     |      | Corn States | CSEXN077Bt | Bt        | 114   | 25.5     | 0       | 228              |
| N                     |      | Corn States | CSEXN081   |           | 129   | 23.3     | 3       | 261              |
| N                     |      | Corn States | CSEXN081Bt | Bt        | 97    | 24.6     | 3       | 195              |
| N                     | SPD  |             |            |           | 121   | 24.6     | 1       | 242              |
| N                     | SPI  |             |            |           | 136   | 22.8     | 1       | 276              |
| N                     | SPS  |             |            |           | 116   | 25.7     | 0       | 230              |
| N                     | WHL  |             |            |           | 71    | 25.0     | 7       | 142              |
| N                     | SPD  | Corn States | CSEXN077   |           | 115   | 25.8     | 0       | 228              |
| N                     | SPD  | Corn States | CSEXN077Bt | Bt        | 105   | 25.0     | 2       | 210              |
| N                     | SPD  | Corn States | CSEXN081   |           | 146   | 22.4     | 1       | 297              |
| N                     | SPD  | Corn States | CSEXN081Bt | Bt        | 118   | 25.1     | 2       | 235              |
| N                     | SPI  | Corn States | CSEXN077   |           | 137   | 23.4     | 2       | 277              |
| N                     | SPI  | Corn States | CSEXN077Bt | Bt        | 153   | 23.6     | 0       | 308              |
| N                     | SPI  | Corn States | CSEXN081   |           | 146   | 21.5     | 2       | 299              |
| N                     | SPI  | Corn States | CSEXN081Bt | Bt        | 109   | 22.9     | 0       | 220              |
| N                     | SPS  | Corn States | CSEXN077   |           | 120   | 25.6     | 0       | 239              |
| N                     | SPS  | Corn States | CSEXN077Bt | Bt        | 107   | 26.5     | 0       | 211              |
| N                     | SPS  | Corn States | CSEXN081   |           | 139   | 23.8     | 1       | 279              |
| N                     | SPS  | Corn States | CSEXN081Bt | Bt        | 98    | 26.9     | 0       | 192              |
| N                     | WHL  | Corn States | CSEXN077   |           | 68    | 23.7     | 0       | 137              |
| N                     | WHL  | Corn States | CSEXN077Bt | Bt        | 47    | 29.5     | 0       | 91               |
| N                     | WHL  | Corn States | CSEXN081   |           | 86    | 25.5     | 7       | 171              |
| N                     | WHL  | Corn States | CSEXN081Bt | Bt        | 65    | 23.5     | 12      | 131              |
| N                     | Mean |             |            |           | 115   | 24.5     | 2       | 230              |
| <b>Probability(%)</b> |      |             |            |           |       |          |         |                  |
| Hybrid (H)            |      |             |            |           | 2.6   | 6.2      | 8.3     | 1.9              |
| Location (L)          |      |             |            |           | 0.0   | 0.0      | 6.8     | 0.0              |
| H x L                 |      |             |            |           | 33.3  | 5.6      | 25.6    | 31.2             |
| <b>LSD (0.10)</b>     |      |             |            |           |       |          |         |                  |
| Hybrid (H)            |      |             |            |           | 13    | 1.1      | 2       | 26               |
| Location (L)          |      |             |            |           | 13    | 0.9      | 2       | 26               |
| H x L                 |      |             |            |           | NS    | 1.8      | NS      | NS               |
| <b>CV(%)</b>          |      |             |            |           | 16    | 5        | 173     | 16               |

## FIELD EXPERIMENT HISTORY

**Title:** AgReliant Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 1606 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** AgReliant Genetics, LLC

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### Site Information

**Field:** 408 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/19/01 **pH** 6.7 **OM (%)** 3.0 **P (ppm)** 81 **K (ppm)** 196

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher 1 Cultivation

| <b>Fertilizer:</b> |                   | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|--------------------|-------------------|-----------------|-------------|-------------|
|                    | <b>Preplant</b>   | 46-0-0          | 325         | 4 /18/01    |
|                    | <b>Starter</b>    | 6-24-24         | 150         | 4 /28/01    |
|                    | <b>Post plant</b> | N/A             | N/A         | N/A         |
|                    | <b>Manure:</b>    | N/A             | N/A         | N/A         |

**Herbicide:** Harness 2.5 pt/A  
Permit 0.66 oz/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 4/28/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 9/14/01 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.09 A  
**Harvest Plot Size:** 21' x 2.5' **Harvest Plant Density:** 33833 plants per acre

#### Hybrid

|         |         |
|---------|---------|
| AgR-S11 | AgR-S17 |
| AgR-S12 | AgR-S18 |
| AgR-S13 | AgR-S19 |
| AgR-S14 | AgR-S20 |
| AgR-S15 | AgR-S21 |
| AgR-S16 |         |

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**Results:** Table C-12.



**Table C-12. AgReliant Hybrid Corn Silage Evaluation Study - Late.  
Arlington, WI 2001.**

| Genotype               | Dry Matter   |               | Kernel    |         |          |          |          |          |             | Milk Per |       |
|------------------------|--------------|---------------|-----------|---------|----------|----------|----------|----------|-------------|----------|-------|
|                        | Yield<br>T/A | Moisture<br>% | Milk<br>% | CP<br>% | ADF<br>% | NDF<br>% | IVD<br>% | CWD<br>% | Starch<br>% | Ton      | Acre  |
| AgR-S11                | 10.3         | 57.7          | 30        | 6.4     | 24       | 48       | 72       | 41       | 33          | 2711     | 27901 |
| AgR-S12                | 9.5          | 62.3          | 37        | 6.5     | 23       | 45       | 72       | 39       | 35          | 2821     | 26744 |
| AgR-S13                | 9.4          | 60.2          | 38        | 6.7     | 25       | 48       | 71       | 41       | 30          | 2736     | 25739 |
| AgR-S14                | 10.3         | 61.7          | 47        | 7.1     | 22       | 45       | 72       | 38       | 35          | 2818     | 28904 |
| AgR-S15                | 10.1         | 62.3          | 40        | 7.0     | 23       | 46       | 72       | 40       | 32          | 2841     | 28843 |
| AgR-S16                | 10.7         | 62.0          | 47        | 6.3     | 21       | 44       | 74       | 42       | 34          | 2995     | 31896 |
| AgR-S17                | 10.6         | 65.5          | 52        | 7.4     | 24       | 47       | 72       | 39       | 29          | 2805     | 29872 |
| AgR-S18                | 9.4          | 66.5          | 63        | 7.7     | 25       | 48       | 71       | 40       | 28          | 2772     | 26251 |
| AgR-S19                | 10.3         | 67.3          | 45        | 7.0     | 26       | 49       | 70       | 39       | 26          | 2660     | 27528 |
| AgR-S20                | 9.7          | 65.3          | 50        | 6.8     | 24       | 48       | 71       | 39       | 31          | 2750     | 26594 |
| AgR-S21                | 10.6         | 66.6          | 50        | 6.7     | 24       | 47       | 71       | 39       | 32          | 2761     | 29316 |
| Mean                   | 10.1         | 63.4          | 45        | 6.9     | 24       | 47       | 72       | 40       | 31          | 2788     | 28144 |
| <b>Probability (%)</b> |              |               |           |         |          |          |          |          |             |          |       |
| Genotype               | 8.0          | 0.0           | 0.2       | 0.1     | 11.8     | 25.9     | 9.6      | 2.1      | 1.9         | 5.1      | 11.5  |
| <b>LSD (0.10)</b>      |              |               |           |         |          |          |          |          |             |          |       |
| Genotype               | 0.8          | 2.9           | 10        | 0.4     | NS       | NS       | 2.1      | 1.5      | 4.1         | 138      | NS    |
| <b>CV (%)</b>          |              |               |           |         |          |          |          |          |             |          |       |
|                        | 6            | 3             | 16        | 5       | 6        | 5        | 2        | 3        | 9           | 4        | 8     |

## FIELD EXPERIMENT HISTORY

**Title:** AgReliant Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 1609 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Lancaster, WI **County:** Grant  
**Supported By:** AgReliant Genetics, LLC

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### Site Information

**Field:** **Previous Crop:** Alfalfa **Soil Type:** Fayette  
**Soil Test:** **Date:** 09/01/01 **pH** 7.5 **OM (%)** 2.6 **P (ppm)** 17 **K (ppm)** 71

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### Plot Management

**Tillage Operations:** Moldboard Soil Finisher

| <b>Fertilizer:</b> | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|--------------------|-----------------|-------------|-------------|
| Preplant           | 46-0-0          | 100         | N/A         |
| Starter            | 6-24-24         | 150         | 4 /27/01    |
| Post plant         | N/A             | N/A         | N/A         |
| Manure:            | None            | N/A         | N/A         |

**Herbicide:** Harness 1.0 qt/A  
North Star 4.0 oz/A  
Accent 0.33 oz/A  
**Insecticide:** None

**Irrigation:** None

**Planting Date:** 4/27/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 9/12/01 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.09 A  
**Harvest Plot Size:** 21' x 2.5' **Harvest Plant Density:** 31160 plants per acre

#### Hybrid

|         |         |
|---------|---------|
| AgR-S11 | AgR-S17 |
| AgR-S12 | AgR-S18 |
| AgR-S13 | AgR-S19 |
| AgR-S14 | AgR-S20 |
| AgR-S15 | AgR-S21 |
| AgR-S16 |         |

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**Results:** Table C-13.

**Table C-13. AgReliant Hybrid Corn Silage Evaluation Study - Late.  
Lancaster, WI 2001.**

| Genotype               | Dry Matter   |               | Kernel    |         |          |          |          |          |             | Milk Per |       |
|------------------------|--------------|---------------|-----------|---------|----------|----------|----------|----------|-------------|----------|-------|
|                        | Yield<br>T/A | Moisture<br>% | Milk<br>% | CP<br>% | ADF<br>% | NDF<br>% | IVD<br>% | CWD<br>% | Starch<br>% | Ton      | Acre  |
| AgR-S11                | 7.9          | 64.6          | 42        | 7.7     | 25       | 48       | 71       | 38       | 30          | 2704     | 21280 |
| AgR-S12                | 8.4          | 65.4          | 47        | 7.8     | 23       | 45       | 72       | 39       | 33          | 2850     | 23903 |
| AgR-S13                | 8.0          | 63.9          | 48        | 8.1     | 25       | 48       | 70       | 37       | 31          | 2644     | 21135 |
| AgR-S14                | 8.0          | 64.8          | 52        | 7.2     | 24       | 47       | 71       | 38       | 34          | 2747     | 22074 |
| AgR-S15                | 7.6          | 66.0          | 53        | 8.0     | 24       | 48       | 70       | 38       | 32          | 2701     | 20553 |
| AgR-S16                | 8.5          | 63.4          | 55        | 7.4     | 24       | 47       | 71       | 38       | 33          | 2657     | 22518 |
| AgR-S17                | 6.7          | 66.7          | 55        | 7.8     | 25       | 50       | 70       | 39       | 28          | 2674     | 17947 |
| AgR-S18                | 6.4          | 67.4          | 73        | 8.8     | 26       | 50       | 70       | 40       | 25          | 2661     | 17327 |
| AgR-S19                | 7.1          | 70.0          | 50        | 8.0     | 26       | 51       | 68       | 38       | 26          | 2563     | 18246 |
| AgR-S20                | 8.3          | 63.2          | 43        | 7.5     | 25       | 49       | 70       | 39       | 32          | 2658     | 21984 |
| AgR-S21                | 8.5          | 69.2          | 57        | 7.3     | 24       | 48       | 70       | 37       | 33          | 2692     | 22798 |
| Mean                   | 7.7          | 66.0          | 53        | 7.8     | 25       | 48       | 70       | 38       | 31          | 2687     | 20854 |
| <b>Probability (%)</b> |              |               |           |         |          |          |          |          |             |          |       |
| Genotype               | 36.2         | 82.7          | 5.8       | 21.3    | 50.4     | 43.1     | 48.9     | 59.8     | 8.7         | 41.2     | 30.7  |
| <b>LSD (0.10)</b>      |              |               |           |         |          |          |          |          |             |          |       |
| Genotype               | NS           | NS            | 13        | NS      | NS       | NS       | NS       | NS       | 5.4         | NS       | NS    |
| <b>CV (%)</b>          |              |               |           |         |          |          |          |          |             |          |       |
|                        | 14           | 8             | 18        | 8       | 7        | 6        | 2        | 4        | 12          | 4        | 16    |

## FIELD EXPERIMENT HISTORY

**Title:** AgReliant Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 1607 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Fond du Lac, WI **County:** Fond du Lac  
**Supported By:** AgReliant Genetics, LLC

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Virgil  
**Soil Test:** **Date:** 11/01/01 **pH** 6.9 **OM (%)** **P (ppm)** 50 **K (ppm)** 98

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### Plot Management

**Tillage Operations:** Moldboard Field Cultivator 1 Cultivation

**Fertilizer:**

|                   | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|-------------------|-----------------|-------------|-------------|
| <b>Preplant</b>   | 82-0-0          | 130         | N/A         |
| <b>Starter</b>    | 6-24-24         | 150         | 5 /20/01    |
| <b>Post plant</b> | 46-0-0          | 150         | 6 /29/01    |
| <b>Manure:</b>    | None            | N/A         | N/A         |

**Herbicide:** Dual II Mag 0.75 pt/A  
Accent Gold 2.9 oz/A  
Atrazine 0.5 lb/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 5/20/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 10/4/01 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.08 A  
**Harvest Plot Size:** 21' x 2.5' **Harvest Plant Density:** 32566 plants per acre

#### Hybrid

|         |         |
|---------|---------|
| AgR-S05 | AgR-S11 |
| AgR-S06 | AgR-S12 |
| AgR-S08 | AgR-S13 |
| AgR-S09 | AgR-S14 |
| AgR-S10 |         |

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**Results: Table C-14.**

**Table C-14. AgReliant Hybrid Corn Silage Evaluation Study - Mid.  
Fond du Lac, WI 2001.**

| Genotype               | Dry Matter   |               | Kernel    |         |          |          |          |          |             | Milk Per |       |
|------------------------|--------------|---------------|-----------|---------|----------|----------|----------|----------|-------------|----------|-------|
|                        | Yield<br>T/A | Moisture<br>% | Milk<br>% | CP<br>% | ADF<br>% | NDF<br>% | IVD<br>% | CWD<br>% | Starch<br>% | Ton      | Acre  |
| AgR-S05                | 6.8          | 66.5          | 53        | 7.5     | 28       | 52       | 67       | 36       | 27          | 2442     | 16545 |
| AgR-S06                | 8.0          | 67.8          | 53        | 6.4     | 28       | 52       | 67       | 37       | 29          | 2501     | 20100 |
| AgR-S08                | 9.3          | 64.2          | 18        | 6.9     | 25       | 48       | 69       | 36       | 33          | 2581     | 24072 |
| AgR-S09                | 7.1          | 61.6          | 33        | 6.9     | 25       | 48       | 71       | 40       | 34          | 2782     | 19774 |
| AgR-S10                | 8.4          | 63.4          | 57        | 7.2     | 24       | 46       | 72       | 38       | 36          | 2803     | 23608 |
| AgR-S11                | 7.2          | 69.0          | 33        | 6.9     | 27       | 51       | 68       | 37       | 29          | 2560     | 18362 |
| AgR-S12                | 8.2          | 69.6          | 70        | 6.2     | 27       | 51       | 67       | 35       | 29          | 2455     | 20259 |
| AgR-S13                | 7.7          | 65.0          | 28        | 7.1     | 23       | 45       | 71       | 35       | 36          | 2745     | 21155 |
| AgR-S14                | 7.7          | 68.9          | 53        | 7.2     | 27       | 51       | 68       | 37       | 28          | 2532     | 19614 |
| Mean                   | 7.8          | 66.2          | 44        | 6.9     | 26       | 49       | 69       | 37       | 31          | 2600     | 20388 |
| <b>Probability (%)</b> |              |               |           |         |          |          |          |          |             |          |       |
| Genotype               | 0.1          | 0.2           | 0.0       | 0.7     | 24.5     | 26.2     | 7.7      | 59.6     | 16.1        | 8.0      | 1.4   |
| <b>LSD (0.10)</b>      |              |               |           |         |          |          |          |          |             |          |       |
| Genotype               | 0.7          | 3.0           | 15        | 0.5     | NS       | NS       | 3.3      | NS       | NS          | 232      | 3063  |
| <b>CV (%)</b>          |              |               |           |         |          |          |          |          |             |          |       |
|                        | 7            | 3             | 24        | 5       | 10       | 8        | 3        | 8        | 15          | 6        | 11    |

## FIELD EXPERIMENT HISTORY

**Title:** AgReliant Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 1608 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Galesville, WI **County:** Trempealeau  
**Supported By:** AgReliant Genetics, LLC

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Downs  
**Soil Test:** **Date:** 10/01/01 **pH** 6.2 **OM (%)** **P (ppm)** 60 **K (ppm)** 310

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### Plot Management

**Tillage Operations:** Field Cultivator

| <b>Fertilizer:</b> |  | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|--------------------|--|-----------------|-------------|-------------|
| <b>Preplant</b>    |  | 46-0-0          | 350         | N/A         |
| <b>Starter</b>     |  | 6-24-24         | 150         | 4 /26/01    |
| <b>Post plant</b>  |  | N/A             | N/A         | N/A         |
| <b>Manure:</b>     |  | None            | N/A         | N/A         |

**Herbicide:** Dual II 2.25 pt/A  
Hornet 5.0 oz/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 4/26/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 9/11/01 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.08 A  
**Harvest Plot Size:** 21' x 2.5' **Harvest Plant Density:** 32832 plants per acre

#### Hybrid

|         |         |
|---------|---------|
| AgR-S05 | AgR-S11 |
| AgR-S06 | AgR-S12 |
| AgR-S08 | AgR-S13 |
| AgR-S09 | AgR-S14 |
| AgR-S10 |         |

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**Results: Table C-15.**

**Table C-15. AgReliant Hybrid Corn Silage Evaluation Study - Mid. Galesville, WI 2001.**

| Genotype               | Dry Matter   |               | Kernel    |         |          |          |          |          |             | Milk Per |       |
|------------------------|--------------|---------------|-----------|---------|----------|----------|----------|----------|-------------|----------|-------|
|                        | Yield<br>T/A | Moisture<br>% | Milk<br>% | CP<br>% | ADF<br>% | NDF<br>% | IVD<br>% | CWD<br>% | Starch<br>% | Ton      | Acre  |
| AgR-S05                | 8.4          | 66.1          | 43        | 7.5     | 22       | 45       | 73       | 39       | 33          | 2867     | 24118 |
| AgR-S06                | 9.6          | 66.6          | 52        | 6.9     | 24       | 48       | 72       | 41       | 31          | 2804     | 26837 |
| AgR-S08                | 9.5          | 66.8          | 58        | 7.4     | 25       | 49       | 70       | 39       | 28          | 2675     | 25491 |
| AgR-S09                | 8.1          | 63.9          | 40        | 7.2     | 23       | 47       | 72       | 42       | 32          | 2821     | 22826 |
| AgR-S10                | 9.6          | 65.2          | 48        | 7.3     | 22       | 44       | 74       | 40       | 37          | 2981     | 28600 |
| AgR-S11                | 9.6          | 65.8          | 43        | 6.4     | 22       | 44       | 74       | 41       | 35          | 2986     | 28669 |
| AgR-S12                | 9.4          | 67.9          | 58        | 6.5     | 24       | 48       | 71       | 40       | 30          | 2759     | 25926 |
| AgR-S13                | 10.1         | 62.3          | 52        | 6.5     | 23       | 46       | 73       | 41       | 33          | 2893     | 29288 |
| AgR-S14                | 8.9          | 70.0          | 58        | 7.5     | 25       | 48       | 70       | 38       | 31          | 2691     | 24251 |
| Mean                   | 9.2          | 66.1          | 50        | 7.0     | 23       | 47       | 72       | 40       | 32          | 2831     | 26223 |
| <b>Probability (%)</b> |              |               |           |         |          |          |          |          |             |          |       |
| Genotype               | 30.2         | 18.5          | 3.3       | 0.6     | 24.9     | 19.7     | 6.5      | 9.1      | 6.0         | 4.4      | 27.2  |
| <b>LSD (0.10)</b>      |              |               |           |         |          |          |          |          |             |          |       |
| Genotype               | NS           | NS            | 10        | 0.5     | NS       | NS       | 2.3      | 2.1      | 4.3         | 170      | NS    |
| <b>CV (%)</b>          |              |               |           |         |          |          |          |          |             |          |       |
| Genotype               | 10           | 5             | 14        | 5       | 7        | 6        | 2        | 4        | 9           | 4        | 13    |

## FIELD EXPERIMENT HISTORY

**Title:** AgReliant Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 1610 **Year:** 2001  
**Personnel:** J. G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Marshfield, WI **County:** Wood  
**Supported By:** AgReliant Genetics, LLC

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Loyal  
**Soil Test:** **Date:** 11/06/99 **pH** 7.2 **OM (%)** **P (ppm)** 48 **K (ppm)** 147

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### Plot Management

**Tillage Operations:** Field Cultivator 2x 1 Cultivation

**Fertilizer:**

|                   | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|-------------------|-----------------|-------------|-------------|
| <b>Preplant</b>   | N/A             | N/A         | N/A         |
| <b>Starter</b>    | 6-24-24         | 150         | 5 /18/01    |
| <b>Post plant</b> | 34-0-0          | 350         | N/A         |
| <b>Manure:</b>    | None            | N/A         | N/A         |

**Herbicide:** Harness 1.0 qt/A  
Hornet 2.4 oz/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 5/18/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 10/9/01 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial  
Poor stand due to flooding  
AgR-S02 and AgR-S03 not in table due to lack of viable data

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.06 A  
**Harvest Plot Size:** 21' x 2.5' **Harvest Plant Density:** 18771 plants per acre

#### Hybrid

|         |         |
|---------|---------|
| AgR-S01 | AgR-S05 |
| AgR-S02 | AgR-S06 |
| AgR-S03 | AgR-S07 |
| AgR-S04 | AgR-S08 |

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**Results: Table C-16.**



**Table C-16. AgReliant Hybrid Corn Silage Evaluation Study - Early.  
Marshfield, WI 2001.**

| Genotype               | Dry Matter   |               | Kernel    |         |          |          |          |          |             | Milk Per |       |
|------------------------|--------------|---------------|-----------|---------|----------|----------|----------|----------|-------------|----------|-------|
|                        | Yield<br>T/A | Moisture<br>% | Milk<br>% | CP<br>% | ADF<br>% | NDF<br>% | IVD<br>% | CWD<br>% | Starch<br>% | Ton      | Acre  |
| AgR-S01                | 7.4          | 49.0          | 30        | 6.9     | 22       | 46       | 75       | 44       | 37          | 2747     | 20447 |
| AgR-S04                | 6.6          | 56.0          | 45        | 7.1     | 24       | 48       | 73       | 44       | 34          | 2725     | 18232 |
| AgR-S05                | 5.4          | 56.2          | 40        | 7.1     | 25       | 50       | 73       | 45       | 30          | 2734     | 14698 |
| AgR-S06                | 8.2          | 58.3          | 55        | 7.1     | 24       | 47       | 73       | 43       | 33          | 2802     | 22897 |
| AgR-S07                | 7.4          | 57.6          | 35        | 7.4     | 24       | 48       | 74       | 45       | 30          | 2837     | 21061 |
| AgR-S08                | 8.7          | 55.9          | 10        | 7.2     | 26       | 50       | 72       | 45       | 28          | 2701     | 23376 |
| Mean                   | 7.4          | 54.9          | 39        | 7.1     | 24       | 48       | 73       | 44       | 33          | 2761     | 20512 |
| <b>Probability (%)</b> |              |               |           |         |          |          |          |          |             |          |       |
| Genotype               | 50.0         | 1.3           | 3.0       | 66.8    | 85.6     | 90.5     | 76.1     | 83.5     | 62.5        | 57.7     | 56.2  |
| <b>LSD (0.10)</b>      |              |               |           |         |          |          |          |          |             |          |       |
| Genotype               | NS           | 2.1           | 10        | NS      | NS       | NS       | NS       | NS       | NS          | NS       | NS    |
| <b>CV (%)</b>          |              |               |           |         |          |          |          |          |             |          |       |
|                        | 16           | 2             | 13        | 2       | 10       | 9        | 2        | 4        | 13          | 3        | 18    |

## FIELD EXPERIMENT HISTORY

**Title:** AgReliant Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 1611 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Valders, WI **County:** Manitowoc  
**Supported By:** AgReliant Genetics, LLC

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### Site Information

**Field:** **Previous Crop:** Corn **Soil Type:** Kewaunee  
**Soil Test:** **Date:** 10/01/01 **pH** 7.8 **OM (%)** **P (ppm)** 40 **K (ppm)** 204

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### Plot Management

**Tillage Operations:** Moldboard Field Cultivator 1 Cultivation

| <b>Fertilizer:</b> |                   | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|--------------------|-------------------|-----------------|-------------|-------------|
|                    | <b>Preplant</b>   | N/A             | N/A         | N/A         |
|                    | <b>Starter</b>    | 6-24-24         | 150         | 5 /2 /01    |
|                    | <b>Post plant</b> | N/A             | N/A         | N/A         |
|                    | <b>Manure:</b>    | Manure          | 9000 gal/A  | N/A         |

**Herbicide:** Surpass 1.0 pt/A  
Accent 0.33 oz/A  
Distinct 4.0 oz/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 5/2/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 9/20/01 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.06 A  
**Harvest Plot Size:** 21' x 2.5' **Harvest Plant Density:** 31529 plants per acre

Hybrid  
AgR-S01 AgR-S05  
AgR-S02 AgR-S06  
AgR-S03 AgR-S07  
AgR-S04 AgR-S08

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**Results:** Table C-17.

**Table C-17. AgReliant Hybrid Corn Silage Evaluation Study - Early.  
Valders, WI 2001.**

| Genotype               | Dry Matter   |               | Kernel    |         |          |          |          |          |             | Milk Per |       |
|------------------------|--------------|---------------|-----------|---------|----------|----------|----------|----------|-------------|----------|-------|
|                        | Yield<br>T/A | Moisture<br>% | Milk<br>% | CP<br>% | ADF<br>% | NDF<br>% | IVD<br>% | CWD<br>% | Starch<br>% | Ton      | Acre  |
| AgR-S01                | 4.6          | 58.9          | 30        | 8.8     | 22       | 47       | 73       | 43       | 29          | 2821     | 12846 |
| AgR-S02                | 3.3          | 69.4          | 67        | 10.1    | 27       | 54       | 70       | 44       | 14          | 2572     | 8349  |
| AgR-S03                | 3.5          | 71.1          | 42        | 10.2    | 26       | 54       | 71       | 46       | 14          | 2658     | 9206  |
| AgR-S04                | 4.0          | 67.0          | 52        | 9.1     | 25       | 53       | 71       | 45       | 23          | 2761     | 11063 |
| AgR-S05                | 3.9          | 65.9          | 60        | 8.7     | 24       | 49       | 72       | 43       | 26          | 2806     | 11464 |
| AgR-S06                | 5.6          | 65.4          | 58        | 8.4     | 23       | 48       | 72       | 42       | 28          | 2820     | 15601 |
| AgR-S07                | 4.2          | 68.9          | 52        | 9.6     | 26       | 53       | 72       | 46       | 15          | 2673     | 11177 |
| AgR-S08                | 3.3          | 70.7          | 68        | 9.9     | 28       | 57       | 68       | 44       | 12          | 2488     | 8069  |
| Mean                   | 4.0          | 67.2          | 54        | 9.4     | 25       | 52       | 71       | 44       | 20          | 2695     | 10951 |
| <b>Probability (%)</b> |              |               |           |         |          |          |          |          |             |          |       |
| Genotype               | 1.8          | 0.0           | 5.5       | 22.6    | 0.3      | 0.6      | 1.5      | 14.4     | 0.2         | 2.2      | 1.5   |
| <b>LSD (0.10)</b>      |              |               |           |         |          |          |          |          |             |          |       |
| Genotype               | 1.0          | 2.5           | 20        | 1.4     | 2.1      | 3.8      | 2.0      | 2.6      | 6.7         | 165      | 3111  |
| <b>CV (%)</b>          |              |               |           |         |          |          |          |          |             |          |       |
|                        | 17           | 3             | 25        | 10      | 6        | 5        | 2        | 4        | 23          | 4        | 20    |

## FIELD EXPERIMENT HISTORY

**Title:** IFSI Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 1612 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Illinois Foundation Seed, Inc.

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### Site Information

**Field:** 408 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/19/01 **pH** 6.7 **OM (%)** 3.0 **P (ppm)** 81 **K (ppm)** 196

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher 1 Cultivation

| <b>Fertilizer:</b> |                   | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|--------------------|-------------------|-----------------|-------------|-------------|
|                    | <b>Preplant</b>   | 46-0-0          | 325         | 4 /18/01    |
|                    | <b>Starter</b>    | 6-24-24         | 150         | 4 /28/01    |
|                    | <b>Post plant</b> | N/A             | N/A         | N/A         |
|                    | <b>Manure:</b>    | None            | N/A         | N/A         |

**Herbicide:** Harness 2.5 pt/A  
Permit 0.66 oz/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 4/28/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 9/14/01 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.09 A  
**Harvest Plot Size:** 21' x 2.5' **Harvest Plant Density:** 33833 plants per acre

| <u>Hybrid</u> |       |
|---------------|-------|
| 10001         | 10006 |
| 10002         | 10007 |
| 10003         | 10008 |
| 10004         | 10009 |
| 10005         | 10010 |

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**Results: Table C-18.**

**Table C-18. IFSI Hybrid Corn Silage Evaluation Study.  
Arlington, WI 2001.**

| Genotype                      | Dry Matter   |               | Kernel    |         |          |          |          |          |             | Milk Per |       |
|-------------------------------|--------------|---------------|-----------|---------|----------|----------|----------|----------|-------------|----------|-------|
|                               | Yield<br>T/A | Moisture<br>% | Milk<br>% | CP<br>% | ADF<br>% | NDF<br>% | IVD<br>% | CWD<br>% | Starch<br>% | Ton      | Acre  |
| 10001                         | 9.9          | 61.8          | 35        | 6.4     | 22       | 45       | 73       | 40       | 36          | 2884     | 28464 |
| 10002                         | 9.8          | 60.6          | 28        | 6.9     | 24       | 47       | 72       | 40       | 32          | 2781     | 27403 |
| 10003                         | 9.6          | 62.8          | 48        | 6.8     | 24       | 46       | 72       | 40       | 32          | 2815     | 27066 |
| 10004                         | 8.4          | 64.3          | 32        | 7.0     | 23       | 45       | 73       | 40       | 34          | 2910     | 24408 |
| 10005                         | 8.9          | 66.0          | 43        | 7.0     | 23       | 46       | 73       | 41       | 33          | 2900     | 25807 |
| 10006                         | 10.2         | 60.2          | 45        | 6.7     | 22       | 45       | 73       | 41       | 35          | 2859     | 29311 |
| 10007                         | 10.8         | 69.1          | 58        | 7.2     | 28       | 53       | 68       | 41       | 25          | 2571     | 27850 |
| 10008                         | 10.7         | 63.2          | 52        | 6.7     | 22       | 44       | 74       | 41       | 35          | 2969     | 31899 |
| 10009                         | 10.7         | 64.2          | 45        | 6.2     | 24       | 48       | 73       | 43       | 31          | 2901     | 31183 |
| 10010                         | 9.9          | 61.2          | 40        | 6.9     | 22       | 44       | 74       | 41       | 35          | 2923     | 28975 |
| Mean                          | 9.9          | 63.3          | 43        | 6.8     | 23       | 46       | 73       | 41       | 33          | 2851     | 28236 |
| <b><u>Probability (%)</u></b> |              |               |           |         |          |          |          |          |             |          |       |
| Genotype                      | 0.2          | 0.3           | 4.6       | 2.8     | 8.1      | 4.0      | 4.8      | 5.4      | 4.1         | 4.6      | 6.1   |
| <b><u>LSD (0.10)</u></b>      |              |               |           |         |          |          |          |          |             |          |       |
| Genotype                      | 0.9          | 3.1           | 14.2      | 0.4     | 2.9      | 4.3      | 2.5      | 1.4      | 4.9         | 3663     | 173   |
| <b><u>CV (%)</u></b>          |              |               |           |         |          |          |          |          |             |          |       |
|                               | 6            | 4             | 24        | 4       | 9        | 7        | 2        | 2        | 11          | 4        | 9     |

## FIELD EXPERIMENT HISTORY

**Title:** IFSI Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 1613 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Lancaster, WI **County:** Grant  
**Supported By:** Illinois Foundation Seed, Inc.

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### Site Information

**Field:** **Previous Crop:** Alfalfa **Soil Type:** Fayette  
**Soil Test:** **Date:** 09/01/01 **pH** 7.5 **OM (%)** 2.6 **P (ppm)** 17 **K (ppm)** 71

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### Plot Management

**Tillage Operations:** Moldboard Soil Finisher

| <b>Fertilizer:</b> | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|--------------------|-----------------|-------------|-------------|
| <b>Preplant</b>    | 46-0-0          | 100         | N/A         |
| <b>Starter</b>     | 6-24-24         | 150         | 4 /27/01    |
| <b>Post plant</b>  | N/A             | N/A         | N/A         |
| <b>Manure:</b>     | None            | N/A         | N/A         |

**Herbicide:** Harness 1qt/A  
North Star 4 oz/A  
Accent 0.33 oz/A  
**Insecticide:** None

**Irrigation:** None

**Planting Date:** 4/27/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 9/12/01 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.09 A  
**Harvest Plot Size:** 21' x 2.5' **Harvest Plant Density:** 31160 plants per acre

| <u>Hybrid</u> |       |
|---------------|-------|
| 10001         | 10006 |
| 10002         | 10007 |
| 10003         | 10008 |
| 10004         | 10009 |
| 10005         | 10010 |

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**Results:** Table C-19.

**Table C-19. IFSI Hybrid Corn Silage Evaluation Study.  
Lancaster, WI 2001.**

| Genotype                      | Dry Matter   |               | Kernel    |         |          |          |          |          |             | Milk Per |       |
|-------------------------------|--------------|---------------|-----------|---------|----------|----------|----------|----------|-------------|----------|-------|
|                               | Yield<br>T/A | Moisture<br>% | Milk<br>% | CP<br>% | ADF<br>% | NDF<br>% | IVD<br>% | CWD<br>% | Starch<br>% | Ton      | Acre  |
| 10001                         | 7.4          | 66.2          | 53        | 7.3     | 23       | 46       | 72       | 38       | 33          | 2788     | 20763 |
| 10002                         | 6.9          | 65.5          | 45        | 7.8     | 24       | 48       | 71       | 39       | 30          | 2773     | 19102 |
| 10003                         | 6.1          | 68.3          | 60        | 8.1     | 28       | 53       | 67       | 39       | 22          | 2495     | 15435 |
| 10004                         | 7.1          | 64.4          | 50        | 7.3     | 23       | 46       | 72       | 39       | 34          | 2833     | 20005 |
| 10005                         | 5.7          | 75.6          | 48        | 7.8     | 25       | 49       | 70       | 38       | 30          | 2676     | 15192 |
| 10006                         | 7.7          | 62.7          | 52        | 7.2     | 23       | 45       | 72       | 39       | 35          | 2816     | 21706 |
| 10007                         | 9.5          | 66.7          | 58        | 7.5     | 24       | 47       | 71       | 38       | 32          | 2721     | 26002 |
| 10008                         | 7.2          | 66.8          | 57        | 7.3     | 26       | 50       | 70       | 40       | 29          | 2712     | 19473 |
| 10009                         | 10.9         | 58.3          | 45        | 7.4     | 24       | 48       | 70       | 38       | 32          | 2559     | 27669 |
| 10010                         | 7.2          | 67.6          | 45        | 7.4     | 24       | 48       | 71       | 38       | 33          | 2722     | 19815 |
| Mean                          | 7.7          | 65.8          | 51        | 7.5     | 24       | 48       | 71       | 39       | 31          | 2718     | 20888 |
| <b><u>Probability (%)</u></b> |              |               |           |         |          |          |          |          |             |          |       |
| Genotype                      | 1.6          | 23.6          | 69.7      | 78.4    | 28.1     | 51.9     | 14.6     | 90.1     | 28.2        | 4.1      | 5.0   |
| <b><u>LSD (0.10)</u></b>      |              |               |           |         |          |          |          |          |             |          |       |
| Genotype                      | 1.9          | NS            | NS        | NS      | NS       | NS       | NS       | NS       | NS          | 147      | 5556  |
| <b><u>CV (%)</u></b>          |              |               |           |         |          |          |          |          |             |          |       |
|                               | 18           | 8             | 21        | 8       | 9        | 8        | 2        | 6        | 15          | 4        | 19    |

## FIELD EXPERIMENT HISTORY

**Title:** Thurston Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 1614 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Thurston Genetics, Inc.

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### Site Information

**Field:** 408 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/19/01 **pH** 6.7 **OM (%)** 3.0 **P (ppm)** 81 **K (ppm)** 196

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher 1 Cultivation

| <b>Fertilizer:</b> |                   | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|--------------------|-------------------|-----------------|-------------|-------------|
|                    | <b>Preplant</b>   | 46-0-0          | 325         | 4 /18/01    |
|                    | <b>Starter</b>    | 6-24-24         | 150         | 4 /28/01    |
|                    | <b>Post plant</b> | N/A             | N/A         | N/A         |
|                    | <b>Manure:</b>    | None            | N/A         | N/A         |

**Herbicide:** Harness 2.5 pt/A  
Permit 0.66 oz/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 4/28/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 9/14/01 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.08 A  
**Harvest Plot Size:** 21' x 2.5' **Harvest Plant Density:** 33833 plants per acre

#### Hybrid

|        |        |
|--------|--------|
| TE7130 | TE8991 |
| TE7565 | TE9410 |
| TE7566 | TE9716 |
| TE8785 | TE9717 |
| TE8983 |        |

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**Results: Table C-20.**



**Table C-20. Thurston Hybrid Corn Silage Evaluation Study - Late.  
Arlington, WI 2001.**

| Genotype                      | Dry Matter   |               | Kernel    |         |          |          |          |          |             | Milk Per |       |
|-------------------------------|--------------|---------------|-----------|---------|----------|----------|----------|----------|-------------|----------|-------|
|                               | Yield<br>T/A | Moisture<br>% | Milk<br>% | CP<br>% | ADF<br>% | NDF<br>% | IVD<br>% | CWD<br>% | Starch<br>% | Ton      | Acre  |
| TE7130                        | 10.6         | 62.9          | 53        | 6.4     | 22       | 45       | 73       | 40       | 36          | 2871     | 30378 |
| TE7565                        | 10.1         | 66.6          | 42        | 7.4     | 25       | 50       | 71       | 42       | 31          | 2759     | 28320 |
| TE7566                        | 10.2         | 66.2          | 38        | 7.5     | 24       | 48       | 72       | 42       | 31          | 2847     | 29162 |
| TE8785                        | 10.9         | 62.5          | 33        | 7.5     | 23       | 47       | 72       | 41       | 34          | 2820     | 30786 |
| TE8983                        | 10.2         | 64.3          | 35        | 7.1     | 22       | 45       | 74       | 43       | 34          | 2997     | 30475 |
| TE8991                        | 10.6         | 64.4          | 42        | 6.9     | 25       | 50       | 71       | 41       | 28          | 2705     | 28561 |
| TE9410                        | 10.9         | 65.2          | 58        | 7.1     | 22       | 45       | 74       | 43       | 33          | 3005     | 32743 |
| TE9716                        | 8.7          | 65.3          | 38        | 7.3     | 22       | 46       | 76       | 47       | 34          | 3151     | 27433 |
| TE9717                        | 10.6         | 65.4          | 40        | 7.2     | 23       | 46       | 74       | 43       | 34          | 2964     | 31589 |
| Mean                          | 10.3         | 64.7          | 42        | 7.2     | 23       | 47       | 73       | 42       | 33          | 2902     | 29939 |
| <b><u>Probability (%)</u></b> |              |               |           |         |          |          |          |          |             |          |       |
| Genotype                      | 16.6         | 33.5          | 5.5       | 0.3     | 15.5     | 28.6     | 4.1      | 0.5      | 46.7        | 2.0      | 68.3  |
| <b><u>LSD (0.10)</u></b>      |              |               |           |         |          |          |          |          |             |          |       |
| Genotype                      | NS           | NS            | 13        | 0.4     | NS       | NS       | 2.5      | 2.4      | NS          | 189      | NS    |
| <b><u>CV (%)</u></b>          |              |               |           |         |          |          |          |          |             |          |       |
|                               | 9            | 3             | 21        | 4       | 8        | 6        | 2        | 4        | 12          | 5        | 12    |

## FIELD EXPERIMENT HISTORY

**Title:** Thurston Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 1617 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Lancaster, WI **County:** Grant  
**Supported By:** Thurston Genetics, Inc.

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### Site Information

**Field:** **Previous Crop:** Alfalfa **Soil Type:** Fayette  
**Soil Test:** **Date:** 09/01/01 **pH** 7.5 **OM (%)** 2.6 **P (ppm)** 17 **K (ppm)** 71

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### Plot Management

**Tillage Operations:** Moldboard Soil Finisher

| <b>Fertilizer:</b> | <b>Analysis</b> | <b>Rate</b> | <b>Date</b> |
|--------------------|-----------------|-------------|-------------|
| <b>Preplant</b>    | 46-0-0          | 100         | N/A         |
| <b>Starter</b>     | 6-24-24         | 150         | 4 /27/01    |
| <b>Post plant</b>  | N/A             | N/A         | N/A         |
| <b>Manure:</b>     | None            | N/A         | N/A         |

**Herbicide:** Harness 1qt/A  
North Star 4 oz/A  
Accent 0.33 oz/A  
**Insecticide:** None

**Irrigation:** None

**Planting Date:** 4/27/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 9/12/01 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.08 A  
**Harvest Plot Size:** 21' x 2.5' **Harvest Plant Density:** 31160 plants per acre

#### Hybrid

|        |        |
|--------|--------|
| TE7130 | TE8991 |
| TE7565 | TE9410 |
| TE7566 | TE9716 |
| TE8785 | TE9717 |
| TE8983 |        |

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**Results:** Table C-21.

**Table C-21. Thurston Hybrid Corn Silage Evaluation Study - Late.  
Lancaster, WI 2001.**

| Genotype                      | Dry Matter   |               | Kernel    |         |          |          |          |          |             | Milk Per |       |
|-------------------------------|--------------|---------------|-----------|---------|----------|----------|----------|----------|-------------|----------|-------|
|                               | Yield<br>T/A | Moisture<br>% | Milk<br>% | CP<br>% | ADF<br>% | NDF<br>% | IVD<br>% | CWD<br>% | Starch<br>% | Ton      | Acre  |
| TE7130                        | 7.6          | 67.7          | 55        | 7.2     | 25       | 49       | 69       | 38       | 30          | 2631     | 19987 |
| TE7565                        | 8.4          | 68.7          | 58        | 8.4     | 26       | 50       | 71       | 41       | 30          | 2750     | 23299 |
| TE7566                        | 8.7          | 66.0          | 52        | 8.2     | 21       | 43       | 74       | 39       | 38          | 2940     | 25750 |
| TE8785                        | 8.4          | 67.0          | 40        | 8.4     | 25       | 48       | 70       | 37       | 31          | 2659     | 22380 |
| TE8983                        | 7.7          | 69.4          | 60        | 7.8     | 26       | 52       | 70       | 42       | 27          | 2702     | 20865 |
| TE8991                        | 7.9          | 70.5          | 55        | 7.6     | 28       | 53       | 68       | 40       | 24          | 2542     | 20162 |
| TE9410                        | 8.6          | 67.2          | 63        | 8.1     | 24       | 48       | 72       | 41       | 32          | 2810     | 24136 |
| TE9716                        | 5.8          | 69.8          | 47        | 8.3     | 25       | 50       | 71       | 42       | 29          | 2785     | 16218 |
| TE9717                        | 7.7          | 69.3          | 58        | 8.5     | 25       | 48       | 71       | 40       | 32          | 2750     | 21111 |
| Mean                          | 7.9          | 68.4          | 54        | 8.1     | 25       | 49       | 71       | 40       | 30          | 2730     | 21545 |
| <b><u>Probability (%)</u></b> |              |               |           |         |          |          |          |          |             |          |       |
| Genotype                      | 0.6          | 59.1          | 6.8       | 27.6    | 1.9      | 1.2      | 11.5     | 3.4      | 2.9         | 15.5     | 4.8   |
| <b><u>LSD (0.10)</u></b>      |              |               |           |         |          |          |          |          |             |          |       |
| Genotype                      | 1.1          | NS            | 12        | NS      | 2.4      | 3.7      | NS       | 2.6      | 5.2         | NS       | 4224  |
| <b><u>CV (%)</u></b>          |              |               |           |         |          |          |          |          |             |          |       |
|                               | 9            | 4             | 15        | 8       | 7        | 5        | 3        | 5        | 12          | 5        | 14    |

## FIELD EXPERIMENT HISTORY

**Title:** Thurston Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 1615 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Fond du Lac, WI **County:** Fond du Lac  
**Supported By:** Thurston Genetics, Inc.

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Virgil  
**Soil Test:** **Date:** 11/01/01 **pH** 6.9 **OM (%)** **P (ppm)** 50 **K (ppm)** 98

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### Plot Management

**Tillage Operations:** Moldboard Field Cultivator 1 Cultivation

**Fertilizer:**

|                   | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|-------------------|-----------------|-------------|-------------|
| <b>Preplant</b>   | 82-0-0          | 130         | N/A         |
| <b>Starter</b>    | 6-24-24         | 150         | 5 /20/01    |
| <b>Post plant</b> | 46-0-0          | 150         | 6 /29/01    |
| <b>Manure:</b>    | None            | N/A         | N/A         |

**Herbicide:** Dual II Mag 0.75 pt/A  
Accent Gold 2.9 oz/A  
Atrazine 0.5 lb/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 5/20/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 10/4/01 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.09 A  
**Harvest Plot Size:** 21' x 2.5' **Harvest Plant Density:** 32566 plants per acre

#### Hybrid

|        |        |
|--------|--------|
| TE7051 | TE9713 |
| TE7106 | TE9714 |
| TE8784 | TE9719 |
| TE8785 | TE9720 |
| TE9711 | TE9721 |
| TE9712 |        |

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**Results:** Table C-22.

**Table C-22. Thurston Hybrid Corn Silage Evaluation Study - Early.  
Fond du Lac, WI 2001.**

| Genotype               | Dry Matter   |               | Kernel    |         |          |          |          |          |     | Starch | Milk Per |  |
|------------------------|--------------|---------------|-----------|---------|----------|----------|----------|----------|-----|--------|----------|--|
|                        | Yield<br>T/A | Moisture<br>% | Milk<br>% | CP<br>% | ADF<br>% | NDF<br>% | IVD<br>% | CWD<br>% | Ton |        | Acre     |  |
| TE7051                 | 8.0          | 65.8          | 45        | 6.9     | 26       | 51       | 69       | 39       | 30  | 2614   | 20925    |  |
| TE7106                 | 8.2          | 66.8          | 45        | 7.2     | 28       | 52       | 69       | 40       | 28  | 2604   | 21260    |  |
| TE8784                 | 8.4          | 65.0          | 52        | 7.5     | 24       | 47       | 71       | 37       | 35  | 2715   | 22714    |  |
| TE8785                 | 9.1          | 70.7          | 65        | 7.4     | 26       | 50       | 69       | 38       | 30  | 2598   | 23661    |  |
| TE9711                 | 7.4          | 52.6          | 12        | 7.5     | 25       | 48       | 69       | 36       | 34  | 2372   | 17412    |  |
| TE9712                 | 8.4          | 62.2          | 22        | 6.8     | 27       | 51       | 69       | 38       | 31  | 2562   | 21467    |  |
| TE9713                 | 8.8          | 63.2          | 52        | 6.6     | 28       | 52       | 68       | 38       | 30  | 2554   | 22611    |  |
| TE9714                 | 7.4          | 63.7          | 35        | 7.2     | 25       | 49       | 70       | 39       | 33  | 2709   | 20112    |  |
| TE9719                 | 8.8          | 67.4          | 47        | 7.7     | 27       | 52       | 68       | 39       | 27  | 2548   | 22478    |  |
| TE9720                 | 7.7          | 68.3          | 53        | 7.9     | 26       | 50       | 70       | 41       | 31  | 2746   | 21116    |  |
| TE9721                 | 8.2          | 65.4          | 67        | 6.4     | 32       | 59       | 64       | 39       | 21  | 2242   | 18587    |  |
| Mean                   | 8.2          | 64.6          | 45        | 7.2     | 27       | 51       | 69       | 39       | 30  | 2569   | 21122    |  |
| <b>Probability (%)</b> |              |               |           |         |          |          |          |          |     |        |          |  |
| Genotype               | 37.0         | 0.0           | 0.1       | 0.7     | 2.6      | 3.8      | 0.3      | 54.1     | 2.0 | 0.1    | 25.1     |  |
| <b>LSD (0.10)</b>      |              |               |           |         |          |          |          |          |     |        |          |  |
| Genotype               | NS           | 2.2           | 17        | 0.6     | 2.9      | 4.9      | 2.2      | NS       | 5.4 | 161    | NS       |  |
| <b>CV (%)</b>          |              |               |           |         |          |          |          |          |     |        |          |  |
|                        | 11           | 2             | 27        | 6       | 8        | 7        | 2        | 6        | 13  | 4      | 13       |  |

## FIELD EXPERIMENT HISTORY

**Title:** Thurston Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 1616 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Galesville, WI **County:** Trempealeau  
**Supported By:** Thurston Genetics, Inc.

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Downs  
**Soil Test:** **Date:** 10/01/01 **pH** 6.2 **OM (%)** **P (ppm)** 60 **K (ppm)** 310

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### Plot Management

**Tillage Operations:** Field Cultivator

| <b>Fertilizer:</b> |                   | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|--------------------|-------------------|-----------------|-------------|-------------|
|                    | <b>Preplant</b>   | 46-0-0          | 350         | N/A         |
|                    | <b>Starter</b>    | 6-24-24         | 150         | 4 /26/01    |
|                    | <b>Post plant</b> | N/A             | N/A         | N/A         |
|                    | <b>Manure:</b>    | None            | N/A         | N/A         |

**Herbicide:** Dual II 2.25 pt/A  
Hornet 5.0 oz/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 4/26/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 9/11/01 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB

**Replications:** 3

**Plot Size Seeded:** 25' x 5'

**Experiment Size:** 0.09 A

**Harvest Plot Size:** 21' x 2.5'

**Harvest Plant Density:** 32832 plants per acre

#### Hybrid

|        |        |
|--------|--------|
| TE7051 | TE9713 |
| TE7106 | TE9714 |
| TE8784 | TE9719 |
| TE8785 | TE9720 |
| TE9711 | TE9721 |
| TE9712 |        |

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**Results:** Table C-23.

**Table C-23. Thurston Hybrid Corn Silage Evaluation Study - Early.  
Galesville, WI 2001.**

| Genotype               | Dry Matter   |               | Kernel    |         |          |          |          |          |             | Milk Per |       |
|------------------------|--------------|---------------|-----------|---------|----------|----------|----------|----------|-------------|----------|-------|
|                        | Yield<br>T/A | Moisture<br>% | Milk<br>% | CP<br>% | ADF<br>% | NDF<br>% | IVD<br>% | CWD<br>% | Starch<br>% | Ton      | Acre  |
| TE7051                 | 9.4          | 65.3          | 48        | 7.0     | 24       | 48       | 72       | 41       | 31          | 2794     | 26168 |
| TE7106                 | 10.4         | 66.6          | 52        | 7.4     | 25       | 48       | 72       | 42       | 30          | 2847     | 29721 |
| TE8784                 | 10.8         | 62.3          | 50        | 7.3     | 23       | 48       | 72       | 42       | 32          | 2785     | 30039 |
| TE8785                 | 9.6          | 73.3          | 57        | 7.3     | 27       | 52       | 68       | 39       | 26          | 2556     | 24662 |
| TE9711                 | 9.7          | 60.7          | 25        | 7.3     | 24       | 48       | 72       | 41       | 29          | 2744     | 26661 |
| TE9712                 | 9.1          | 62.1          | 33        | 7.1     | 24       | 47       | 72       | 40       | 31          | 2794     | 25509 |
| TE9713                 | 10.6         | 64.8          | 53        | 6.5     | 24       | 48       | 72       | 41       | 31          | 2823     | 30043 |
| TE9714                 | 8.9          | 63.3          | 45        | 7.6     | 21       | 43       | 74       | 39       | 36          | 2922     | 25921 |
| TE9719                 | 9.9          | 67.6          | 48        | 7.6     | 25       | 51       | 70       | 42       | 21          | 2667     | 26638 |
| TE9720                 | 8.8          | 70.6          | 62        | 7.9     | 24       | 48       | 72       | 41       | 30          | 2816     | 24651 |
| TE9721                 | 11.3         | 65.0          | 60        | 6.6     | 25       | 50       | 71       | 42       | 28          | 2765     | 31272 |
| Mean                   | 9.9          | 65.6          | 48        | 7.2     | 24       | 48       | 72       | 41       | 30          | 2774     | 27390 |
| <b>Probability (%)</b> |              |               |           |         |          |          |          |          |             |          |       |
| Genotype               | 20.2         | 0.5           | 0.0       | 16.2    | 3.8      | 1.6      | 5.1      | 20.1     | 0.9         | 8.5      | 30.6  |
| <b>LSD (0.10)</b>      |              |               |           |         |          |          |          |          |             |          |       |
| Genotype               | NS           | 4.7           | 9         | NS      | 2.2      | 3.3      | 2.1      | NS       | 5.0         | 165      | NS    |
| <b>CV (%)</b>          |              |               |           |         |          |          |          |          |             |          |       |
|                        | 12           | 5             | 13        | 8       | 7        | 5        | 2        | 4        | 12          | 4        | 13    |

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Hybrid Influence on Corn Grain and Silage Performance  
**Experiment:** 02 Plant Density **Trial ID:** 2237 **Year:** 2001  
**Personnel:** J.G. Lauer, P. J. Flannery and K. D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** HATCH

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### Site Information

**Field:** ARS408 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 11/1 /01 **pH** 6.7 **OM (%)** 2.9 **P (ppm)** 88 **K (ppm)** 185

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Spring Soil Finisher Cultivated on 6/17/01

|                    | <u>Analysis:</u> | <u>Rate lbs/A:</u> | <u>Date:</u> |
|--------------------|------------------|--------------------|--------------|
| <b>Fertilizer:</b> |                  |                    |              |
| Preplant :         | 46-0-0           | 325                | 4 /23/01     |
| Starter :          | 6-24-24          | 150                | 5 /9 /01     |
| Post plant :       | N/A              | N/A                | N/A          |
| Manure:            | N/A              | None               |              |

**Herbicide:** Harness 1.5 pt/A  
Permit 0.66 oz/A **Insecticide:** None  
**Hybrid:** See Factors

**Irrigation:** none

**Planting Date:** 5/9/01 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** S:9/25/01 **Harvest Method:** S: NH707 Plot Chopper  
G:10/25/01 G: Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 20' **Experiment Size:** 0.5 A  
**Harvest Plot Size:** S: 2.5' x 22',  
G: 5' x 22' **Harvest Plant Density:** N/A plants per acre

**Factors/Treatments:**

|   |  |
|---|--|
| <b><u>Plant Density: (plants/A)</u></b><br>15000, 25000, 35000,<br>45000, 55000 and 65000 | <b><u>Hybrids:</u></b><br>NK Brand 48V8<br>Pioneer 35R57<br>Pioneer 3751 |
|---|--|

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**Results: Table C-24.**



**Table C-24 Plant Density and Hybrid Influence on Corn Grain and Silage Performance.**

**Arlington, WI - 2001.**

| Target<br>Density     | Hybrid        | Grain |          |         |        |                  |          | Harvest |       | Plants<br>emerged | Seeds<br>planted | Flag Leaf<br>height |
|-----------------------|---------------|-------|----------|---------|--------|------------------|----------|---------|-------|-------------------|------------------|---------------------|
|                       |               | Yield | Moisture | Test Wt | Lodged | Grower<br>Return | plants   | ears    |       |                   |                  |                     |
|                       |               | bu/A  | %        | lbs/bu  | %      | \$/A             | plants/A | ears/A  |       |                   |                  |                     |
|                       | NK 48V8       | 150   | 26.4     | 50      | 20     | 297              | 38764    | 39248   | 51172 | 55440             | 112              |                     |
|                       | Pioneer 3751  | 193   | 19.2     | 53      | 17     | 402              | 38016    | 38720   | 51546 | 55440             | 89               |                     |
|                       | Pioneer 37R71 | 192   | 19.9     | 52      | 9      | 397              | 38632    | 38984   | 50600 | 55440             | 95               |                     |
| 15000                 |               | 151   | 22.1     | 51      | 5      | 308              | 15312    | 18392   | 22385 | 23760             | 101              |                     |
| 25000                 |               | 191   | 21.9     | 52      | 11     | 391              | 25520    | 25520   | 33132 | 35640             | 99               |                     |
| 35000                 |               | 202   | 21.7     | 52      | 17     | 414              | 34408    | 34408   | 44396 | 47520             | 100              |                     |
| 45000                 |               | 191   | 21.9     | 52      | 19     | 392              | 41624    | 41624   | 55088 | 59400             | 99               |                     |
| 55000                 |               | 175   | 21.9     | 52      | 20     | 359              | 52184    | 52184   | 69333 | 75240             | 97               |                     |
| 65000                 |               | 160   | 21.7     | 52      | 19     | 328              | 61776    | 61776   | 82302 | 91080             | 96               |                     |
| 15000                 | NK 48V8       | 159   | 26.4     | 50      | 7      | 314              | 15312    | 18216   | 22605 | 23760             | 125              |                     |
| 15000                 | Pioneer 3751  | 149   | 19.4     | 52      | 0      | 310              | 15048    | 19272   | 22374 | 23760             | 86               |                     |
| 15000                 | Pioneer 37R71 | 146   | 20.4     | 52      | 7      | 301              | 15576    | 17688   | 22176 | 23760             | 92               |                     |
| 25000                 | NK 48V8       | 178   | 26.5     | 50      | 25     | 352              | 25608    | 25608   | 32538 | 35640             | 113              |                     |
| 25000                 | Pioneer 3751  | 195   | 19.2     | 54      | 7      | 406              | 25344    | 25344   | 33528 | 35640             | 90               |                     |
| 25000                 | Pioneer 37R71 | 201   | 20.0     | 52      | 0      | 416              | 25608    | 25608   | 33330 | 35640             | 94               |                     |
| 35000                 | NK 48V8       | 168   | 26.0     | 50      | 23     | 334              | 34056    | 34056   | 44517 | 47520             | 111              |                     |
| 35000                 | Pioneer 3751  | 208   | 19.3     | 54      | 19     | 434              | 34320    | 34320   | 44649 | 47520             | 91               |                     |
| 35000                 | Pioneer 37R71 | 229   | 19.8     | 52      | 8      | 476              | 34848    | 34848   | 44022 | 47520             | 97               |                     |
| 45000                 | NK 48V8       | 135   | 26.6     | 50      | 21     | 267              | 43296    | 43296   | 54681 | 59400             | 111              |                     |
| 45000                 | Pioneer 3751  | 216   | 19.0     | 54      | 26     | 451              | 39072    | 39072   | 56067 | 59400             | 91               |                     |
| 45000                 | Pioneer 37R71 | 221   | 20.1     | 52      | 11     | 459              | 42504    | 42504   | 54516 | 59400             | 96               |                     |
| 55000                 | NK 48V8       | 134   | 26.9     | 50      | 18     | 263              | 51216    | 51216   | 71247 | 75240             | 111              |                     |
| 55000                 | Pioneer 3751  | 197   | 19.0     | 53      | 25     | 412              | 52272    | 52272   | 69531 | 75240             | 86               |                     |
| 55000                 | Pioneer 37R71 | 193   | 19.7     | 52      | 17     | 402              | 53064    | 53064   | 67221 | 75240             | 95               |                     |
| 65000                 | NK 48V8       | 127   | 26.2     | 50      | 25     | 251              | 63096    | 63096   | 81444 | 91080             | 104              |                     |
| 65000                 | Pioneer 3751  | 192   | 19.2     | 53      | 24     | 401              | 62040    | 62040   | 83127 | 91080             | 87               |                     |
| 65000                 | Pioneer 37R71 | 160   | 19.6     | 52      | 8      | 332              | 60192    | 60192   | 82335 | 91080             | 97               |                     |
| Mean                  |               | 178   | 21.9     | 52      | 15     | 365              | 38471    | 38984   | 51106 | 55440             | 99               |                     |
| <b>Probability(%)</b> |               |       |          |         |        |                  |          |         |       |                   |                  |                     |
| Plant Density (D)     |               | 0.0   | 94.5     | 31.7    | 0.2    | 0.0              | 0.0      | 0.0     | 0.0   | -                 | 26.6             |                     |
| Hybrid (H)            |               | 0.0   | 0.0      | 0.0     | 1.5    | 0.0              | 60.4     | 82.0    | 7.1   | -                 | 0.0              |                     |
| D x H                 |               | 0.0   | 77.8     | 20.6    | 46.4   | 0.0              | 63.6     | 62.2    | 8.0   | -                 | 0.2              |                     |
| <b>LSD (0.10)</b>     |               |       |          |         |        |                  |          |         |       |                   |                  |                     |
| Plant Density (D)     |               | 5     | NS       | NS      | 5      | 11               | 1481     | 1745    | 1070  | -                 | NS               |                     |
| Hybrid (H)            |               | 6     | 0.4      | 0       | 6      | 13               | NS       | NS      | 669   | -                 | 2                |                     |
| D x H                 |               | 15    | NS       | NS      | NS     | 32               | NS       | NS      | 1639  | -                 | 6                |                     |
| <b>CV(%)</b>          |               |       |          |         |        |                  |          |         |       |                   |                  |                     |
|                       |               | 6     | 3        | 1       | 73     | 6                | 6        | 6       | 2     | -                 | 4                |                     |

continued

**Table C-24. Plant Density and Hybrid Influence on Corn Grain and Silage Performance.**

(continued) **Arlington, WI - 2001.**

| Target Density        | Hybrid        | Whole Plant                |               |                  |                          |       |                    |          |          |                                |                          |             |                       |       |
|-----------------------|---------------|----------------------------|---------------|------------------|--------------------------|-------|--------------------|----------|----------|--------------------------------|--------------------------|-------------|-----------------------|-------|
|                       |               | Dry Matter yield<br>tons/A | Moisture<br>% | Kernel milk<br>% | Harvest<br>plants ears/A |       | Crude protien<br>% | ADF<br>% | NDF<br>% | <i>In Vitro</i><br>Digest<br>% | Cell Wall<br>Digest<br>% | Starch<br>% | Milk per<br>Ton lbs/A |       |
|                       | NK 48V8       | 8.5                        | 61.8          | 32               | 38764                    | 40040 | 7.1                | 24.6     | 48.2     | 72.3                           | 42.4                     | 29.2        | 2624                  | 22342 |
|                       | Pioneer 3751  | 8.4                        | 55.5          | 12               | 39116                    | 41140 | 7.2                | 20.2     | 41.8     | 76.3                           | 43.3                     | 38.7        | 2861                  | 24050 |
|                       | Pioneer 37R71 | 9.2                        | 56.5          | 15               | 39468                    | 39600 | 7.2                | 19.7     | 40.4     | 76.6                           | 42.0                     | 36.6        | 2880                  | 26582 |
| 15000                 |               | 7.8                        | 60.4          | 34               | 16192                    | 22440 | 7.4                | 20.8     | 42.8     | 75.9                           | 43.7                     | 32.8        | 2871                  | 22375 |
| 25000                 |               | 8.6                        | 58.2          | 17               | 24728                    | 25696 | 7.1                | 20.8     | 42.3     | 76.1                           | 43.5                     | 35.9        | 2862                  | 24579 |
| 35000                 |               | 9.4                        | 57.9          | 21               | 34320                    | 34672 | 7.0                | 20.8     | 42.6     | 75.7                           | 42.9                     | 36.9        | 2825                  | 26468 |
| 45000                 |               | 9.1                        | 55.2          | 10               | 45056                    | 45056 | 7.1                | 21.9     | 43.4     | 74.1                           | 40.3                     | 36.9        | 2690                  | 24609 |
| 55000                 |               | 8.7                        | 57.7          | 19               | 52360                    | 51568 | 7.3                | 21.7     | 43.7     | 74.8                           | 42.3                     | 34.1        | 2764                  | 24109 |
| 65000                 |               | 8.7                        | 58.3          | 16               | 62040                    | 62128 | 7.3                | 22.9     | 45.9     | 73.8                           | 42.9                     | 32.5        | 2717                  | 23808 |
| 15000                 | NK 48V8       | 8.8                        | 61.9          | 43               | 16632                    | 22704 | 7.2                | 21.9     | 44.3     | 74.9                           | 43.3                     | 31.6        | 2803                  | 24647 |
| 15000                 | Pioneer 3751  | 7.4                        | 60.0          | 35               | 15312                    | 24816 | 7.3                | 21.9     | 44.7     | 75.0                           | 44.2                     | 32.8        | 2816                  | 20672 |
| 15000                 | Pioneer 37R71 | 7.3                        | 59.3          | 23               | 16632                    | 19800 | 7.8                | 18.5     | 39.4     | 77.8                           | 43.7                     | 34.0        | 2994                  | 21805 |
| 25000                 | NK 48V8       | 8.9                        | 60.9          | 33               | 25080                    | 25872 | 6.8                | 23.2     | 45.7     | 73.8                           | 42.8                     | 33.1        | 2716                  | 24055 |
| 25000                 | Pioneer 3751  | 8.5                        | 55.2          | 7                | 25344                    | 27192 | 7.5                | 18.3     | 38.9     | 78.0                           | 43.5                     | 40.8        | 2967                  | 25359 |
| 25000                 | Pioneer 37R71 | 8.4                        | 58.5          | 12               | 23760                    | 24024 | 7.0                | 20.8     | 42.3     | 76.4                           | 44.1                     | 33.8        | 2904                  | 24323 |
| 35000                 | NK 48V8       | 9.2                        | 61.3          | 38               | 34584                    | 35376 | 6.5                | 25.5     | 50.3     | 71.3                           | 42.8                     | 30.1        | 2563                  | 23585 |
| 35000                 | Pioneer 3751  | 8.8                        | 54.7          | 12               | 34320                    | 34584 | 7.1                | 19.2     | 40.3     | 77.5                           | 44.1                     | 40.9        | 2936                  | 25923 |
| 35000                 | Pioneer 37R71 | 10.1                       | 57.6          | 12               | 34056                    | 34056 | 7.2                | 17.8     | 37.2     | 78.3                           | 41.6                     | 39.6        | 2975                  | 29897 |
| 45000                 | NK 48V8       | 8.5                        | 60.3          | 15               | 45936                    | 45936 | 7.2                | 25.2     | 48.4     | 71.2                           | 40.2                     | 30.0        | 2527                  | 21513 |
| 45000                 | Pioneer 3751  | 8.5                        | 54.9          | 5                | 44616                    | 44616 | 7.4                | 21.7     | 43.2     | 74.4                           | 40.6                     | 38.2        | 2701                  | 22935 |
| 45000                 | Pioneer 37R71 | 10.3                       | 50.5          | 10               | 44616                    | 44616 | 6.7                | 18.9     | 38.8     | 76.8                           | 40.2                     | 42.4        | 2843                  | 29380 |
| 55000                 | NK 48V8       | 8.2                        | 61.4          | 30               | 49896                    | 49896 | 7.6                | 23.4     | 46.4     | 73.8                           | 43.6                     | 28.7        | 2719                  | 22052 |
| 55000                 | Pioneer 3751  | 8.5                        | 53.6          | 7                | 53592                    | 53856 | 7.3                | 20.3     | 41.7     | 76.1                           | 42.5                     | 39.1        | 2835                  | 24096 |
| 55000                 | Pioneer 37R71 | 9.5                        | 58.0          | 22               | 53592                    | 50952 | 6.9                | 21.5     | 43.1     | 74.5                           | 40.9                     | 34.4        | 2740                  | 26180 |
| 65000                 | NK 48V8       | 7.5                        | 65.2          | 33               | 60456                    | 60456 | 7.5                | 28.3     | 53.8     | 68.7                           | 41.8                     | 21.8        | 2416                  | 18200 |
| 65000                 | Pioneer 3751  | 8.7                        | 54.4          | 5                | 61512                    | 61776 | 7.0                | 20.1     | 42.1     | 76.9                           | 45.1                     | 40.2        | 2910                  | 25316 |
| 65000                 | Pioneer 37R71 | 9.9                        | 55.3          | 10               | 64152                    | 64152 | 7.4                | 20.4     | 41.7     | 75.8                           | 41.8                     | 35.5        | 2824                  | 27908 |
| Mean                  |               | 8.7                        | 57.9          | 20               | 39116                    | 40260 | 7.2                | 21.5     | 43.5     | 75.1                           | 42.6                     | 34.8        | 2788                  | 24325 |
| <b>Probability(%)</b> |               |                            |               |                  |                          |       |                    |          |          |                                |                          |             |                       |       |
| Plant Density (D)     |               | 28.1                       | 14.2          | 1.7              | 0.0                      | 0.0   | 20.5               | 26.8     | 31.0     | 8.6                            | 1.4                      | 17.5        | 0.3                   | 36.4  |
| Hybrid (H)            |               | 3.5                        | 0.0           | 0.0              | 79.0                     | 25.2  | 57.3               | 0.0      | 0.0      | 0.0                            | 30.2                     | 0.0         | 0.0                   | 0.1   |
| D x H                 |               | 11.8                       | 11.2          | 38.0             | 79.7                     | 42.0  | 0.9                | 15.9     | 16.4     | 11.7                           | 88.6                     | 20.1        | 22.6                  | 5.1   |
| <b>LSD (0.10)</b>     |               |                            |               |                  |                          |       |                    |          |          |                                |                          |             |                       |       |
| Plant Density (D)     |               | NS                         | NS            | 9                | 1467                     | 1439  | NS                 | NS       | NS       | 1.4                            | 1.3                      | NS          | 90                    | NS    |
| Hybrid (H)            |               | 0.6                        | 1.7           | 6                | NS                       | NS    | NS                 | 1.4      | 2.2      | 1.3                            | NS                       | 2.9         | 88                    | 1737  |
| D x H                 |               | NS                         | NS            | NS               | NS                       | NS    | 0.5                | NS       | NS       | NS                             | NS                       | NS          | NS                    | 4254  |
| <b>CV(%)</b>          |               |                            |               |                  |                          |       |                    |          |          |                                |                          |             |                       |       |
| Plant Density (D)     |               | 11                         | 5             | 52               | 8                        | 13    | 5                  | 12       | 9        | 3                              | 6                        | 15          | 6                     | 12    |

## FIELD EXPERIMENT HISTORY

**Title:** Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield  
**Experiment:** 03 Date of Planting **Trial ID:** 2239 **Year:** 2001  
**Personnel:** J.G. Lauer, P. J. Flannery, and K. D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** HATCH

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### Site Information

**Field:** ARS379 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 6 /1 /99 **pH** 6.5 **OM (%)** 2.2 **P (ppm)** 52 **K (ppm)** 193

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Soil Finisher prior to each DOP

|                    | <u>Analysis:</u> | <u>Rate lbs/A:</u> | <u>Date:</u> |
|--------------------|------------------|--------------------|--------------|
| <b>Fertilizer:</b> |                  |                    |              |
| Preplant :         | 46-0-0           | 325                | N/A          |
| Starter :          | 6-24-24          | 150                | Each DOP     |
| Post plant :       | N/A              | N/A                | N/A          |
| Manure:            | N/A              | None               |              |

**Herbicide:** Harness 1.5 pt/A **Insecticide:**  
Permit 0.66 oz/A **Hybrid:** See Factors

**Irrigation:** none

**Planting Date:** See Factors **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** S: 10/1 & 10/11 **Harvest Method:** S:New Holland Plot Chopper  
G: 10/25 G:Kincaid Plot Combine

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### Experimental Design

**Design:** RCB split plot

**Replications:** 3

**Plot Size Seeded:** 25' x 20'

**Experiment Size:** 0.24 A

**Harvest Plot Size:** S: 22' x 2.5'  
G: 22' x 5'

**Harvest Plant Density:** S:30000 plants per acre  
G:29900

### Factors/Treatments:

#### Date of Planting:

April 18, May 1,  
May 15, June 1,  
& June 15

#### Hybrids:

Cargill 4111  
Midwest 7711

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**Results:** Table C-25 and C-26.

**Table C-25. Planting Date And Hybrid Influence On Corn Grain And Silage Performance**

**Arlington, WI - 2001.**

| Planting Date         | Hybrid       | Grain |          |         |               |        |             |                 |               |                |                  |               |
|-----------------------|--------------|-------|----------|---------|---------------|--------|-------------|-----------------|---------------|----------------|------------------|---------------|
|                       |              | Yield | Moisture | Test wt | Grower return | Lodged | Harvest pop | Harvest ear pop | Seeds planted | Plants emerged | Flag Leaf height | 50% Silk date |
|                       |              | bu/A  | %        | lbs/bu  | \$/A          | %      | plants/A    | ears/A          | seeds/A       | plants/A       | inches           | doy           |
|                       | Cargill 4111 | 198   | 21.3     | 54      | 407           | 3      | 29515       | 30043           | 47520         | 41785          | 105              | 211           |
|                       | Midwest 7711 | 197   | 29.5     | 51      | 383           | 2      | 30202       | 30360           | 47520         | 41230          | 106              | 212           |
| April 18              |              | 239   | 21.8     | 55      | 489           | 2      | 29172       | 29964           | 47520         | 37455          | 102              | 202           |
| May 1                 |              | 223   | 23.2     | 54      | 450           | 5      | 30624       | 30624           | 47520         | 43659          | 103              | 204           |
| May 15                |              | 196   | 26.7     | 52      | 386           | 4      | 29832       | 29964           | 47520         | 43313          | 107              | 212           |
| June 1                |              | 132   | 29.9     | 50      | 256           | 0      | 30096       | 30624           | 47520         | 43428          | 111              | 217           |
| June 14               |              | -     | -        | -       | -             | 0      | 29568       | 29832           | 47520         | 39683          | 105              | 224           |
| April 18              | Cargill 4111 | 228   | 19.2     | 57      | 475           | 5      | 28248       | 29832           | 47520         | 37554          | 101              | 200           |
| April 18              | Midwest 7711 | 250   | 24.4     | 53      | 502           | 0      | 30096       | 30096           | 47520         | 37356          | 102              | 204           |
| May 1                 | Cargill 4111 | 216   | 19.4     | 56      | 449           | 4      | 30624       | 30624           | 47520         | 43263          | 100              | 203           |
| May 1                 | Midwest 7711 | 229   | 26.9     | 52      | 451           | 7      | 30624       | 30624           | 47520         | 44055          | 105              | 204           |
| May 15                | Cargill 4111 | 195   | 21.6     | 54      | 399           | 5      | 29304       | 29568           | 47520         | 43725          | 108              | 211           |
| May 15                | Midwest 7711 | 197   | 31.7     | 50      | 373           | 3      | 30360       | 30360           | 47520         | 42900          | 106              | 212           |
| June 1                | Cargill 4111 | 153   | 24.9     | 51      | 306           | 1      | 30096       | 30888           | 47520         | 44286          | 110              | 216           |
| June 1                | Midwest 7711 | 112   | 35.0     | 49      | 206           | 0      | 30096       | 30360           | 47520         | 42570          | 113              | 218           |
| June 14               | Cargill 4111 | -     | -        | -       | -             | 0      | 29304       | 29304           | 47520         | 40095          | 107              | 224           |
| June 14               | Midwest 7711 | -     | -        | -       | -             | 0      | 29832       | 30360           | 47520         | 39270          | 103              | 224           |
|                       | Mean         | 197   | 25.4     | 53      | 395           | 2      | 29858       | 30202           | 47520         | 41507          | 106              | 212           |
| <b>Probability(%)</b> |              |       |          |         |               |        |             |                 |               |                |                  |               |
| Date of Planting (D)  |              | 1.9   | 0.0      | 0.0     | 1.0           | 66.9   | 42.5        | 55.5            | -             | 0.0            | 6.5              | 0.0           |
| Hybrid (H)            |              | 88.7  | 0.0      | 0.0     | 7.0           | 42.0   | 7.3         | 42.0            | -             | 34.3           | 60.8             | 0.0           |
| D x H                 |              | 4.1   | 0.0      | 0.7     | 2.3           | 16.5   | 43.0        | 69.8            | -             | 70.1           | 26.2             | 0.1           |
| <b>LSD (0.10)</b>     |              |       |          |         |               |        |             |                 |               |                |                  |               |
| Date of Planting (D)  |              | 45    | 0.3      | 0.5     | 86            | NS     | NS          | NS              | -             | 1479           | 5                | 0             |
| Hybrid (H)            |              | NS    | 0.3      | 0.3     | 19            | NS     | 620         | NS              | -             | NS             | NS               | 0             |
| D x H                 |              | 25    | 0.8      | 0.7     | 43            | NS     | NS          | NS              | -             | NS             | NS               | 1             |
| <b>CV(%)</b>          |              |       |          |         |               |        |             |                 |               |                |                  |               |
|                       |              | 8     | 2        | 1       | 7             | 109    | 3           | 3               | -             | 4              | 3                | 0             |

continued

**Table C-25. Planting Date And Hybrid Influence On Corn Grain And Silage Performance**

(continued) **Arlington, WI - 2001.**

| Planting Date         | Hybrid       | Whole Plant |          |             |         |       |               |          |      |        |                  |          |      |       |
|-----------------------|--------------|-------------|----------|-------------|---------|-------|---------------|----------|------|--------|------------------|----------|------|-------|
|                       |              | Dry Matter  |          | Kernel milk | Harvest |       | Crude protien | In Vitro |      |        | Cell Wall Digest | Milk per |      |       |
|                       |              | yield       | Moisture |             | plants  | ears  |               | ADF      | NDF  | Digest |                  | Starch   | Ton  | Acre  |
| tons/A                | %            | %           | plants/A | ears/A      | %       | %     | %             | %        | %    | lbs/T  | lbs/A            |          |      |       |
|                       | Cargill 4111 | 8.5         | 61.5     | 46          | 30202   | 31152 | 7.6           | 24.0     | 46.7 | 74.7   | 45.7             | 26.5     | 2677 | 23101 |
|                       | Midwest 7711 | 8.6         | 66.1     | 58          | 29726   | 30254 | 7.5           | 24.3     | 47.7 | 73.7   | 44.8             | 24.5     | 2546 | 22458 |
| April 18              |              | 9.5         | 66.0     | 47          | 29832   | 30492 | 7.3           | 22.7     | 45.1 | 74.7   | 43.9             | 32.7     | 2767 | 26301 |
| May 1                 |              | 9.3         | 68.3     | 53          | 29568   | 29700 | 7.6           | 22.4     | 44.1 | 75.0   | 43.2             | 33.3     | 2772 | 25769 |
| May 15                |              | 9.4         | 62.8     | 53          | 29832   | 30360 | 7.1           | 22.0     | 43.9 | 75.4   | 44.1             | 32.9     | 2818 | 26500 |
| June 1                |              | 8.5         | 58.1     | 37          | 30756   | 31152 | 7.5           | 25.4     | 48.6 | 73.4   | 45.4             | 23.1     | 2607 | 22552 |
| June 14               |              | 6.1         | 63.9     | 73          | 29832   | 31812 | 8.2           | 28.1     | 54.4 | 72.6   | 49.7             | 5.5      | 2092 | 12778 |
| April 18              | Cargill 4111 | 9.6         | 63.7     | 38          | 30624   | 31944 | 7.5           | 23.0     | 45.4 | 74.8   | 44.5             | 32.0     | 2783 | 26855 |
| April 18              | Midwest 7711 | 9.3         | 68.3     | 55          | 29040   | 29040 | 7.2           | 22.5     | 44.8 | 74.6   | 43.3             | 33.4     | 2752 | 25746 |
| May 1                 | Cargill 4111 | 8.8         | 66.0     | 48          | 29304   | 29568 | 7.5           | 22.1     | 43.4 | 75.6   | 43.8             | 33.9     | 2820 | 24999 |
| May 1                 | Midwest 7711 | 9.8         | 70.5     | 57          | 29832   | 29832 | 7.7           | 22.8     | 44.8 | 74.3   | 42.5             | 32.6     | 2724 | 26539 |
| May 15                | Cargill 4111 | 9.2         | 61.5     | 47          | 29568   | 30360 | 7.1           | 22.5     | 44.1 | 75.4   | 44.4             | 32.6     | 2822 | 25897 |
| May 15                | Midwest 7711 | 9.6         | 64.1     | 58          | 30096   | 30360 | 7.2           | 21.6     | 43.6 | 75.4   | 43.8             | 33.2     | 2814 | 27103 |
| June 1                | Cargill 4111 | 8.8         | 54.8     | 23          | 31152   | 31680 | 7.7           | 24.0     | 46.4 | 74.9   | 46.0             | 27.2     | 2780 | 24680 |
| June 1                | Midwest 7711 | 8.3         | 61.3     | 50          | 30360   | 30624 | 7.3           | 26.9     | 50.9 | 71.9   | 44.8             | 19.0     | 2435 | 20424 |
| June 14               | Cargill 4111 | 6.0         | 61.5     | 73          | 30360   | 32208 | 8.4           | 28.2     | 54.1 | 72.9   | 49.9             | 6.7      | 2179 | 13076 |
| June 14               | Midwest 7711 | 6.2         | 66.4     | 72          | 29304   | 31416 | 8.1           | 27.9     | 54.6 | 72.4   | 49.5             | 4.3      | 2004 | 12479 |
|                       | Mean         | 8.6         | 63.8     | 52          | 29964   | 30703 | 7.5           | 24.1     | 47.2 | 74.2   | 45.2             | 25.5     | 2611 | 22780 |
| <b>Probability(%)</b> |              |             |          |             |         |       |               |          |      |        |                  |          |      |       |
| Date of Planting (D)  |              | 1.2         | 0.0      | 0.0         | 27.2    | 27.5  | 1.7           | 0.1      | 0.1  | 7.5    | 0.0              | 0.0      | 0.1  | 0.7   |
| Hybrid (H)            |              | 66.9        | 0.1      | 0.2         | 24.9    | 11.3  | 18.7          | 67.9     | 34.0 | 22.6   | 13.6             | 30.6     | 4.7  | 62.7  |
| D x H                 |              | 65.6        | 83.3     | 9.6         | 36.1    | 38.4  | 30.6          | 59.9     | 53.8 | 71.9   | 98.3             | 51.5     | 40.6 | 63.8  |
| <b>LSD (0.10)</b>     |              |             |          |             |         |       |               |          |      |        |                  |          |      |       |
| Date of Planting (D)  |              | 1.4         | 1.8      | 5           | NS      | NS    | 0.5           | 1.8      | 2.9  | 1.7    | 1.3              | 6.1      | 202  | 5270  |
| Hybrid (H)            |              | NS          | 1.9      | 5           | NS      | NS    | NS            | NS       | NS   | NS     | NS               | NS       | 105  | NS    |
| D x H                 |              | NS          | NS       | 12          | NS      | NS    | NS            | NS       | NS   | NS     | NS               | NS       | NS   | NS    |
| <b>CV(%)</b>          |              |             |          |             |         |       |               |          |      |        |                  |          |      |       |
|                       |              | 10          | 5        | 15          | 4       | 5     | 3             | 9        | 6    | 3      | 3                | 19       | 6    | 15    |

**Table C-26. Planting Date And Hybrid Influence On Corn Leaf Development  
Arlington, WI - 2001.**

| Date of<br>Planting | Hybrid       | Observation    | Leaf Development |                          |                 | Plant<br>height |
|---------------------|--------------|----------------|------------------|--------------------------|-----------------|-----------------|
|                     |              | Day of<br>year | Leaf<br>collars  | Hail adjusters<br>method | Total<br>leaves |                 |
| day of year         |              | day of year    | no./plant        | no./plant                | no./plant       | inches          |
|                     |              | 136            | 2.0              | 2.1                      | 3.6             | 3.4             |
|                     |              | 144            | 2.8              | 3.6                      | 4.6             | 4.7             |
|                     |              | 151            | 2.5              | 3.2                      | 4.7             | 5.0             |
|                     |              | 159            | 3.1              | 4.0                      | 5.6             | 5.9             |
|                     |              | 169            | 4.4              | 6.4                      | 7.5             | 12.1            |
|                     |              | 184            | 7.0              | 9.0                      | 10.7            | 30.8            |
|                     |              | 197            | 11.1             | 12.5                     | 14.4            | 59.2            |
|                     |              | 212            | 17.0             | 17.3                     | 17.9            | 97.0            |
|                     |              | 225            | 18.5             | 18.5                     | 18.5            | 108.0           |
|                     | Cargill 4111 |                | 8.5              | 9.7                      | 10.9            | 42.5            |
|                     | Midwest 7711 |                | 8.4              | 9.5                      | 10.8            | 40.5            |
|                     | Cargill 4111 | 136            | 2.0              | 2.2                      | 3.7             | 3.5             |
|                     | Cargill 4111 | 144            | 2.8              | 3.6                      | 4.6             | 4.7             |
|                     | Cargill 4111 | 151            | 2.5              | 3.1                      | 4.8             | 4.9             |
|                     | Cargill 4111 | 159            | 3.1              | 4.0                      | 5.7             | 5.8             |
|                     | Cargill 4111 | 169            | 4.5              | 6.5                      | 7.6             | 12.7            |
|                     | Cargill 4111 | 184            | 7.2              | 9.3                      | 10.9            | 32.5            |
|                     | Cargill 4111 | 197            | 11.3             | 12.7                     | 14.5            | 61.4            |
|                     | Cargill 4111 | 212            | 17.1             | 17.4                     | 18.0            | 99.4            |
|                     | Cargill 4111 | 255            | 18.3             | 18.3                     | 18.3            | 107.2           |
|                     | Midwest 7711 | 136            | 2.0              | 2.0                      | 3.5             | 3.3             |
|                     | Midwest 7711 | 144            | 2.8              | 3.6                      | 4.6             | 4.7             |
|                     | Midwest 7711 | 151            | 2.6              | 3.3                      | 4.7             | 5.1             |
|                     | Midwest 7711 | 159            | 3.2              | 4.0                      | 5.6             | 5.9             |
|                     | Midwest 7711 | 169            | 4.4              | 6.3                      | 7.4             | 11.6            |
|                     | Midwest 7711 | 184            | 6.9              | 8.7                      | 10.5            | 29.1            |
|                     | Midwest 7711 | 197            | 10.9             | 12.2                     | 14.2            | 57.0            |
|                     | Midwest 7711 | 212            | 16.9             | 17.2                     | 17.8            | 94.7            |
|                     | Midwest 7711 | 225            | 18.7             | 18.7                     | 18.7            | 108.8           |
| 108                 |              |                | 7.9              | 9.1                      | 10.4            | 35.3            |
| 121                 |              |                | 7.8              | 9.1                      | 10.2            | 37.0            |
| 135                 |              |                | 7.2              | 8.2                      | 9.6             | 34.4            |
| 152                 |              |                | 10.2             | 11.1                     | 12.3            | 57.4            |
| 165                 |              |                | 10.6             | 11.5                     | 12.9            | 52.6            |
| 108                 |              | 136            | 2.0              | 2.1                      | 3.6             | 3.4             |
| 108                 |              | 144            | 3.5              | 4.2                      | 5.2             | 5.6             |
| 108                 |              | 151            | 3.6              | 4.7                      | 6.3             | 7.2             |
| 108                 |              | 159            | 4.3              | 5.3                      | 7.1             | 8.4             |
| 108                 |              | 169            | 6.2              | 9.0                      | 10.3            | 19.5            |
| 108                 |              | 184            | 10.2             | 12.9                     | 14.7            | 50.5            |
| 108                 |              | 197            | 14.9             | 16.0                     | 17.1            | 84.7            |
| 108                 |              | 212            | 18.9             | 18.9                     | 18.9            | 102.8           |
| 108                 |              | 225            | -                | -                        | -               | -               |

continued

**Table C-26. Planting Date And Hybrid Influence On Corn Leaf Development**

(continued) **Arlington, WI - 2001.**

| Date of Planting | Hybrid       | Observation | Leaf Development |                       |              | Plant height |
|------------------|--------------|-------------|------------------|-----------------------|--------------|--------------|
|                  |              | Day of year | Leaf collars     | Hail adjusters method | Total leaves |              |
| day of year      |              | day of year | no./plant        | no./plant             | no./plant    | inches       |
| 121              |              | 136         | -                | -                     | -            | -            |
| 121              |              | 144         | 2.0              | 3.0                   | 4.0          | 3.8          |
| 121              |              | 151         | 3.0              | 3.7                   | 4.9          | 4.8          |
| 121              |              | 159         | 3.3              | 4.3                   | 5.9          | 6.1          |
| 121              |              | 169         | 5.4              | 7.8                   | 8.9          | 15.6         |
| 121              |              | 184         | 9.0              | 11.3                  | 13.0         | 46.8         |
| 121              |              | 197         | 13.6             | 15.3                  | 16.3         | 77.3         |
| 121              |              | 212         | 18.5             | 18.5                  | 18.5         | 104.5        |
| 121              |              | 225         | -                | -                     | -            | -            |
| 135              |              | 136         | -                | -                     | -            | -            |
| 135              |              | 144         | -                | -                     | -            | -            |
| 135              |              | 151         | 1.0              | 1.3                   | 3.0          | 3.0          |
| 135              |              | 159         | 1.8              | 2.4                   | 3.9          | 3.1          |
| 135              |              | 169         | 4.1              | 5.7                   | 6.8          | 8.4          |
| 135              |              | 184         | 6.8              | 8.8                   | 11.0         | 28.7         |
| 135              |              | 197         | 10.8             | 12.7                  | 14.6         | 57.9         |
| 135              |              | 212         | 18.4             | 18.4                  | 18.4         | 105.7        |
| 135              |              | 225         | -                | -                     | -            | -            |
| 152              |              | 136         | -                | -                     | -            | -            |
| 152              |              | 144         | -                | -                     | -            | -            |
| 152              |              | 151         | -                | -                     | -            | -            |
| 152              |              | 159         | -                | -                     | -            | -            |
| 152              |              | 169         | 2.1              | 3.1                   | 4.1          | 5.1          |
| 152              |              | 184         | 5.6              | 7.3                   | 8.8          | 20.4         |
| 152              |              | 197         | 9.1              | 10.5                  | 13.1         | 48.8         |
| 152              |              | 212         | 16.0             | 16.3                  | 17.4         | 101.3        |
| 152              |              | 225         | 18.3             | 18.3                  | 18.3         | 111.4        |
| 165              |              | 136         | -                | -                     | -            | -            |
| 165              |              | 144         | -                | -                     | -            | -            |
| 165              |              | 151         | -                | -                     | -            | -            |
| 165              |              | 159         | -                | -                     | -            | -            |
| 165              |              | 169         | -                | -                     | -            | -            |
| 165              |              | 184         | 3.6              | 4.6                   | 5.9          | 7.6          |
| 165              |              | 197         | 7.2              | 8.0                   | 10.8         | 27.3         |
| 165              |              | 212         | 13.1             | 14.6                  | 16.3         | 70.9         |
| 165              |              | 225         | 18.8             | 18.8                  | 18.8         | 104.6        |
| 108              | Cargill 4111 |             | 8.0              | 9.3                   | 10.6         | 36.3         |
| 108              | Midwest 7711 |             | 7.9              | 9.0                   | 10.2         | 34.2         |
| 121              | Cargill 4111 |             | 7.8              | 9.1                   | 10.2         | 38.4         |
| 121              | Midwest 7711 |             | 7.9              | 9.1                   | 10.2         | 35.6         |
| 135              | Cargill 4111 |             | 7.2              | 8.3                   | 9.6          | 34.2         |
| 135              | Midwest 7711 |             | 7.1              | 8.1                   | 9.6          | 34.7         |

continued

**Table C-26. Planting Date And Hybrid Influence On Corn Leaf Development**

(continued) **Arlington, WI - 2001.**

| Date of<br>Planting<br>day of year | Hybrid       | Observation                   | Leaf Development             |                                       |                              | Plant<br>height<br>inches |
|------------------------------------|--------------|-------------------------------|------------------------------|---------------------------------------|------------------------------|---------------------------|
|                                    |              | Day of<br>year<br>day of year | Leaf<br>collars<br>no./plant | Hail adjusters<br>method<br>no./plant | Total<br>leaves<br>no./plant |                           |
| 152                                | Cargill 4111 |                               | 10.3                         | 11.2                                  | 12.5                         | 58.7                      |
| 152                                | Midwest 7711 |                               | 10.1                         | 10.9                                  | 12.2                         | 56.1                      |
| 165                                | Cargill 4111 |                               | 10.8                         | 11.6                                  | 13.0                         | 54.6                      |
| 165                                | Midwest 7711 |                               | 10.5                         | 11.4                                  | 12.9                         | 50.6                      |
| 108                                | Cargill 4111 | 136                           | 2.0                          | 2.2                                   | 3.7                          | 3.5                       |
| 108                                | Cargill 4111 | 144                           | 3.5                          | 4.2                                   | 5.2                          | 5.5                       |
| 108                                | Cargill 4111 | 151                           | 3.7                          | 4.7                                   | 6.5                          | 7.0                       |
| 108                                | Cargill 4111 | 159                           | 4.2                          | 5.3                                   | 7.3                          | 8.2                       |
| 108                                | Cargill 4111 | 169                           | 6.5                          | 9.5                                   | 10.7                         | 21.2                      |
| 108                                | Cargill 4111 | 184                           | 10.2                         | 13.2                                  | 15.0                         | 52.7                      |
| 108                                | Cargill 4111 | 197                           | 15.2                         | 16.3                                  | 17.3                         | 88.0                      |
| 108                                | Cargill 4111 | 212                           | 19.0                         | 19.0                                  | 19.0                         | 104.5                     |
| 108                                | Cargill 4111 | 225                           | -                            | -                                     | -                            | -                         |
| 108                                | Midwest 7711 | 136                           | 2.0                          | 2.0                                   | 3.5                          | 3.3                       |
| 108                                | Midwest 7711 | 144                           | 3.5                          | 4.2                                   | 5.2                          | 5.8                       |
| 108                                | Midwest 7711 | 151                           | 3.5                          | 4.7                                   | 6.0                          | 7.3                       |
| 108                                | Midwest 7711 | 159                           | 4.5                          | 5.3                                   | 6.8                          | 8.5                       |
| 108                                | Midwest 7711 | 169                           | 5.8                          | 8.5                                   | 9.8                          | 17.8                      |
| 108                                | Midwest 7711 | 184                           | 10.2                         | 12.7                                  | 14.3                         | 48.3                      |
| 108                                | Midwest 7711 | 197                           | 14.7                         | 15.7                                  | 16.8                         | 81.3                      |
| 108                                | Midwest 7711 | 212                           | 18.8                         | 18.8                                  | 18.8                         | 101.2                     |
| 108                                | Midwest 7711 | 225                           | -                            | -                                     | -                            | -                         |
| 121                                | Cargill 4111 | 136                           | -                            | -                                     | -                            | -                         |
| 121                                | Cargill 4111 | 144                           | 2.0                          | 3.0                                   | 4.0                          | 3.9                       |
| 121                                | Cargill 4111 | 151                           | 3.0                          | 3.7                                   | 5.0                          | 4.8                       |
| 121                                | Cargill 4111 | 159                           | 3.3                          | 4.3                                   | 5.8                          | 6.0                       |
| 121                                | Cargill 4111 | 169                           | 5.3                          | 8.2                                   | 9.2                          | 16.5                      |
| 121                                | Cargill 4111 | 184                           | 9.2                          | 11.5                                  | 13.2                         | 52.8                      |
| 121                                | Cargill 4111 | 197                           | 13.7                         | 15.2                                  | 16.3                         | 81.0                      |
| 121                                | Cargill 4111 | 212                           | 18.0                         | 18.0                                  | 18.0                         | 103.7                     |
| 121                                | Cargill 4111 | 225                           | -                            | -                                     | -                            | -                         |
| 121                                | Midwest 7711 | 136                           | -                            | -                                     | -                            | -                         |
| 121                                | Midwest 7711 | 144                           | 2.0                          | 3.0                                   | 4.0                          | 3.6                       |
| 121                                | Midwest 7711 | 151                           | 3.0                          | 3.7                                   | 4.8                          | 4.7                       |
| 121                                | Midwest 7711 | 159                           | 3.2                          | 4.2                                   | 6.0                          | 6.2                       |
| 121                                | Midwest 7711 | 169                           | 5.5                          | 7.5                                   | 8.7                          | 14.8                      |
| 121                                | Midwest 7711 | 184                           | 8.8                          | 11.0                                  | 12.8                         | 40.8                      |
| 121                                | Midwest 7711 | 197                           | 13.5                         | 15.3                                  | 16.3                         | 73.7                      |
| 121                                | Midwest 7711 | 212                           | 19.0                         | 19.0                                  | 19.0                         | 105.3                     |
| 121                                | Midwest 7711 | 225                           | -                            | -                                     | -                            | -                         |

continued



**Table C-26. Planting Date And Hybrid Influence On Corn Leaf Development**

(continued) **Arlington, WI - 2001.**

| Date of<br>Planting | Hybrid       | Observation    | Leaf Development |                          |                 | Plant<br>height |
|---------------------|--------------|----------------|------------------|--------------------------|-----------------|-----------------|
|                     |              | Day of<br>year | Leaf<br>collars  | Hail adjusters<br>method | Total<br>leaves |                 |
| day of year         |              | day of year    | no./plant        | no./plant                | no./plant       | inches          |
| 135                 | Cargill 4111 | 136            | -                | -                        | -               | -               |
| 135                 | Cargill 4111 | 144            | -                | -                        | -               | -               |
| 135                 | Cargill 4111 | 151            | 0.8              | 1.0                      | 2.8             | 2.8             |
| 135                 | Cargill 4111 | 159            | 1.7              | 2.3                      | 3.8             | 3.2             |
| 135                 | Cargill 4111 | 169            | 4.0              | 5.3                      | 6.7             | 7.3             |
| 135                 | Cargill 4111 | 184            | 7.0              | 9.2                      | 11.0            | 27.3            |
| 135                 | Cargill 4111 | 197            | 11.0             | 13.3                     | 14.8            | 58.3            |
| 135                 | Cargill 4111 | 212            | 18.7             | 18.7                     | 18.7            | 106.3           |
| 135                 | Cargill 4111 | 225            | -                | -                        | -               | -               |
| 135                 | Midwest 7711 | 136            | -                | -                        | -               | -               |
| 135                 | Midwest 7711 | 144            | -                | -                        | -               | -               |
| 135                 | Midwest 7711 | 151            | 1.2              | 1.7                      | 3.2             | 3.2             |
| 135                 | Midwest 7711 | 159            | 1.8              | 2.5                      | 4.0             | 3.0             |
| 135                 | Midwest 7711 | 169            | 4.2              | 6.0                      | 7.0             | 9.4             |
| 135                 | Midwest 7711 | 184            | 6.7              | 8.5                      | 11.0            | 30.0            |
| 135                 | Midwest 7711 | 197            | 10.7             | 12.0                     | 14.3            | 57.5            |
| 135                 | Midwest 7711 | 212            | 18.2             | 18.2                     | 18.2            | 105.0           |
| 135                 | Midwest 7711 | 225            | -                | -                        | -               | -               |
| 152                 | Cargill 4111 | 136            | -                | -                        | -               | -               |
| 152                 | Cargill 4111 | 144            | -                | -                        | -               | -               |
| 152                 | Cargill 4111 | 151            | -                | -                        | -               | -               |
| 152                 | Cargill 4111 | 159            | -                | -                        | -               | -               |
| 152                 | Cargill 4111 | 169            | 2.0              | 3.0                      | 4.0             | 5.8             |
| 152                 | Cargill 4111 | 184            | 5.7              | 7.7                      | 9.2             | 22.2            |
| 152                 | Cargill 4111 | 197            | 9.3              | 10.7                     | 13.3            | 52.0            |
| 152                 | Cargill 4111 | 212            | 16.5             | 16.8                     | 17.8            | 104.2           |
| 152                 | Cargill 4111 | 225            | 18.0             | 18.0                     | 18.0            | 109.5           |
| 152                 | Midwest 7711 | 136            | -                | -                        | -               | -               |
| 152                 | Midwest 7711 | 144            | -                | -                        | -               | -               |
| 152                 | Midwest 7711 | 151            | -                | -                        | -               | -               |
| 152                 | Midwest 7711 | 159            | -                | -                        | -               | -               |
| 152                 | Midwest 7711 | 169            | 2.2              | 3.2                      | 4.2             | 4.4             |
| 152                 | Midwest 7711 | 184            | 5.5              | 7.0                      | 8.5             | 18.7            |
| 152                 | Midwest 7711 | 197            | 8.8              | 10.3                     | 12.8            | 45.7            |
| 152                 | Midwest 7711 | 212            | 15.5             | 15.7                     | 17.0            | 98.3            |
| 152                 | Midwest 7711 | 225            | 18.5             | 18.5                     | 18.5            | 113.3           |
| 165                 | Cargill 4111 | 136            | -                | -                        | -               | -               |
| 165                 | Cargill 4111 | 144            | -                | -                        | -               | -               |
| 165                 | Cargill 4111 | 151            | -                | -                        | -               | -               |
| 165                 | Cargill 4111 | 159            | -                | -                        | -               | -               |
| 165                 | Cargill 4111 | 169            | -                | -                        | -               | -               |
| 165                 | Cargill 4111 | 184            | 3.8              | 4.8                      | 6.0             | 7.6             |
| 165                 | Cargill 4111 | 197            | 7.3              | 8.2                      | 10.8            | 27.7            |
| 165                 | Cargill 4111 | 212            | 13.2             | 14.7                     | 16.3            | 78.2            |
| 165                 | Cargill 4111 | 225            | 18.7             | 18.7                     | 18.7            | 104.8           |

continued

**Table C-26. Determining Corn Hybrid Maturity - Comparison of Hybrids**(continued) **Arlington, WI - 2001**

| Date of Planting      | Hybrid       | Observation | Leaf Development |                       |              | Plant height |
|-----------------------|--------------|-------------|------------------|-----------------------|--------------|--------------|
|                       |              | Day of year | Leaf collars     | Hail adjusters method | Total leaves |              |
| day of year           |              | day of year | no./plant        | no./plant             | no./plant    | inches       |
| 165                   | Midwest 7711 | 136         | -                | -                     | -            | -            |
| 165                   | Midwest 7711 | 144         | -                | -                     | -            | -            |
| 165                   | Midwest 7711 | 151         | -                | -                     | -            | -            |
| 165                   | Midwest 7711 | 159         | -                | -                     | -            | -            |
| 165                   | Midwest 7711 | 169         | -                | -                     | -            | -            |
| 165                   | Midwest 7711 | 184         | 3.3              | 4.3                   | 5.8          | 7.6          |
| 165                   | Midwest 7711 | 197         | 7.0              | 7.8                   | 10.7         | 26.8         |
| 165                   | Midwest 7711 | 212         | 13.0             | 14.5                  | 16.2         | 63.7         |
| 165                   | Midwest 7711 | 225         | 18.8             | 18.8                  | 18.8         | 104.3        |
| Mean                  |              |             | 8.5              | 9.6                   | 10.9         | 41.5         |
| <b>Probability(%)</b> |              |             |                  |                       |              |              |
| Date of Planting (D)  |              |             | 0.0              | 0.0                   | 0.0          | 0.0          |
| Hybrid (H)            |              |             | 40.6             | 9.6                   | 18.9         | 0.2          |
| D x H                 |              |             | 63.3             | 64.7                  | 15.8         | 4.1          |
| Sample DOY (S)        |              |             | 0.0              | 0.0                   | 0.0          | 0.0          |
| D x S                 |              |             | 0.0              | 0.0                   | 0.0          | 0.0          |
| H x S                 |              |             | 41.6             | 5.2                   | 56.2         | 0.4          |
| D x H x S             |              |             | 30.7             | 1.0                   | 37.6         | 0.1          |
| <b>LSD(0.10)</b>      |              |             |                  |                       |              |              |
| Date of Planting (D)  |              |             | 0.4              | 0.5                   | 0.4          | 1.6          |
| Hybrid (H)            |              |             | NS               | 0.1                   | NS           | 0.6          |
| D x H                 |              |             | NS               | NS                    | NS           | 1.4          |
| Sample DOY (S)        |              |             | 0.2              | 0.2                   | 0.2          | 1.3          |
| D x S                 |              |             | 0.2              | 0.5                   | 0.5          | 2.9          |
| H x S                 |              |             | NS               | 0.3                   | NS           | 1.8          |
| D x H x S             |              |             | NS               | 0.7                   | NS           | 4.1          |
| <b>CV(%)</b>          |              |             |                  |                       |              |              |
|                       |              |             | 5                | 5                     | 5            | 7            |

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density, Planting Date, and Hybrid Influence on Corn Grain and Silage  
**Experiment:** 04 Planting Date x Plant Density      **Trial ID:** 2238      **Year:** 2001  
**Personnel:** J. G. Lauer, K.D. Kohn, P.J. Flannery  
**Location:** Arlington, WI      **County:** Columbia  
**Supported By:** HATCH

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### Site Information

**Field:** ARS408      **Previous Crop:** Soybean      **Soil Type:** Plano Silt Loam  
**Soil Test:**      **Date:** 11/1 /01      **pH** 6.7      **OM (%)** 2.4      **P (ppm)** 79      **K (ppm)** 184

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### Plot Management

**Tillage Operations:** Fall Chisel Plow      Soil Finisher

|                     | <u>Analysis:</u> | <u>Rate lbs/A:</u> | <u>Date:</u> |
|---------------------|------------------|--------------------|--------------|
| <b>Fertilizer:</b>  |                  |                    |              |
| <b>Preplant :</b>   | 46-0-0           | 325                | 4 /23/01     |
| <b>Starter :</b>    | 6-24-24          | 150                | Each DOP     |
| <b>Post plant :</b> | N/A              | N/A                | N/A          |
| <b>Manure:</b>      | N/A              | None               |              |

**Herbicide:** Harness 1.5 pt/A      **Insecticide:** None  
Permit 0.66 oz/A      **Hybrid:** See Factors

**Irrigation:** none

**Planting Date:** See Factors      **Planting Depth:** 1.5"      **Row Width:** 30"

**Target Plant Density:** See Factors      **Planting Method:** Kinze Plot Planter

**Harvest Date:** S: 9/18, 10/1      **Harvest Method:** S:New Holland Plot Chopper  
G: 10/25      G:Kincaid Plot Combine

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### Experimental Design

**Design:** RCB split plot      **Replications:** 3  
**Plot Size Seeded:** 22' x 20'      **Experiment Size:** 0.4 A  
**Harvest Plot Size:** S: 22' x 2.5'      **Harvest Plant Density:** Varies

**Factors/Treatments:**

| <u>Planting Dates:</u> | <u>Plant Densities: (plants/A)</u> | <u>Hybrids:</u>                |
|------------------------|------------------------------------|--------------------------------|
| May 1 and June 1       | 15000, 30000,<br>and 45000         | Pioneer 34G82<br>Pioneer 37H26 |

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**Results:** Table C-27.

**Table C-27. Plant Density, Planting Date, and Hybrid Influence on Corn Silage Yield and Quality and Corn Grain  
Arlington, WI - 2001**

| Date of planting | Target plant density | Hybrid        | Grain |          |         |         | Grower return | 50% Silk date | Seeds planted | Stand   |          | Harvest ears | Flag Leaf height |
|------------------|----------------------|---------------|-------|----------|---------|---------|---------------|---------------|---------------|---------|----------|--------------|------------------|
|                  |                      |               | Yield | Moisture | Test Wt | Lodging |               |               |               | Emerg   | Harvest  |              |                  |
|                  |                      |               | bu/A  | %        | lbs/bu  | %       | \$/A          | DOY           | seeds/A       | seeds/A | plants/A | ears/A       | inches           |
|                  |                      | Pioneer 34G82 | 199   | 26.5     | 53      | 2       | 395           | 210           | 42240         | 40684   | 29260    | 32472        | 100              |
|                  |                      | Pioneer 37H26 | 203   | 22.4     | 56      | 3       | 414           | 206           | 42240         | 40783   | 29524    | 34012        | 94               |
|                  | 15000                |               | 179   | 24.4     | 55      | 1       | 359           | 207           | 23760         | 23232   | 15444    | 25674        | 94               |
|                  | 30000                |               | 213   | 24.4     | 55      | 2       | 428           | 208           | 43560         | 42149   | 29502    | 30492        | 98               |
|                  | 45000                |               | 212   | 24.5     | 54      | 5       | 426           | 208           | 59400         | 56818   | 43230    | 43560        | 100              |
|                  | 15000                | Pioneer 34G82 | 179   | 26.3     | 52      | 0       | 355           | 210           | 23760         | 23199   | 15576    | 24156        | 96               |
|                  | 15000                | Pioneer 37H26 | 178   | 22.5     | 57      | 2       | 363           | 205           | 23760         | 23265   | 15312    | 27192        | 92               |
|                  | 30000                | Pioneer 34G82 | 212   | 26.5     | 53      | 2       | 421           | 210           | 43560         | 41943   | 29832    | 30756        | 101              |
|                  | 30000                | Pioneer 37H26 | 214   | 22.2     | 56      | 3       | 436           | 206           | 43560         | 42356   | 29172    | 30228        | 95               |
|                  | 45000                | Pioneer 34G82 | 205   | 26.6     | 53      | 5       | 409           | 210           | 59400         | 56909   | 42372    | 42504        | 103              |
|                  | 45000                | Pioneer 37H26 | 218   | 22.4     | 56      | 5       | 444           | 207           | 59400         | 56727   | 44088    | 44616        | 96               |
| May 1            |                      |               | 224   | 21.5     | 56      | 2       | 460           | 201           | 42240         | 40937   | 29392    | 33792        | 92               |
| June 1           |                      |               | 178   | 27.4     | 53      | 3       | 349           | 215           | 42240         | 40530   | 29392    | 32692        | 102              |
| May 1            |                      | Pioneer 34G82 | 235   | 21.5     | 54      | 2       | 481           | 203           | 42240         | 40821   | 29392    | 33264        | 97               |
| May 1            |                      | Pioneer 37H26 | 214   | 21.4     | 57      | 3       | 438           | 200           | 42240         | 41052   | 29392    | 34320        | 88               |
| June 1           |                      | Pioneer 34G82 | 162   | 31.4     | 52      | 3       | 309           | 217           | 42240         | 40546   | 29128    | 31680        | 104              |
| June 1           |                      | Pioneer 37H26 | 193   | 23.3     | 55      | 4       | 390           | 212           | 42240         | 40513   | 29656    | 33704        | 100              |
| May 1            | 15000                |               | 188   | 21.5     | 56      | 0       | 385           | 201           | 23760         | 23034   | 15444    | 27060        | 90               |
| May 1            | 30000                |               | 238   | 21.4     | 56      | 2       | 489           | 201           | 43560         | 42356   | 29568    | 31020        | 93               |
| May 1            | 45000                |               | 247   | 21.5     | 55      | 5       | 505           | 202           | 59400         | 57420   | 43164    | 43296        | 94               |
| June 1           | 15000                |               | 169   | 27.3     | 53      | 2       | 333           | 214           | 23760         | 23430   | 15444    | 24288        | 98               |
| June 1           | 30000                |               | 187   | 27.3     | 53      | 3       | 368           | 215           | 43560         | 41943   | 29436    | 29964        | 103              |
| June 1           | 45000                |               | 177   | 27.5     | 53      | 5       | 347           | 215           | 59400         | 56216   | 43296    | 43824        | 105              |

continued

**Table C-27. Plant Density, Planting Date, and Hybrid Influence on Corn Silage Yield and Quality and Corn Grain**  
 (continued) **Arlington, WI - 2001**

| Date of planting      | Target plant density | Hybrid        | Grain |          |         |         | Grower return | 50% Silk date | Seeds planted | Stand   |          | Harvest ears | Flag Leaf height |
|-----------------------|----------------------|---------------|-------|----------|---------|---------|---------------|---------------|---------------|---------|----------|--------------|------------------|
|                       |                      |               | Yield | Moisture | Test Wt | Lodging |               |               |               | Emerged | Harvest  |              |                  |
|                       |                      |               | bu/A  | %        | lbs/bu  | %       | \$/A          | DOY           | seeds/A       | seeds/A | plants/A | ears/A       | inches           |
| May 1                 | 15000                | Pioneer 34G82 | 203   | 21.7     | 53      | 0       | 416           | 202           | 23760         | 23067   | 15576    | 25344        | 93               |
| May 1                 | 15000                | Pioneer 37H26 | 172   | 21.3     | 58      | 0       | 353           | 199           | 23760         | 23001   | 15312    | 28776        | 87               |
| May 1                 | 30000                | Pioneer 34G82 | 248   | 21.5     | 54      | 1       | 509           | 203           | 43560         | 42273   | 30096    | 31944        | 98               |
| May 1                 | 30000                | Pioneer 37H26 | 228   | 21.3     | 57      | 3       | 468           | 200           | 43560         | 42438   | 29040    | 30096        | 88               |
| May 1                 | 45000                | Pioneer 34G82 | 253   | 21.4     | 54      | 4       | 519           | 203           | 59400         | 57123   | 42504    | 42504        | 99               |
| May 1                 | 45000                | Pioneer 37H26 | 240   | 21.6     | 56      | 5       | 492           | 200           | 59400         | 57717   | 43824    | 44088        | 90               |
| June 1                | 15000                | Pioneer 34G82 | 154   | 31.0     | 52      | 0       | 294           | 217           | 23760         | 23331   | 15576    | 22968        | 99               |
| June 1                | 15000                | Pioneer 37H26 | 184   | 23.7     | 55      | 3       | 372           | 211           | 23760         | 23529   | 15312    | 25608        | 96               |
| June 1                | 30000                | Pioneer 34G82 | 175   | 31.5     | 52      | 3       | 333           | 218           | 43560         | 41613   | 29568    | 29568        | 105              |
| June 1                | 30000                | Pioneer 37H26 | 199   | 23.1     | 55      | 3       | 403           | 212           | 43560         | 42273   | 29304    | 30360        | 102              |
| June 1                | 45000                | Pioneer 34G82 | 158   | 31.8     | 52      | 5       | 299           | 217           | 59400         | 56694   | 42240    | 42504        | 108              |
| June 1                | 45000                | Pioneer 37H26 | 195   | 23.2     | 55      | 5       | 395           | 213           | 59400         | 55737   | 44352    | 45144        | 102              |
| Mean                  |                      |               | 201   | 24.4     | 54      | 3       | 405           | 208           | 42240         | 40733   | 29392    | 33242        | 97               |
| <b>Probability(%)</b> |                      |               |       |          |         |         |               |               |               |         |          |              |                  |
| Date of Planting (D)  |                      |               | 1.3   | 0.2      | 0.6     | 30.8    | 1.0           | 0.0           | -             | 63.8    | 100      | 12.6         | 2.1              |
| Plant Density (P)     |                      |               | 0.0   | 72.0     | 71.2    | 1.6     | 0.0           | 0.1           | -             | 0.0     | 0.0      | 0.0          | 0.1              |
| D x P                 |                      |               | 0.0   | 89.5     | 50.4    | 90.6    | 0.0           | 100           | -             | 1.0     | 94.7     | 3.9          | 53.2             |
| Hybrid (H)            |                      |               | 25.5  | 0.0      | 0.0     | 34.2    | 2.5           | 0.0           | -             | 61.0    | 42.7     | 0.5          | 0.0              |
| D x H                 |                      |               | 0.0   | 0.0      | 93.3    | 83.6    | 0.0           | 0.0           | -             | 49.7    | 42.7     | 33.3         | 8.4              |
| P x H                 |                      |               | 37.6  | 38.5     | 18.9    | 89.1    | 35.6          | 23.9          | -             | 45.7    | 1.6      | 2.0          | 54.7             |
| D x P x H             |                      |               | 64.7  | 6.9      | 7.1     | 59.4    | 72.0          | 23.9          | -             | 8.0     | 85.0     | 37.4         | 80.9             |
| <b>LSD(0.10)</b>      |                      |               |       |          |         |         |               |               |               |         |          |              |                  |
| Date of Planting (D)  |                      |               | 9     | 0.5      | 0.3     | NS      | 19            | 0.2           | -             | NS      | NS       | NS           | 2                |
| Plant Density (P)     |                      |               | 8     | NS       | NS      | 2       | 17            | 0.4           | -             | 403     | 688      | 1030         | 2                |
| D x P                 |                      |               | 12    | NS       | NS      | NS      | 23            | NS            | -             | 570     | NS       | 1457         | NS               |
| Hybrid (H)            |                      |               | NS    | 0.3      | 0.4     | NS      | 14            | 0.3           | -             | NS      | NS       | 841          | 2                |
| D x H                 |                      |               | 10    | 0.4      | NS      | NS      | 23            | 0.4           | -             | NS      | NS       | NS           | 3                |
| P x H                 |                      |               | NS    | NS       | NS      | NS      | NS            | NS            | -             | NS      | 973      | 1189         | NS               |
| D x P x H             |                      |               | NS    | 0.7      | 1.0     | NS      | NS            | NS            | -             | 806     | NS       | NS           | NS               |
| <b>CV(%)</b>          |                      |               |       |          |         |         |               |               |               |         |          |              |                  |
|                       |                      |               | 6     | 2        | 1       | 119     | 6             | 0             | -             | 1       | 3        | 4            | 3                |

continued

**Table C-27. Plant Density, Planting Date, and Hybrid Influence on Corn Silage Yield and Quality and Corn Grain**  
**Arlington, WI - 2001**  
(continued)

| Date of planting | Density | Hybrid        | Whole Plant |          |             |          |         |         |       |      |                 |        |           |       |          |  |
|------------------|---------|---------------|-------------|----------|-------------|----------|---------|---------|-------|------|-----------------|--------|-----------|-------|----------|--|
|                  |         |               | Dry Matter  |          | Kernel milk |          | Harvest |         | Crude |      | <i>In Vitro</i> |        | Cell Wall |       | Milk per |  |
|                  |         |               | yield       | Moisture | stage       | plants   | ears    | protien | ADF   | NDF  | Digest          | Digest | Starch    | Ton   | Acre     |  |
|                  |         |               | tons/A      | %        | %           | plants/A | ears/A  | %       | %     | %    | %               | %      | %         | lbs/T | lbs/A    |  |
|                  |         | Pioneer 34G82 | 8.6         | 67.3     | 46.4        | 28996    | 32648   | 7.7     | 21.7  | 43.2 | 76.8            | 46.3   | 29.5      | 2930  | 25351    |  |
|                  |         | Pioneer 37H26 | 8.5         | 60.8     | 31.4        | 30184    | 33396   | 7.7     | 19.6  | 41.7 | 77.1            | 45.1   | 36.0      | 2917  | 24746    |  |
|                  | 15000   |               | 7.1         | 64.6     | 37.1        | 15246    | 23826   | 7.8     | 19.5  | 41.0 | 78.3            | 47.2   | 33.4      | 3038  | 21781    |  |
|                  | 30000   |               | 9.3         | 63.9     | 41.3        | 30492    | 31878   | 7.7     | 20.8  | 42.6 | 76.9            | 45.8   | 32.5      | 2913  | 27053    |  |
|                  | 45000   |               | 9.3         | 63.6     | 38.3        | 43032    | 43362   | 7.6     | 21.6  | 43.6 | 75.6            | 44.1   | 32.3      | 2821  | 26310    |  |
|                  | 15000   | Pioneer 34G82 | 7.5         | 67.1     | 41.7        | 15576    | 25212   | 7.6     | 20.2  | 41.3 | 78.4            | 47.7   | 31.5      | 3061  | 22939    |  |
|                  | 15000   | Pioneer 37H26 | 6.8         | 62.1     | 32.5        | 14916    | 22440   | 7.9     | 18.8  | 40.8 | 78.2            | 46.7   | 35.4      | 3015  | 20624    |  |
|                  | 30000   | Pioneer 34G82 | 9.4         | 67.7     | 48.3        | 30492    | 31416   | 7.7     | 22.1  | 44.1 | 76.4            | 46.4   | 28.1      | 2887  | 27242    |  |
|                  | 30000   | Pioneer 37H26 | 9.1         | 60.1     | 34.2        | 30492    | 32340   | 7.6     | 19.4  | 41.2 | 77.4            | 45.2   | 36.8      | 2939  | 26864    |  |
|                  | 45000   | Pioneer 34G82 | 9.1         | 67.1     | 49.2        | 40920    | 41316   | 7.6     | 22.6  | 44.1 | 75.7            | 44.9   | 28.8      | 2843  | 25871    |  |
|                  | 45000   | Pioneer 37H26 | 9.6         | 60.1     | 27.5        | 45144    | 45408   | 7.7     | 20.7  | 43.1 | 75.6            | 43.4   | 35.8      | 2798  | 26749    |  |
| May 1            |         |               | 9.1         | 63.5     | 30.8        | 30008    | 33264   | 7.7     | 19.9  | 41.5 | 77.6            | 45.9   | 33.7      | 2974  | 26926    |  |
| June 1           |         |               | 8.1         | 64.5     | 46.9        | 29172    | 32780   | 7.7     | 21.3  | 43.4 | 76.3            | 45.5   | 31.8      | 2874  | 23170    |  |
| May 1            |         | Pioneer 34G82 | 9.1         | 66.7     | 36.1        | 29744    | 33440   | 7.7     | 20.8  | 42.2 | 77.4            | 46.3   | 31.7      | 2975  | 27165    |  |
| May 1            |         | Pioneer 37H26 | 9.0         | 60.4     | 25.6        | 30272    | 33088   | 7.7     | 19.1  | 40.8 | 77.8            | 45.5   | 35.6      | 2972  | 26687    |  |
| June 1           |         | Pioneer 34G82 | 8.2         | 67.9     | 56.7        | 28248    | 31856   | 7.7     | 22.5  | 44.2 | 76.2            | 46.3   | 27.2      | 2886  | 23536    |  |
| June 1           |         | Pioneer 37H26 | 8.0         | 61.1     | 37.2        | 30096    | 33704   | 7.8     | 20.2  | 42.6 | 76.4            | 44.7   | 36.4      | 2863  | 22804    |  |
| May 1            | 15000   |               | 7.5         | 64.2     | 26.7        | 14784    | 23100   | 7.9     | 19.3  | 40.8 | 78.4            | 47.0   | 33.4      | 3042  | 22717    |  |
| May 1            | 30000   |               | 10.0        | 63.8     | 35.8        | 31152    | 32604   | 7.7     | 19.7  | 41.0 | 77.6            | 45.4   | 34.3      | 2971  | 29820    |  |
| May 1            | 45000   |               | 9.7         | 62.6     | 30.0        | 44088    | 44088   | 7.5     | 20.8  | 42.6 | 76.7            | 45.2   | 33.5      | 2908  | 28241    |  |
| June 1           | 15000   |               | 6.8         | 65.0     | 47.5        | 15708    | 24552   | 7.7     | 19.7  | 41.3 | 78.2            | 47.4   | 33.5      | 3035  | 20846    |  |
| June 1           | 30000   |               | 8.5         | 64.0     | 46.7        | 29832    | 31152   | 7.6     | 21.8  | 44.3 | 76.1            | 46.2   | 30.7      | 2855  | 24286    |  |
| June 1           | 45000   |               | 8.9         | 64.6     | 46.7        | 41976    | 42636   | 7.8     | 22.5  | 44.6 | 74.6            | 43.0   | 31.1      | 2734  | 24379    |  |

continued

**Table C-27. Plant Density, Planting Date, and Hybrid Influence on Corn Silage Yield and Quality and Corn Grain**  
 (continued) **Arlington, WI - 2001**

| Date<br>of planting   | Density | Hybrid        | Whole Plant |          |             |          |         |         |       |      |        |          |        |           |       |          |  |
|-----------------------|---------|---------------|-------------|----------|-------------|----------|---------|---------|-------|------|--------|----------|--------|-----------|-------|----------|--|
|                       |         |               | Dry Matter  |          | Kernel milk |          | Harvest |         | Crude |      |        | In Vitro |        | Cell Wall |       | Milk per |  |
|                       |         |               | yield       | Moisture | stage       | plants   | ears    | protien | ADF   | NDF  | Digest | Digest   | Starch | Ton       | Acre  |          |  |
|                       |         |               | tons/A      | %        | %           | plants/A | ears/A  | %       | %     | %    | %      | %        | %      | lbs/T     | lbs/A |          |  |
| May 1                 | 15000   | Pioneer 34G82 | 7.6         | 67.7     | 28.3        | 15312    | 25344   | 7.7     | 20.5  | 42.2 | 77.8   | 47.4     | 30.6   | 3026      | 22985 |          |  |
| May 1                 | 15000   | Pioneer 37H26 | 7.3         | 60.7     | 25.0        | 14256    | 20856   | 8.0     | 18.0  | 39.5 | 78.9   | 46.6     | 36.2   | 3058      | 22449 |          |  |
| May 1                 | 30000   | Pioneer 34G82 | 10.1        | 66.8     | 40.0        | 30360    | 31416   | 7.9     | 20.3  | 41.3 | 77.6   | 45.7     | 33.0   | 2976      | 30014 |          |  |
| May 1                 | 30000   | Pioneer 37H26 | 10.0        | 60.8     | 31.7        | 31944    | 33792   | 7.5     | 19.2  | 40.7 | 77.7   | 45.2     | 35.5   | 2966      | 29626 |          |  |
| May 1                 | 45000   | Pioneer 34G82 | 9.7         | 65.5     | 40.0        | 43560    | 43560   | 7.4     | 21.5  | 43.0 | 76.6   | 45.7     | 31.7   | 2921      | 28497 |          |  |
| May 1                 | 45000   | Pioneer 37H26 | 9.7         | 59.7     | 20.0        | 44616    | 44616   | 7.5     | 20.1  | 42.1 | 76.7   | 44.7     | 35.2   | 2894      | 27986 |          |  |
| June 1                | 15000   | Pioneer 34G82 | 7.4         | 66.5     | 55.0        | 15840    | 25080   | 7.6     | 19.9  | 40.4 | 79.0   | 47.9     | 32.5   | 3097      | 22893 |          |  |
| June 1                | 15000   | Pioneer 37H26 | 6.3         | 63.5     | 40.0        | 15576    | 24024   | 7.8     | 19.5  | 42.1 | 77.5   | 46.8     | 34.6   | 2973      | 18799 |          |  |
| June 1                | 30000   | Pioneer 34G82 | 8.7         | 68.6     | 56.7        | 30624    | 31416   | 7.6     | 24.0  | 46.9 | 75.1   | 47.0     | 23.2   | 2797      | 24469 |          |  |
| June 1                | 30000   | Pioneer 37H26 | 8.3         | 59.4     | 36.7        | 29040    | 30888   | 7.7     | 19.7  | 41.8 | 77.2   | 45.3     | 38.1   | 2913      | 24102 |          |  |
| June 1                | 45000   | Pioneer 34G82 | 8.4         | 68.7     | 58.3        | 38280    | 39072   | 7.8     | 23.7  | 45.3 | 74.7   | 44.0     | 25.9   | 2765      | 23246 |          |  |
| June 1                | 45000   | Pioneer 37H26 | 9.4         | 60.4     | 35.0        | 45672    | 46200   | 7.8     | 21.3  | 44.0 | 74.5   | 42.0     | 36.4   | 2702      | 25513 |          |  |
|                       |         |               | 8.6         | 64.0     | 38.9        | 29590    | 33022   | 7.7     | 20.6  | 42.4 | 76.9   | 45.7     | 32.7   | 2924      | 25048 |          |  |
| <b>Probability(%)</b> |         |               |             |          |             |          |         |         |       |      |        |          |        |           |       |          |  |
| Date of Planting (D)  |         |               | 11.5        | 45.8     | 1.4         | 27.5     | 83.5    | 81.9    | 22.7  | 24.2 | 31.8   | 67.4     | 41.3   | 31.4      | 9.0   |          |  |
| Plant Density (P)     |         |               | 0.0         | 50.1     | 39.3        | 0.0      | 0.0     | 47.0    | 1.6   | 6.2  | 0.4    | 0.0      | 63.9   | 0.1       | 0.2   |          |  |
| D x P                 |         |               | 44.4        | 59.1     | 28.2        | 14.7     | 49.8    | 11.9    | 46.7  | 37.9 | 37.4   | 3.5      | 35.9   | 23.9      | 43.3  |          |  |
| Hybrid (H)            |         |               | 61.9        | 0.0      | 0.0         | 7.2      | 51.9    | 53.5    | 0.1   | 9.6  | 63.6   | 1.9      | 0.0    | 74.6      | 59.9  |          |  |
| D x H                 |         |               | 95.7        | 69.5     | 9.0         | 30.4     | 34.6    | 75.8    | 55.9  | 93.4 | 79.9   | 40.1     | 2.2    | 78.9      | 91.2  |          |  |
| P x H                 |         |               | 31.1        | 29.4     | 14.7        | 0.9      | 7.1     | 24.9    | 63.7  | 51.1 | 62.3   | 88.4     | 19.0   | 51.1      | 52.2  |          |  |
| D x P x H             |         |               | 41.8        | 9.7      | 73.7        | 1.9      | 27.7    | 22.7    | 16.0  | 11.5 | 30.9   | 91.0     | 2.0    | 35.6      | 53.0  |          |  |
| <b>LSD(0.10)</b>      |         |               |             |          |             |          |         |         |       |      |        |          |        |           |       |          |  |
| Date of Planting (D)  |         |               | NS          | NS       | 3.4         | NS       | NS      | NS      | NS    | NS   | NS     | NS       | NS     | NS        | 1954  |          |  |
| Plant Density (P)     |         |               | 0.7         | NS       | NS          | 1321     | 2405    | NS      | 1.6   | 1.8  | 1.2    | 1.0      | NS     | 83        | 2393  |          |  |
| D x P                 |         |               | NS          | NS       | NS          | NS       | NS      | NS      | NS    | NS   | NS     | 1.4      | NS     | NS        | NS    |          |  |
| Hybrid (H)            |         |               | NS          | 1.2      | 4.3         | 1079     | NS      | NS      | 0.9   | 1.4  | NS     | 0.8      | 1.8    | NS        | NS    |          |  |
| D x H                 |         |               | NS          | NS       | 6.1         | NS       | NS      | NS      | NS    | NS   | NS     | NS       | 2.6    | NS        | NS    |          |  |
| P x H                 |         |               | NS          | NS       | NS          | 1868     | 3401    | NS      | NS    | NS   | NS     | NS       | NS     | NS        | NS    |          |  |
| D x P x H             |         |               | NS          | 3        | NS          | 2642     | NS      | NS      | NS    | NS   | NS     | NS       | 4.5    | NS        | NS    |          |  |
| <b>CV(%)</b>          |         |               | 11          | 3        | 19          | 6        | 10      | 4       | 8     | 6    | 2      | 3        | 10     | 4         | 14    |          |  |

## FIELD EXPERIMENT HISTORY

**Title:** Row Spacing Influence on Grain Yield  
**Experiment:** 05 Row Spacing **Trial ID:** 2240 **Year:** 2001  
**Personnel:** J. G. Lauer, K.D. Kohn, P.J. Flannery  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** ARS 372 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 9 /1 /01 **pH** 6.6 **OM (%)** 1.6 **P (ppm)** 19 **K (ppm)** 120

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Field Cultivator

|                    | <u>Analysis:</u> | <u>Rate lbs/A:</u> | <u>Date:</u> |
|--------------------|------------------|--------------------|--------------|
| <b>Fertilizer:</b> |                  |                    |              |
| Preplant :         | 46-0-0           | 325                | N/A          |
| Starter :          | N/A              | N/A                | N/A          |
| Post plant :       | N/A              | N/A                | N/A          |
| Manure:            |                  | None               |              |

**Herbicide:** Harness 1.5 pt/A **Insecticide:** None  
Permit 0.66 oz/A **Hybrid:** Pioneer 35R57

**Irrigation:** None

**Planting Date:** 5/9/01 **Planting Depth:** 1.5" **Row Width:** Varies

**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Inter-Row Planter

**Harvest Date:** 10/26 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB Factorial

**Replications:** 3

**Plot Size Seeded:** 10' x 125'

**Experiment Size:** 0.4 A

**Harvest Plot Size:** 5' x 125'

**Harvest Plant Density:** 30300 plants per acre

**Factors/Treatments:**

#### Row Spacing:

7.5 plantback w/15 planter  
7.5 plantback w/30 planter  
15 inch  
15 plantback w/30 planter

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**Results:** Table C-28.



**Table C-28. Row Spacing Influence on Grain Yield  
Arlington, WI - 2001**

| Row spacing                              | Yield<br>bu/A | Moisture<br>% | Test weight<br>lbs/bu | Grower return<br>\$/A | Population<br>plants/A | Lodging<br>% |
|--|---------------|---------------|-----------------------|-----------------------|------------------------|--------------|
| 7.5 inch plantback using 15 inch planter | 210           | 22.5          | 53                    | 427                   | 29333                  | 2.1          |
| 7.5 inch plantback using 30 inch planter | 210           | 22.6          | 52                    | 426                   | 30667                  | 4.4          |
| 15 inch                                  | 222           | 22.7          | 53                    | 450                   | 30000                  | 0.0          |
| 15 inch plantback using 30 inch planter  | 216           | 22.7          | 52                    | 440                   | 28667                  | 2.2          |
| 30 inch                                  | 214           | 21.9          | 53                    | 437                   | 32667                  | 0.0          |
| Mean                                     | 214           | 22.5          | 53                    | 436                   | 30267                  | 1.8          |
| <b><u>Probability(%)</u></b>             |               |               |                       |                       |                        |              |
| Row Space (R)                            | 14.4          | 20.5          | 6.8                   | 19.5                  | 77.3                   | 66.0         |
| <b><u>LSD(0.10)</u></b>                  |               |               |                       |                       |                        |              |
| Row Space (R)                            | NS            | NS            | 0.4                   | NS                    | NS                     | NS           |
| <b><u>CV(%)</u></b>                      |               |               |                       |                       |                        |              |
|  | 3             | 2             | 1                     | 3                     | 13                     | 232          |

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Row Spacing Effects on Corn Grain and Silage  
**Experiment:** 06 Row Spacing x Plant Density **Trial ID:** 2241 **Year:** 2001  
**Personnel:** J. G. Lauer, P.J. Flannery and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** ARS 372 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 11/1 /01 **pH** 6.5 **OM (%)** 3.0 **P (ppm)** 23 **K (ppm)** 131

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Field Cultivator

|                    | <u>Analysis:</u> | <u>Rate lbs/A:</u> | <u>Date:</u> |
|--------------------|------------------|--------------------|--------------|
| <b>Fertilizer:</b> |                  |                    |              |
| Preplant :         | 46-0-0           | 325                | N/A          |
| Starter :          | N/A              | N/A                | N/A          |
| Post plant :       | N/A              | N/A                | N/A          |
| Manure:            | None             | None               |              |

**Herbicide:** Harness 1.5 pt/A  
Permit 0.66 oz/A **Insecticide:** None  
**Hybrid:** Pioneer 35R57

**Irrigation:** None

**Planting Date:** 5/6/01 **Planting Depth:** 1.5" **Row Width:** See Factor  
**Target Plant Density:** See Factors **Planting Method:** Kinze Inter-Row Planter  
**Harvest Date:** S: 9/25/01 **Harvest Method:** S:New Holland Plot Chopper  
G: 10/26/01 G:Kincaid Plot Combine

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### Experimental Design

**Design:** RCB Factorial **Replications:** 3  
**Plot Size Seeded:** 20' x 125' **Experiment Size:** 0.7 A  
**Harvest Plot Size:** S: 5' x 8.75' **Harvest Plant Density:** Varies  
G: 5' x 116.25'

### **Factors/Treatments:**

#### Row Spacing:

15 inch  
30 inch

#### Plant Density: (plants/A)

25000, 30000, 35000  
and 40000

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**Results:** Table C-29.

**Table C-29. Plant Density and Row Spacing Effects on Corn Grain and Silage Yield and Quality  
Arlington, WI - 2001**

| Row spacing<br>inches | Grain               |                            |                       |               |               |                          |                          |                                   |                              |                           |
|-----------------------|---------------------|----------------------------|-----------------------|---------------|---------------|--------------------------|--------------------------|-----------------------------------|------------------------------|---------------------------|
|                       | Density<br>plants/A | Harvest<br>pop<br>plants/A | Broken<br>stalks<br>% | Yield<br>bu/A | Moisture<br>% | Test<br>weight<br>lbs/bu | Grower<br>return<br>\$/A | Yield Components @ 15.5% moisture |                              |                           |
|                       |                     |                            |                       |               |               |                          |                          | Ear<br>number<br>ears/A           | Kernels<br>number<br>no./ear | 100<br>Kernel wt<br>grams |
|                       | 25000               | 28000                      | 3                     | 219           | 22.2          | 51.8                     | 443                      | 28000                             | 615                          | 32.8                      |
|                       | 30000               | 30333                      | 1                     | 216           | 22.2          | 51.6                     | 436                      | 30333                             | 575                          | 31.8                      |
|                       | 35000               | 35833                      | 2                     | 218           | 21.8          | 51.5                     | 440                      | 35833                             | 511                          | 30.4                      |
|                       | 40000               | 38833                      | 5                     | 202           | 22.0          | 50.9                     | 408                      | 38833                             | 466                          | 28.9                      |
| 15 inches             |                     | 31167                      | 4                     | 213           | 22.1          | 51.5                     | 431                      | 31167                             | 568                          | 31.4                      |
| 30 inches             |                     | 35333                      | 2                     | 215           | 22.0          | 51.4                     | 433                      | 35333                             | 515                          | 30.5                      |
| 15 inches             | 25000               | 25333                      | 4                     | 217           | 22.3          | 51.9                     | 438                      | 25333                             | 664                          | 32.9                      |
| 15 inches             | 30000               | 27333                      | 2                     | 211           | 22.3          | 51.6                     | 425                      | 27333                             | 593                          | 33.1                      |
| 15 inches             | 35000               | 34333                      | 3                     | 219           | 21.8          | 51.7                     | 442                      | 34333                             | 521                          | 31.1                      |
| 15 inches             | 40000               | 37667                      | 6                     | 206           | 21.9          | 50.8                     | 417                      | 37667                             | 495                          | 28.7                      |
| 30 inches             | 25000               | 30667                      | 3                     | 222           | 22.0          | 51.7                     | 448                      | 30667                             | 566                          | 32.7                      |
| 30 inches             | 30000               | 33333                      | 0                     | 222           | 22.1          | 51.6                     | 448                      | 33333                             | 557                          | 30.4                      |
| 30 inches             | 35000               | 37333                      | 2                     | 217           | 21.8          | 51.3                     | 439                      | 37333                             | 500                          | 29.6                      |
| 30 inches             | 40000               | 40000                      | 4                     | 198           | 22.0          | 51.0                     | 399                      | 40000                             | 437                          | 29.1                      |
| Mean                  |                     | 33250                      | 3                     | 214           | 22.0          | 51.4                     | 432                      | 33250                             | 542                          | 30.9                      |
| <b>Probability(%)</b> |                     |                            |                       |               |               |                          |                          |                                   |                              |                           |
| Row Space (S)         |                     | 10.2                       | 61.1                  | 78.4          | 52.9          | 67.7                     | 77.2                     | 10.2                              | 9.6                          | 5.3                       |
| Plant Density (D)     |                     | 0.0                        | 41.9                  | 1.6           | 20.0          | 15.2                     | 1.9                      | 0.0                               | 0.1                          | 0.0                       |
| S x D                 |                     | 73.8                       | 97.2                  | 28.7          | 54.6          | 88.5                     | 27.9                     | 73.8                              | 58.4                         | 13.2                      |
| <b>LSD(0.10)</b>      |                     |                            |                       |               |               |                          |                          |                                   |                              |                           |
| Row Space (S)         |                     | NS                         | NS                    | NS            | NS            | NS                       | NS                       | NS                                | 32                           | 0.4                       |
| Plant Density (D)     |                     | 3424                       | NS                    | 9             | NS            | NS                       | 18                       | 3424                              | 51                           | 1.2                       |
| S x D                 |                     | NS                         | NS                    | NS            | NS            | NS                       | NS                       | NS                                | NS                           | NS                        |
| <b>CV(%)</b>          |                     |                            |                       |               |               |                          |                          |                                   |                              |                           |
|                       |                     | 10                         | 128                   | 4             | 1             | 1                        | 4                        | 10                                | 9                            | 4                         |

continued

**Table C-29. Plant Density and Row Spacing Effects on Corn Grain and Silage Yield and Quality**  
(continued) **Arlington, WI - 2001**

| Row spacing<br>inches | Density<br>plants/A | Whole Plant                |                           |                 |               |                     |                       |          |          |                         |                          |             | Milk per     |               |
|-----------------------|---------------------|----------------------------|---------------------------|-----------------|---------------|---------------------|-----------------------|----------|----------|-------------------------|--------------------------|-------------|--------------|---------------|
|                       |                     | Harvest<br>pop<br>plants/A | Harvest<br>ears<br>ears/A | Yield<br>tons/A | Moisture<br>% | Kernel<br>milk<br>% | Crude<br>protien<br>% | ADF<br>% | NDF<br>% | In Vitro<br>Digest<br>% | Cell Wall<br>Digest<br>% | Starch<br>% | Ton<br>lbs/T | Acre<br>lbs/A |
|                       | 25000               | 24333                      | 24333                     | 7.2             | 61.5          | 39                  | 6.4                   | 21.2     | 43.6     | 75.3                    | 43.5                     | 36.3        | 2805         | 20382         |
|                       | 30000               | 29667                      | 29667                     | 8.3             | 57.4          | 38                  | 6.2                   | 18.5     | 39.4     | 77.8                    | 43.6                     | 42.8        | 2937         | 24542         |
|                       | 35000               | 34833                      | 34833                     | 8.3             | 56.6          | 38                  | 6.0                   | 20.3     | 42.0     | 76.0                    | 42.9                     | 41.1        | 2821         | 23428         |
|                       | 40000               | 37500                      | 37500                     | 7.7             | 58.7          | 36                  | 5.8                   | 22.3     | 45.0     | 74.3                    | 43.0                     | 38.2        | 2720         | 21125         |
| 15 inches             |                     | 30250                      | 30250                     | 8.0             | 58.9          | 39                  | 6.0                   | 20.7     | 42.7     | 75.6                    | 42.9                     | 39.8        | 2801         | 22452         |
| 30 inches             |                     | 32917                      | 32917                     | 7.8             | 58.2          | 37                  | 6.2                   | 20.4     | 42.3     | 76.1                    | 43.5                     | 39.4        | 2840         | 22287         |
| 15 inches             | 25000               | 24000                      | 24000                     | 7.3             | 64.4          | 43                  | 6.3                   | 23.3     | 46.7     | 73.3                    | 43.0                     | 32.5        | 2680         | 19732         |
| 15 inches             | 30000               | 27667                      | 27667                     | 7.9             | 57.2          | 35                  | 6.1                   | 18.2     | 38.5     | 77.9                    | 42.7                     | 44.4        | 2928         | 23278         |
| 15 inches             | 35000               | 35667                      | 35667                     | 8.7             | 55.7          | 37                  | 6.0                   | 19.3     | 40.5     | 76.7                    | 42.5                     | 44.0        | 2846         | 24753         |
| 15 inches             | 40000               | 33667                      | 33667                     | 7.9             | 58.1          | 40                  | 5.7                   | 22.1     | 44.8     | 74.7                    | 43.6                     | 38.3        | 2751         | 22045         |
| 30 inches             | 25000               | 24667                      | 24667                     | 7.2             | 58.6          | 35                  | 6.5                   | 19.1     | 40.4     | 77.4                    | 44.0                     | 40.1        | 2930         | 21033         |
| 30 inches             | 30000               | 31667                      | 31667                     | 8.7             | 57.6          | 42                  | 6.4                   | 18.8     | 40.3     | 77.6                    | 44.5                     | 41.2        | 2945         | 25806         |
| 30 inches             | 35000               | 34000                      | 34000                     | 7.9             | 57.5          | 38                  | 6.0                   | 21.2     | 43.5     | 75.4                    | 43.3                     | 38.2        | 2796         | 22103         |
| 30 inches             | 40000               | 41333                      | 41333                     | 7.5             | 59.3          | 32                  | 5.9                   | 22.6     | 45.2     | 73.9                    | 42.4                     | 38.1        | 2688         | 20205         |
| Mean                  |                     | 31583                      | 31583                     | 7.9             | 58.6          | 38                  | 6.1                   | 20.6     | 42.5     | 75.9                    | 43.2                     | 39.6        | 2821         | 22369         |
| <b>Probability(%)</b> |                     |                            |                           |                 |               |                     |                       |          |          |                         |                          |             |              |               |
| Row Space (S)         |                     | 27.5                       | 27.5                      | 80.6            | 76.2          | 61.8                | 30.5                  | 79.9     | 86.1     | 74.9                    | 58.0                     | 84.6        | 68.1         | 93.9          |
| Plant Density (D)     |                     | 0.0                        | 0.0                       | 2.1             | 0.2           | 92.7                | 6.9                   | 10.1     | 11.4     | 17.4                    | 90.8                     | 4.4         | 23.7         | 7.4           |
| S x D                 |                     | 20.6                       | 20.6                      | 15.9            | 1.2           | 40.7                | 92.3                  | 20.6     | 19.4     | 28.2                    | 57.8                     | 4.5         | 39.7         | 35.0          |
| <b>LSD(0.10)</b>      |                     |                            |                           |                 |               |                     |                       |          |          |                         |                          |             |              |               |
| Row Space (S)         |                     | NS                         | NS                        | NS              | NS            | NS                  | NS                    | NS       | NS       | NS                      | NS                       | NS          | NS           | NS            |
| Plant Density (D)     |                     | 3848                       | 3848                      | 0.6             | 1.9           | NS                  | 0.4                   | NS       | NS       | NS                      | NS                       | 3.8         | NS           | 2841          |
| S x D                 |                     | NS                         | NS                        | NS              | 2.6           | NS                  | NS                    | NS       | NS       | NS                      | NS                       | 5.4         | NS           | NS            |
| <b>CV(%)</b>          |                     |                            |                           |                 |               |                     |                       |          |          |                         |                          |             |              |               |
|                       |                     | 12                         | 12                        | 7               | 3             | 24                  | 6                     | 12       | 9        | 3                       | 5                        | 9           | 6            | 12            |

## FIELD EXPERIMENT HISTORY

**Title:** Date of Planting and Row Spacing Influence on Grain Yield  
**Experiment:** 07 Date of Planting and Row Space **Trial ID:** 2242 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** ARS 372 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 11/1 /01 **pH** 6.1 **OM (%)** 2.2 **P (ppm)** 31 **K (ppm)** 139

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Field Cultivator prior to each DOP

|                    | <u>Analysis:</u> | <u>Rate lbs/A:</u> | <u>Date:</u> |
|--------------------|------------------|--------------------|--------------|
| <b>Fertilizer:</b> |                  |                    |              |
| Preplant :         | 46-0-0           | 325                | N/A          |
| Starter :          | N/A              | N/A                | N/A          |
| Post plant :       | N/A              | N/A                | N/A          |
| Manure:            | None             | None               |              |

**Herbicide:** Harness 1.5 pt/A **Insecticide:** None  
Permit 0.66 oz/A **Hybrid:** See Factors

**Irrigation:** None

**Planting Date:** See Factors **Planting Depth:** 1.5" **Row Width:** See Factor  
**Target Plant Density:** See Factors **Planting Method:** Kinze Inter-Row Planter  
**Harvest Date:** 10/26/01 and 10/31/01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB Split-Plot **Replications:** 4  
**Plot Size Seeded:** 20' x 125' **Experiment Size:** 0.7 A  
**Harvest Plot Size:** 5' x 125' **Harvest Plant Density:** Varies

### Factors/Treatments:

| <u>Date of Planting:</u> | <u>Row Spacing:</u> | <u>Hybrid:</u>                 |
|--------------------------|---------------------|--------------------------------|
| 5/9/01 and 6/11/01       | 15 inch<br>30 inch  | Pioneer 35R57<br>Pioneer 37J99 |

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**Results:** Table C-30.

**Table C-30. Date of Planting and Row Spacing Influence on Grain Yield  
Arlington, WI - 2001**

| Planting date         | Row spacing | Hybrid        | Yield Components @ 15.5% moisture |          |          |               |        |           |              |            |                |                |
|-----------------------|-------------|---------------|-----------------------------------|----------|----------|---------------|--------|-----------|--------------|------------|----------------|----------------|
|                       |             |               | Yield                             | Moisture | Test wt. | Grower return | Lodged | Silk date | Plant number | Ear number | 100 Kernel wt. | Kernel no./ear |
|                       |             |               | bu/A                              | %        | lbs/bu   | \$/A          | %      | doy       | plants/A     | ears/A     | grams          | kernels/ear    |
|                       |             | Pioneer 35R57 | 200                               | 29.5     | 47       | 390           | 0.5    | 217       | 31833        | 31833      | 29.8           | 535            |
|                       |             | Pioneer 37J99 | 204                               | 24.8     | 49       | 409           | 3.0    | 212       | 29833        | 29833      | 30.5           | 574            |
|                       | 15 inches   |               | 199                               | 27.1     | 48       | 393           | 2.7    | 215       | 29667        | 29667      | 30.2           | 566            |
|                       | 30 inches   |               | 205                               | 27.1     | 48       | 406           | 0.8    | 215       | 32000        | 32000      | 30.1           | 543            |
|                       | 15 inches   | Pioneer 35R57 | 199                               | 29.6     | 48       | 388           | 0.5    | 217       | 31000        | 31000      | 30.1           | 540            |
|                       | 15 inches   | Pioneer 37J99 | 198                               | 24.5     | 49       | 398           | 4.9    | 212       | 28333        | 28333      | 30.2           | 592            |
|                       | 30 inches   | Pioneer 35R57 | 202                               | 29.3     | 47       | 392           | 0.5    | 217       | 32667        | 32667      | 29.6           | 531            |
|                       | 30 inches   | Pioneer 37J99 | 209                               | 25.0     | 49       | 420           | 1.1    | 213       | 31333        | 31333      | 30.7           | 555            |
| May 9                 |             |               | 232                               | 22.1     | 51       | 472           | 2.9    | 209       | 30333        | 30333      | 32.1           | 608            |
| June 11               |             |               | 173                               | 32.1     | 45       | 327           | 0.6    | 221       | 31333        | 31333      | 28.2           | 502            |
| May 9                 |             | Pioneer 35R57 | 237                               | 23.6     | 50       | 479           | 1.0    | 211       | 31500        | 31500      | 31.6           | 609            |
| May 9                 |             | Pioneer 37J99 | 226                               | 20.5     | 51       | 466           | 4.9    | 206       | 29167        | 29167      | 32.6           | 606            |
| June 11               |             | Pioneer 35R57 | 164                               | 35.3     | 44       | 302           | 0.0    | 223       | 32167        | 32167      | 28.1           | 462            |
| June 11               |             | Pioneer 37J99 | 182                               | 29.0     | 46       | 352           | 1.1    | 219       | 30500        | 30500      | 28.3           | 541            |
| May 9                 | 15 inches   |               | 225                               | 22.0     | 51       | 459           | 4.3    | 209       | 29000        | 29000      | 32.2           | 614            |
| May 9                 | 30 inches   |               | 238                               | 22.1     | 51       | 485           | 1.6    | 209       | 31667        | 31667      | 32.0           | 601            |
| June 11               | 15 inches   |               | 172                               | 32.1     | 45       | 327           | 1.1    | 221       | 30333        | 30333      | 28.2           | 518            |
| June 11               | 30 inches   |               | 173                               | 32.2     | 45       | 327           | 0.0    | 220       | 32333        | 32333      | 28.3           | 485            |
| May 9                 | 15 inches   | Pioneer 35R57 | 238                               | 23.5     | 51       | 480           | 1.1    | 211       | 31000        | 31000      | 32.0           | 609            |
| May 9                 | 15 inches   | Pioneer 37J99 | 213                               | 20.6     | 51       | 439           | 7.5    | 206       | 27000        | 27000      | 32.4           | 619            |
| May 9                 | 30 inches   | Pioneer 35R57 | 237                               | 23.8     | 50       | 478           | 1.0    | 211       | 32000        | 32000      | 31.2           | 608            |
| May 9                 | 30 inches   | Pioneer 37J99 | 239                               | 20.4     | 51       | 493           | 2.2    | 207       | 31333        | 31333      | 32.8           | 594            |
| June 11               | 15 inches   | Pioneer 35R57 | 161                               | 35.8     | 45       | 297           | 0.0    | 223       | 31000        | 31000      | 28.3           | 470            |
| June 11               | 15 inches   | Pioneer 37J99 | 183                               | 28.4     | 46       | 357           | 2.3    | 219       | 29667        | 29667      | 28.0           | 565            |
| June 11               | 30 inches   | Pioneer 35R57 | 166                               | 34.8     | 44       | 307           | 0.0    | 222       | 33333        | 33333      | 27.9           | 454            |
| June 11               | 30 inches   | Pioneer 37J99 | 180                               | 29.6     | 46       | 347           | 0.0    | 218       | 31333        | 31333      | 28.6           | 517            |
| Mean                  |             |               | 202                               | 27.1     | 48       | 400           | 1.8    | 215       | 30833        | 30833      | 30.2           | 555            |
| <b>Probability(%)</b> |             |               |                                   |          |          |               |        |           |              |            |                |                |
| Planting Date (D)     |             |               | 2.0                               | 0.9      | 0.1      | 1.5           | 20.9   | 0.1       | 50.3         | 50.3       | 0.2            | 0.6            |
| Row Spacing (S)       |             |               | 11.5                              | 88.1     | 51.4     | 13.1          | 13.4   | 76.5      | 6.5          | 6.5        | 95.1           | 30.5           |
| D x S                 |             |               | 15.6                              | 97.0     | 81.5     | 15.1          | 52.5   | 15.2      | 77.7         | 77.7       | 81.0           | 66.4           |
| Hybrid (H)            |             |               | 41.5                              | 0.0      | 0.1      | 4.0           | 5.9    | 0.0       | 10.8         | 10.8       | 31.2           | 9.9            |
| D x H                 |             |               | 0.3                               | 0.4      | 9.4      | 0.3           | 27.7   | 37.6      | 77.7         | 77.7       | 55.3           | 8.2            |
| S x H                 |             |               | 26.0                              | 37.6     | 21.0     | 28.8          | 14.3   | 37.6      | 57.3         | 57.3       | 37.8           | 52.1           |
| D x S x H             |             |               | 5.2                               | 14.2     | 83.2     | 3.9           | 55.0   | 76.5      | 40.2         | 40.2       | 93.1           | 92.9           |
| <b>LSD (0.10)</b>     |             |               |                                   |          |          |               |        |           |              |            |                |                |
| Planting Date (D)     |             |               | 15                                | 1.7      | 0        | 32            | NS     | 1         | NS           | NS         | 0.3            | 14             |
| Row Spacing (S)       |             |               | NS                                | NS       | NS       | NS            | NS     | NS        | 2051         | 2051       | NS             | NS             |
| D x S                 |             |               | NS                                | NS       | NS       | NS            | NS     | NS        | NS           | NS         | NS             | NS             |
| Hybrid (H)            |             |               | NS                                | 0.8      | 1        | 15            | 2.1    | 0         | NS           | NS         | NS             | 38             |
| D x H                 |             |               | 10                                | 1.1      | 1        | 21            | NS     | NS        | NS           | NS         | NS             | 54             |
| S x H                 |             |               | NS                                | NS       | NS       | NS            | NS     | NS        | NS           | NS         | NS             | NS             |
| D x S x H             |             |               | 14                                | NS       | NS       | 29            | NS     | NS        | NS           | NS         | NS             | NS             |
| <b>CV(%)</b>          |             |               |                                   |          |          |               |        |           |              |            |                |                |
|                       |             |               | 5                                 | 4        | 1        | 5             | 166    | 0         | 9            | 9          | 5              | 9              |

## FIELD EXPERIMENT HISTORY

**Title:** Corn Seed Decay and Seedling Blight in Reduced Tillage Systems  
**Experiment:** 08 Seed Fungicide **Trial ID:** 2243 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Gustufson

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### Site Information

**Field:** 408 **Previous Crop:** Soybean **Soil Type:** Plano Sit Loam  
**Soil Test:** **Date:** 11/19/01 **pH** 6.6 **OM (%)** 3.0 **P (ppm)** 81 **K (ppm)** 187

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher Cultivated

**Fertilizer:**

|                   | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|-------------------|-----------------|-------------|-------------|
| <b>Preplant</b>   | 46-0-0          | 325         | 4 /26/01    |
| <b>Starter</b>    | 6-24-24         | 150         | 4 /28/01    |
| <b>Post plant</b> | N/A             | N/A         | N/A         |
| <b>Manure:</b>    | None            | N/A         |             |

**Herbicide:** Harness 2.5 oz/A  
Permit 0.66 oz/A **Insecticide:**

**Irrigation:** None **Hybrid:** See Factors

**Planting Date:** 4/28/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 10/5/01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23' x10' **Experiment Size:** 0.17 A  
**Harvest Plot Size:** 23' x 5' **Harvest Plant Density:** 32000 plants per acre

### Factors/Treatments:

#### Seed Treatments:

Control;  
Maxim XL @ 0.167 fl oz/cwt;  
Captan 400C @ 1.76 fl oz/cwt+CTS @ 1.0 oz/cwt;  
LS274 @ 0.25 oz wt/cwt;  
Maxim XL @ 0.167 fl oz/cwt+Gaucho @ 0.16 oz/cwt+CTS @ 1.0 oz/cwt;

#### Hybrids:

Pioneer 38P05  
Pioneer 39F06

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**Results: TableC-31.**

**Table C-31. Corn Seed Decay and Seedling Blight in Difficult Emergence Environr  
Arlington, WI - 2001**

| Hybrid                 | Seed treatment | Population at V6<br>plants/A | Harvest population<br>plants/A | Lodging % | Grain yield<br>bu/A | Grain moisture % | Test weight<br>lb/bu | Grower return<br>\$/A |
|------------------------|----------------|------------------------------|--------------------------------|-----------|---------------------|------------------|----------------------|-----------------------|
|                        | Captan400C+CTC | 31250                        | 32197                          | 1         | 190                 | 20.2             | 59                   | 392                   |
|                        | LS274          | 32070                        | 32007                          | 0         | 195                 | 20.1             | 58                   | 403                   |
|                        | MaximXL        | 31755                        | 31565                          | 1         | 191                 | 20.3             | 58                   | 395                   |
|                        | MaximXL+Gaucho | 32070                        | 32260                          | 2         | 197                 | 20.3             | 58                   | 407                   |
|                        | Control        | 31565                        | 31628                          | 0         | 199                 | 20.1             | 59                   | 412                   |
| Pioneer 38P05          |                | 31616                        | 31893                          | 1         | 209                 | 20.7             | 58                   | 431                   |
| Pioneer 39F06          |                | 31868                        | 31969                          | 0         | 178                 | 19.6             | 59                   | 370                   |
| Pioneer 38P05          | Captan400C+CTC | 31060                        | 32575                          | 1         | 202                 | 20.7             | 58                   | 416                   |
| Pioneer 38P05          | LS274          | 32197                        | 31565                          | 0         | 210                 | 20.6             | 58                   | 433                   |
| Pioneer 38P05          | MaximXL        | 31818                        | 31313                          | 2         | 202                 | 20.9             | 58                   | 415                   |
| Pioneer 38P05          | MaximXL+Gaucho | 31944                        | 32449                          | 2         | 208                 | 20.7             | 58                   | 429                   |
| Pioneer 38P05          | Control        | 31060                        | 31565                          | 1         | 224                 | 20.7             | 58                   | 462                   |
| Pioneer 39F06          | Captan400C+CTC | 31439                        | 31818                          | 1         | 177                 | 19.7             | 59                   | 368                   |
| Pioneer 39F06          | LS274          | 31944                        | 32449                          | 0         | 180                 | 19.6             | 59                   | 373                   |
| Pioneer 39F06          | MaximXL        | 31691                        | 31818                          | 0         | 180                 | 19.7             | 59                   | 374                   |
| Pioneer 39F06          | MaximXL+Gaucho | 32197                        | 32070                          | 1         | 180                 | 19.6             | 59                   | 374                   |
| Pioneer 39F06          | Control        | 32070                        | 31691                          | 0         | 174                 | 19.5             | 59                   | 363                   |
| Mean                   |                | 31742                        | 31931                          | 1         | 194                 | 20.2             | 58                   | 402                   |
| <b>Probability (%)</b> |                |                              |                                |           |                     |                  |                      |                       |
| Hybrid (H)             |                | 42.6                         | 83.6                           | 10.6      | 0.0                 | 0.0              | 0.0                  | 0.0                   |
| Seed treatment (S)     |                | 42.0                         | 64.7                           | 12.4      | 19.6                | 67.9             | 96.6                 | 19.2                  |
| S x H                  |                | 72.6                         | 62.2                           | 40.7      | 2.6                 | 86.8             | 48.0                 | 2.8                   |
| <b>LSD (0.10)</b>      |                |                              |                                |           |                     |                  |                      |                       |
| Hybrid (H)             |                | NS                           | NS                             | NS        | 5                   | 0.2              | 1                    | 9                     |
| Seed treatment (S)     |                | NS                           | NS                             | NS        | NS                  | NS               | NS                   | NS                    |
| S x H                  |                | NS                           | NS                             | NS        | 10                  | NS               | NS                   | 21                    |
| <b>CV (%)</b>          |                |                              |                                |           |                     |                  |                      |                       |
|                        |                | 3                            | 3                              | 137       | 4                   | 1                | 1                    | 4                     |



## FIELD EXPERIMENT HISTORY

**Title:** Corn Seed Decay and Seedling Blight in Reduced Tillage Systems  
**Experiment:** 08 Seed Fungicide **Trial ID:** 2244 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Marshfield, WI **County:** Wood  
**Supported By:** Gustufson

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Loyal Silt Loam  
**Soil Test:** **Date:** 11/1 /01 **pH** 7.2 **OM (%)** 3.0 **P (ppm)** 48 **K (ppm)** 147

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### Plot Management

**Tillage Operations:** Moldboard Plow Field Cultivator Cultivated

| <b>Fertilizer:</b> |                   | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|--------------------|-------------------|-----------------|-------------|-------------|
|                    | <b>Preplant</b>   | N/A             | N/A         | N/A         |
|                    | <b>Starter</b>    | 6-24-24         | 150         | 5 /18/01    |
|                    | <b>Post plant</b> | 34-0-0          | 350         | N/A         |
|                    | <b>Manure:</b>    | None            | N/A         |             |

**Herbicide:** Harness 1.0 qt/A Insecticide: None  
Hornet 2.4 oz/A

**Irrigation:** None **Hybrid:** See Factors

**Planting Date:** 5/18/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 11/5/01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23' x10' **Experiment Size:** 0.17 A  
**Harvest Plot Size:** 23' x 5' **Harvest Plant Density:** 25000 plants per acre

#### **Factors/Treatments:**

##### Seed Treatments:

Control;  
Maxim XL @ 0.167 fl oz/cwt;  
Captan 400C @ 1.76 fl oz/cwt+CTS @ 1.0 oz/cwt;  
LS274 @ 0.25 oz wt/cwt;  
Maxim XL @ 0.167 fl oz/cwt+Gaucho @ 0.16 oz/cwt+CTS @ 1.0 oz/cwt;

##### Hybrids:

Pioneer 38P05  
Pioneer 39F06

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**Results: TableC-32.**

**Table C-32. Corn Seed Decay and Seedling Blight in Difficult Emergence Environr  
Marshfield, WI - 2001**

| Hybrid                 | Seed treatment | Population at V6<br>plants/A | Harvest population<br>plants/A | Lodging % | Grain yield<br>bu/A | Grain moisture % | Test weight<br>lb/bu | Grower return<br>\$/A |
|------------------------|----------------|------------------------------|--------------------------------|-----------|---------------------|------------------|----------------------|-----------------------|
|                        | Captan400C+CTC | 27841                        | 26136                          | 4         | 151                 | 22.9             | 53                   | 306                   |
|                        | LS274          | 26894                        | 26010                          | 5         | 147                 | 22.5             | 53                   | 298                   |
|                        | MaximXL        | 25000                        | 24810                          | 3         | 142                 | 22.5             | 53                   | 289                   |
|                        | MaximXL+Gaucho | 30176                        | 29293                          | 6         | 161                 | 23.0             | 53                   | 326                   |
|                        | Control        | 18560                        | 18245                          | 2         | 116                 | 22.7             | 52                   | 235                   |
| Pioneer 38P05          |                | 25757                        | 24747                          | 6         | 151                 | 23.9             | 52                   | 305                   |
| Pioneer 39F06          |                | 25631                        | 25050                          | 2         | 135                 | 21.5             | 54                   | 276                   |
| Pioneer 38P05          | Captan400C+CTC | 27146                        | 24873                          | 6         | 159                 | 23.9             | 52                   | 321                   |
| Pioneer 38P05          | LS274          | 26389                        | 25378                          | 8         | 151                 | 23.7             | 52                   | 304                   |
| Pioneer 38P05          | MaximXL        | 25631                        | 25378                          | 4         | 150                 | 23.6             | 52                   | 302                   |
| Pioneer 38P05          | MaximXL+Gaucho | 29924                        | 29166                          | 8         | 170                 | 24.2             | 53                   | 341                   |
| Pioneer 38P05          | Control        | 19697                        | 18939                          | 3         | 128                 | 24.1             | 51                   | 258                   |
| Pioneer 39F06          | Captan400C+CTC | 28535                        | 27399                          | 2         | 143                 | 21.8             | 54                   | 292                   |
| Pioneer 39F06          | LS274          | 27399                        | 26641                          | 2         | 143                 | 21.4             | 54                   | 292                   |
| Pioneer 39F06          | MaximXL        | 24368                        | 24242                          | 2         | 135                 | 21.3             | 53                   | 276                   |
| Pioneer 39F06          | MaximXL+Gaucho | 30429                        | 29419                          | 4         | 152                 | 21.7             | 53                   | 310                   |
| Pioneer 39F06          | Control        | 17424                        | 17550                          | 1         | 103                 | 21.3             | 53                   | 211                   |
| Mean                   |                | 25694                        | 24899                          | 4         | 143                 | 22.7             | 53                   | 291                   |
| <b>Probability (%)</b> |                |                              |                                |           |                     |                  |                      |                       |
| Hybrid (H)             |                | 91.9                         | 80.1                           | 0.7       | 0.8                 | 0.0              | 0.0                  | 2.2                   |
| Seed treatment (S)     |                | 0.0                          | 0.0                            | 13.5      | 0.1                 | 34.6             | 25.6                 | 0.1                   |
| S x H                  |                | 85.8                         | 81.7                           | 72.2      | 90.3                | 71.7             | 26.9                 | 90.3                  |
| <b>LSD (0.10)</b>      |                |                              |                                |           |                     |                  |                      |                       |
| Hybrid (H)             |                | NS                           | NS                             | 2         | 12                  | 0.3              | 1                    | 20                    |
| Seed treatment (S)     |                | 3383                         | 3249                           | NS        | 15                  | NS               | NS                   | 31                    |
| S x H                  |                | NS                           | NS                             | NS        | NS                  | NS               | NS                   | NS                    |
| <b>CV (%)</b>          |                |                              |                                |           |                     |                  |                      |                       |
|                        |                | 13                           | 13                             | 78        | 11                  | 2                | 1                    | 11                    |

## FIELD EXPERIMENT HISTORY

**Title:** Corn Seed Decay and Seedling Blight in Reduced Tillage Systems  
**Experiment:** 08 Seed Fungicide **Trial ID:** 2245 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Seymour, WI **County:** Outagamie  
**Supported By:** Gustufson

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### Site Information

**Field:** **Previous Crop:** Corn **Soil Type:** Clay Loam  
**Soil Test:** **Date:** N/A **pH** 7.1 **OM (%)** 3.7 **P (ppm)** 42 **K (ppm)** 210

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher Cultivated

**Fertilizer:**

|                   | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|-------------------|-----------------|-------------|-------------|
| <b>Preplant</b>   | N/A             | N/A         | N/A         |
| <b>Starter</b>    | 6-24-24         | 150         | 5 /15/01    |
| <b>Post plant</b> | N/A             | N/A         | N/A         |
| <b>Manure:</b>    | Manure          | 9000gal/A   |             |

**Herbicide:** Accent 0.33 oz/A Northstar 4.0 oz/A **Insecticide:** Lorsban @ 7 lbs/A

**Irrigation:** none **Hybrid:** See Factors

**Planting Date:** 5/15/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 10/29/01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23' x10' **Experiment Size:** 0.17 A  
**Harvest Plot Size:** 23' x 5' **Harvest Plant Density:** 30000 plants per acre

### Factors/Treatments:

#### Seed Treatments:

Control;  
Maxim XL @ 0.167 fl oz/cwt;  
Captan 400C @ 1.76 fl oz/cwt+CTS @ 1.0 oz/cwt;  
LS274 @ 0.25 oz wt/cwt;  
Maxim XL @ 0.167 fl oz/cwt+Gaucho @ 0.16 oz/cwt+CTS @ 1.0 oz/cwt;

#### Hybrids:

Pioneer 38P05  
Pioneer 39F06

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**Results: TableC-33.**

**Table C-33. Corn Seed Decay and Seedling Blight in Difficult Emergence Environr  
Seymour, WI - 2001+D29**

| Hybrid                 | Seed treatment | Population at V6<br>plants/A | Harvest population<br>plants/A | Lodging % | Grain yield<br>bu/A | Grain moisture % | Test weight<br>lb/bu | Grower return<br>\$/A |
|------------------------|----------------|------------------------------|--------------------------------|-----------|---------------------|------------------|----------------------|-----------------------|
|                        | Captan400C+CTC | 29924                        | 30113                          | 3         | 140                 | 20.1             | 55                   | 289                   |
|                        | LS274          | 29734                        | 30681                          | 3         | 126                 | 19.9             | 56                   | 262                   |
|                        | MaximXL        | 29166                        | 30303                          | 4         | 149                 | 20.3             | 55                   | 307                   |
|                        | MaximXL+Gaucho | 28977                        | 29734                          | 4         | 139                 | 19.8             | 55                   | 288                   |
|                        | Control        | 29229                        | 29293                          | 9         | 124                 | 20.5             | 54                   | 257                   |
| Pioneer 38P05          |                | 29091                        | 29242                          | 9         | 141                 | 21.0             | 54                   | 291                   |
| Pioneer 39F06          |                | 29722                        | 30808                          | 3         | 133                 | 19.6             | 56                   | 276                   |
| Pioneer 38P05          | Captan400C+CTC | 29545                        | 30429                          | 4         | 154                 | 20.8             | 54                   | 317                   |
| Pioneer 38P05          | LS274          | 29671                        | 29798                          |           |                     |                  |                      |                       |
| Pioneer 38P05          | MaximXL        | 28661                        | 30176                          | 6         | 159                 | 21.1             | 54                   | 326                   |
| Pioneer 38P05          | MaximXL+Gaucho | 27904                        | 28156                          | 11        | 127                 | 20.4             | 54                   | 261                   |
| Pioneer 38P05          | Control        | 29671                        | 27651                          | 14        | 126                 | 21.5             | 53                   | 258                   |
| Pioneer 39F06          | Captan400C+CTC | 30303                        | 29798                          | 2         | 130                 | 19.6             | 56                   | 270                   |
| Pioneer 39F06          | LS274          | 29798                        | 31565                          | 3         | 126                 | 19.9             | 56                   | 262                   |
| Pioneer 39F06          | MaximXL        | 29671                        | 30429                          | 3         | 139                 | 19.6             | 56                   | 289                   |
| Pioneer 39F06          | MaximXL+Gaucho | 30050                        | 31313                          | 0         | 147                 | 19.5             | 56                   | 306                   |
| Pioneer 39F06          | Control        | 28787                        | 30934                          | 5         | 123                 | 19.6             | 56                   | 256                   |
| Mean                   |                | 29406                        | 30025                          | 5         | 136                 | 20.2             | 55                   | 282                   |
| <b>Probability (%)</b> |                |                              |                                |           |                     |                  |                      |                       |
| Hybrid (H)             |                | 13.3                         | 0.4                            | 0.4       | 18.7                | 0.0              | 0.1                  | 26.3                  |
| Seed treatment (S)     |                | 53.8                         | 42.5                           | 18.7      | 13.4                | 53.7             | 83.3                 | 13.0                  |
| S x H                  |                | 23.0                         | 6.4                            | 18.9      | 10.7                | 55.1             | 81.9                 | 11.1                  |
| <b>LSD (0.10)</b>      |                |                              |                                |           |                     |                  |                      |                       |
| Hybrid (H)             |                | NS                           | 820                            | 3         | NS                  | 0.3              | 1                    | NS                    |
| Seed treatment (S)     |                | NS                           | NS                             | NS        | NS                  | NS               | NS                   | NS                    |
| S x H                  |                | NS                           | 1834                           | NS        | NS                  | NS               | NS                   | NS                    |
| <b>CV (%)</b>          |                |                              |                                |           |                     |                  |                      |                       |
|                        |                | 4                            | 4                              | 84        | 11                  | 3                | 2                    | 12                    |

## FIELD EXPERIMENT HISTORY

**Title:** Corn Seed Decay and Seedling Blight in Reduced Tillage Systems  
**Experiment:** 08 Seed Fungicide **Trial ID:** 2246 **Year:** 2001  
**Personnel:** J.G. Lauer, K.D. Kohn, P.J. Flannery, S. Hendrickson  
**Location:** Valders, WI **County:** Manitowoc  
**Supported By:** Gustufson

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### Site Information

**Field:** **Previous Crop:** Corn **Soil Type:** Kewanee Clay Loam  
**Soil Test:** **Date:** 11/1 /01 **pH** 7.8 **OM (%)** 2.8 **P (ppm)** 40 **K (ppm)** 204

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### Plot Management

**Tillage Operations:** Moldboard Plow Field Cultivator Cultivated

**Fertilizer:**

|                   | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|-------------------|-----------------|-------------|-------------|
| <b>Preplant</b>   | N/A             | N/A         | N/A         |
| <b>Starter</b>    | 6-24-24         | 150         | 5 /2 /01    |
| <b>Post plant</b> | N/A             | N/A         | N/A         |
| <b>Manure:</b>    | Manure          | 9000 gal/A  |             |

**Herbicide:** Surpass 1.0 pt/A  
Accent 0.33 oz/A  
Distinct 4.0 oz/A **Insecticide:** Lorsban @ 7 lbs/A

**Irrigation:** None **Hybrid:** See Factors

**Planting Date:** 5/2/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 11/1/01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23' x10' **Experiment Size:** 0.17 A  
**Harvest Plot Size:** 23' x 5' **Harvest Plant Density:** 30000 plants per acre

### **Factors/Treatments:**

#### Seed Treatments:

Control;  
Maxim XL @ 0.167 fl oz/cwt;  
Captan 400C @ 1.76 fl oz/cwt+CTS @ 1.0 oz/cwt;  
LS274 @ 0.25 oz wt/cwt;  
Maxim XL @ 0.167 fl oz/cwt+Gaucho @ 0.16 oz/cwt+CTS @ 1.0 oz/cwt;

#### Hybrids:

Pioneer 38P05  
Pioneer 39F06

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**Results: TableC-34.**

**Table C-34. Corn Seed Decay and Seedling Blight in Difficult Emergence Environr  
Valders, WI - 2001**

| Hybrid                 | Seed treatment | Population at V6<br>plants/A | Harvest population<br>plants/A | Lodging % | Grain yield<br>bu/A | Grain moisture % | Test weight<br>lb/bu | Grower return<br>\$/A |
|------------------------|----------------|------------------------------|--------------------------------|-----------|---------------------|------------------|----------------------|-----------------------|
|                        | Captan400C+CTC | 29671                        | 30113                          | 0         | 91                  | 23.5             | 55                   | 183                   |
|                        | LS274          | 30239                        | 30303                          | 0         | 84                  | 23.0             | 56                   | 169                   |
|                        | MaximXL        | 30239                        | 29924                          | 0         | 69                  | 24.2             | 55                   | 138                   |
|                        | MaximXL+Gaucho | 29987                        | 30997                          | 0         | 90                  | 22.7             | 56                   | 184                   |
|                        | Control        | 27146                        | 27967                          | 1         | 82                  | 24.0             | 55                   | 166                   |
| Pioneer 38P05          |                | 29343                        | 29596                          | 0         | 86                  | 24.6             | 55                   | 172                   |
| Pioneer 39F06          |                | 29570                        | 30126                          | 0         | 80                  | 22.3             | 56                   | 163                   |
| Pioneer 38P05          | Captan400C+CTC | 29924                        | 30303                          | 0         | 92                  | 24.9             | 54                   | 184                   |
| Pioneer 38P05          | LS274          | 29924                        | 29798                          | 0         | 89                  | 23.9             | 55                   | 180                   |
| Pioneer 38P05          | MaximXL        | 31060                        | 30050                          | 0         | 71                  | 25.7             | 54                   | 141                   |
| Pioneer 38P05          | MaximXL+Gaucho | 30303                        | 30808                          | 1         | 106                 | 23.3             | 56                   | 215                   |
| Pioneer 38P05          | Control        | 25505                        | 27020                          | 0         | 78                  | 24.9             | 55                   | 157                   |
| Pioneer 39F06          | Captan400C+CTC | 29419                        | 29924                          | 0         | 90                  | 22.6             | 56                   | 183                   |
| Pioneer 39F06          | LS274          | 30555                        | 30808                          | 0         | 78                  | 22.1             | 56                   | 159                   |
| Pioneer 39F06          | MaximXL        | 29419                        | 29798                          | 0         | 65                  | 21.9             | 56                   | 133                   |
| Pioneer 39F06          | MaximXL+Gaucho | 29671                        | 31186                          | 0         | 75                  | 22.2             | 57                   | 152                   |
| Pioneer 39F06          | Control        | 28787                        | 28914                          | 1         | 88                  | 22.7             | 56                   | 179                   |
| Mean                   |                | 29457                        | 29861                          | 0         | 83                  | 23.5             | 56                   | 167                   |
| <b>Probability (%)</b> |                |                              |                                |           |                     |                  |                      |                       |
| Hybrid (H)             |                | 70.3                         | 10.9                           | 56.3      | 44.4                | 0.0              | 0.5                  | 37.3                  |
| Seed treatment (S)     |                | 1.7                          | 0.0                            | 52.5      | 60.7                | 65.9             | 96.9                 | 67.2                  |
| S x H                  |                | 12.8                         | 17.3                           | 69.5      | 85.8                | 53.5             | 59.2                 | 85.6                  |
| <b>LSD (0.10)</b>      |                |                              |                                |           |                     |                  |                      |                       |
| Hybrid (H)             |                | NS                           | NS                             | NS        | NS                  | 1.0              | 1                    | NS                    |
| Seed treatment (S)     |                | 1610                         | 861                            | NS        | NS                  | NS               | NS                   | NS                    |
| S x H                  |                | NS                           | NS                             | NS        | NS                  | NS               | NS                   | NS                    |
| <b>CV (%)</b>          |                |                              |                                |           |                     |                  |                      |                       |
|                        |                | 5                            | 3                              | 299       | 28                  | 5                | 2                    | 29                    |

## FIELD EXPERIMENT HISTORY

**Title:** Corn Seed Decay and Seedling Blight in Reduced Tillage Systems  
**Experiment:** 08 Syngenta Crop Protection **Trial ID:** 2247 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Syngenta Crop Protection

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 11/01/01 **pH** 6.9 **OM (%)** 2.9 **P (ppm)** 80 **K (ppm)** 193

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Soil Finisher Cultivated

**Fertilizer:**

|                   | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|-------------------|-----------------|-------------|-------------|
| <b>Preplant</b>   | 46-0-0          | 325         | 4 /26/01    |
| <b>Starter</b>    | 6-24-24         | 150         | 4 /28/01    |
| <b>Post plant</b> | N/A             | N/A         | N/A         |
| <b>Manure:</b>    | None            | N/A         |             |

**Herbicide:** Harness 2.5 pt/A  
Permitt 0.66 oz/A **Insecticide:** None

**Irrigation:** None **Hybrid:** NK Brand N43-C4

**Planting Date:** 5/28/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 10/5/01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23' x 10' **Experiment Size:** 0.18 A  
**Harvest Plot Size:** 22' x 5' **Harvest Plant Density:** 30000 plants per acre

### **Factors/Treatments:**

#### Treatments:

Apron XL (3LS) @ 1 GA/cwt;  
Maxim XL (2.7 FS) @ 3.5 GA/cwt;  
Maxim XL (2.7 FS) @ 3.5 GA/cwt + CGA 301940 @ 0.25 GA/cwt;  
Maxim XL (2.7 FS) @ 3.5 GA/cwt + CGA 301940 @ 0.50 GA/cwt;  
Maxim XL (2.7 FS) @ 3.5 GA/cwt + CGA 301940 @ 1.0 GA/cwt;  
Maxim XL (2.7 FS) @ 3.5 GA/cwt + CGA 301940 @ 2.0 GA/cwt;  
CGA 301940 @ 1.0 GA/cwt;  
Captan 4L @ 55 GA/cwt;  
Maxim XL (2.7 FS) @ 3.5 GA/cwt + Apron XL 3 LS @ 1GA/cwt;  
Untreated Check;

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**Results:** TableC-37.

**Table C-35. Corn Seed Decay and Seedling Blight in Difficult Emergence Environn  
Arlington, WI - 2001**

| Seed treatment           | Population on May 10<br>plants/A | Population at V3<br>plants/A | Harvest population<br>plants/A | Lodging % | Grain yield<br>bu/A | Grain moisture % | Test weight<br>lb/bu | Grower return<br>\$/A |
|--------------------------|----------------------------------|------------------------------|--------------------------------|-----------|---------------------|------------------|----------------------|-----------------------|
| ApronXL                  | 26262                            | 29924                        | 25757                          | 1         | 208                 | 20.4             | 56                   | 430                   |
| MaximXL                  | 27399                            | 31186                        | 27525                          | 2         | 211                 | 20.2             | 56                   | 436                   |
| MaximXL+CGA301940 @ 0.25 | 27399                            | 30555                        | 24242                          | 2         | 213                 | 20.5             | 56                   | 439                   |
| MaximXL+CGA301940 @ 0.5  | 28661                            | 31565                        | 27525                          | 1         | 221                 | 20.2             | 56                   | 458                   |
| MaximXL+CGA301940 @ 1.0  | 26767                            | 30429                        | 26010                          | 2         | 213                 | 20.4             | 56                   | 440                   |
| MaximXL+CGA301940 @ 2.0  | 25883                            | 30934                        | 26136                          | 3         | 212                 | 20.5             | 56                   | 438                   |
| CGA301940 @ 1.0          | 25505                            | 31439                        | 26389                          | 2         | 217                 | 20.2             | 56                   | 449                   |
| Captan4L+AllegianceFL    | 28535                            | 30808                        | 25883                          | 2         | 210                 | 20.1             | 55                   | 435                   |
| MaximXL+Apron            | 28282                            | 31565                        | 27020                          | 2         | 219                 | 20.1             | 55                   | 454                   |
| Control                  | 23990                            | 29798                        | 26136                          | 1         | 209                 | 20.2             | 55                   | 432                   |
| Mean                     | 26868                            | 30820                        | 26262                          | 2         | 213                 | 20.3             | 56                   | 441                   |
| <b>Probability (%)</b>   |                                  |                              |                                |           |                     |                  |                      |                       |
| Seed treatment (S)       | 10.9                             | 6.0                          | 55.6                           | 94.5      | 16.0                | 56.5             | 61.1                 | 16.0                  |
| <b>LSD (0.10)</b>        |                                  |                              |                                |           |                     |                  |                      |                       |
| Seed treatment (S)       | NS                               | 1030                         | NS                             | NS        | NS                  | NS               | NS                   | NS                    |
| <b>CV (%)</b>            |                                  |                              |                                |           |                     |                  |                      |                       |
|                          | 7                                | 2                            | 7                              | 82        | 3                   | 1                | 1                    | 3                     |



## FIELD EXPERIMENT HISTORY

**Title:** Corn Seed Decay and Seedling Blight in Reduced Tillage Systems  
**Experiment:** 08 Syngenta Crop Protection **Trial ID:** 2248 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Fond du Lac, WI **County:** Fond du Lac  
**Supported By:** Syngenta Crop Protection

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Virgil Silt Loam  
**Soil Test:** **Date:** 11/01/01 **pH** 6.9 **OM (%)** 4.0 **P (ppm)** 50 **K (ppm)** 98

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### Plot Management

**Tillage Operations:** Moldboard Plow Field Cultivator Cultivated

**Fertilizer:**

|                   | <u>Analysis</u> | <u>Rate</u> | <u>Date</u> |
|-------------------|-----------------|-------------|-------------|
| <b>Preplant</b>   | 82-0-0          | 130         | N/A         |
| <b>Starter</b>    | 6-24-24         | 150         | 5 /20/01    |
| <b>Post plant</b> | 46-0-0          | 150         | 6 /29/01    |
| <b>Manure:</b>    | None            | N/A         |             |

**Herbicide:** Dual II Mag 0.75 pt/A  
Accent Gold 2.9 oz/A  
Atrazine 0.5 lb/A **Insecticide:** None

**Irrigation:** None **Hybrid:** NK Brand N43-C4

**Planting Date:** 5/20/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 10/29//01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23' x 10' **Experiment Size:** 0.18 A  
**Harvest Plot Size:** 22' x 5' **Harvest Plant Density:** 30000 plants per acre

### **Factors/Treatments:**

#### Treatments:

Apron XL (3LS) @ 1 GA/cwt;  
Maxim XL (2.7 FS) @ 3.5 GA/cwt;  
Maxim XL (2.7 FS) @ 3.5 GA/cwt + CGA 301940 @ 0.25 GA/cwt;  
Maxim XL (2.7 FS) @ 3.5 GA/cwt + CGA 301940 @ 0.50 GA/cwt;  
Maxim XL (2.7 FS) @ 3.5 GA/cwt + CGA 301940 @ 1.0 GA/cwt;  
Maxim XL (2.7 FS) @ 3.5 GA/cwt + CGA 301940 @ 2.0 GA/cwt;  
CGA 301940 @ 1.0 GA/cwt;  
Captan 4L @ 55 GA/cwt;  
Maxim XL (2.7 FS) @ 3.5 GA/cwt + Apron XL 3 LS @ 1GA/cwt;  
Untreated Check;

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**Results:** TableC-38.

**Table C-36. Corn Seed Decay and Seedling Blight in Difficult Emergence Environn  
Fond du Lac, WI - 2001**

| Seed treatment                | Population at V3<br>plants/A | Harvest population<br>plants/A | Lodging<br>% | Grain yield<br>bu/A | Grain moisture<br>% | Test weight<br>lb/bu | Grower return<br>\$/A |
|-------------------------------|------------------------------|--------------------------------|--------------|---------------------|---------------------|----------------------|-----------------------|
| ApronXL                       | 26767                        | 30429                          | 0            | 165                 | 25.8                | 49                   | 328                   |
| MaximXL                       | 30176                        | 31313                          | 1            | 164                 | 26.8                | 49                   | 323                   |
| MaximXL+CGA301940 @ 0.25      | 29293                        | 30176                          | 1            | 165                 | 26.8                | 49                   | 326                   |
| MaximXL+CGA301940 @ 0.5       | 29040                        | 30808                          | 2            | 168                 | 26.1                | 49                   | 333                   |
| MaximXL+CGA301940 @ 1.0       | 28156                        | 28282                          | 1            | 164                 | 26.6                | 49                   | 323                   |
| MaximXL+CGA301940 @ 2.0       | 25000                        | 29671                          | 1            | 154                 | 26.5                | 49                   | 305                   |
| CGA301940 @ 1.0               | 26262                        | 30429                          | 1            | 157                 | 26.5                | 49                   | 311                   |
| Captan4L+AllegianceFL         | 28661                        | 30303                          | 2            | 166                 | 26.4                | 49                   | 327                   |
| MaximXL+Apron                 | 27525                        | 29798                          | 1            | 164                 | 27.4                | 49                   | 322                   |
| Control                       | 25883                        | 29545                          | 1            | 159                 | 26.3                | 49                   | 315                   |
| Mean                          | 27676                        | 30075                          | 1            | 163                 | 26.5                | 49                   | 321                   |
| <b><u>Probability (%)</u></b> |                              |                                |              |                     |                     |                      |                       |
| Seed treatment (S)            | 1.9                          | 16.0                           | 70.6         | 87.3                | 77.6                | 53.3                 | 89.6                  |
| <b><u>LSD (0.10)</u></b>      |                              |                                |              |                     |                     |                      |                       |
| Seed treatment (S)            | 2322                         | NS                             | NS           | NS                  | NS                  | NS                   | NS                    |
| <b><u>CV (%)</u></b>          |                              |                                |              |                     |                     |                      |                       |
|                               | 6                            | 4                              | 94           | 7                   | 4                   | 1                    | 7                     |

## FIELD EXPERIMENT HISTORY

**Title:** Syngenta Seeds  
**Experiment:** 08 Syngenta Seeds **Trial ID:** 2230 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Syngenta Seeds

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### Site Information

**Field:** 408 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 11/19/01 **pH** 6.8 **OM (%)** 2.6 **P (ppm)** 62 **K (ppm)** 153

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher 2x Cultivated  
**Fertilizer:** **Preplant Analysis:** 46-0-0 **Rate lbs/A:** 325 **Date:** 4/18/01  
**Starter Analysis:** 6-24-24 **Rate lbs/A:** 150 **Date:** 5/20/01  
**Post plant Analysis:** N/A **Rate lbs/A:** N/A **Date:** N/A  
**Manure:** None  
**Herbicide:** Harness 2.5 oz/A **Insecticide:** See Treatments  
Permit 0.66 oz/A **Hybrid:** See Treatments  
**Irrigation:** None  
**Planting Date:** 4/28/01 **Planting Depth:** 1.5 **Row Width** 30"  
**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/5/01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 4  
**Plot Size Seeded:** 23.5' x 10' **Experiment Size:** 0.14 A  
**Harvest Plot Size:** 23.5' x 5' **Harvest Plant Density:** 32000 plants per acre

### Factors/Treatments:

#### Treatments:

Lorsban 15G @ 8 lb/A  
ProShield w/Force  
UTC

#### Hybrids:

NK Brand N2555  
NK Brand N2555 Bt

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**Results: Table C-35.**

**Table: C-37. Syngenta Seeds  
Arlington, WI - 2001**

| Hybrid                 | Treatment         | Population<br>at V6<br>plants/A | Harvest<br>population<br>plants/A | Lodging<br>% | Grain<br>yield<br>bu/A | Grain<br>moisture<br>% | Test<br>weight<br>lb/bu | Grower<br>return<br>\$/A |
|------------------------|-------------------|---------------------------------|-----------------------------------|--------------|------------------------|------------------------|-------------------------|--------------------------|
|                        | Lorsban 15G       | 31433                           | 33017                             | 4            | 199                    | 20.4                   | 60                      | 410                      |
|                        | ProShield w/Force | 32670                           | 32720                             | 4            | 193                    | 20.3                   | 60                      | 400                      |
|                        | UTC               | 32819                           | 33363                             | 5            | 192                    | 20.3                   | 60                      | 397                      |
| NK2555                 |                   | 32307                           | 32802                             | 6            | 192                    | 20.2                   | 60                      | 398                      |
| NK2555Bt               |                   | 32307                           | 33264                             | 2            | 197                    | 20.4                   | 60                      | 407                      |
| NK2555                 | Lorsban 15G       | 31977                           | 33264                             | 6            | 198                    | 20.2                   | 60                      | 410                      |
| NK2555                 | ProShield w/Force | 32769                           | 31878                             | 6            | 191                    | 20.2                   | 60                      | 396                      |
| NK2555                 | UTC               | 32175                           | 33264                             | 7            | 187                    | 20.2                   | 60                      | 387                      |
| NK2555Bt               | Lorsban 15G       | 30888                           | 32769                             | 1            | 199                    | 20.5                   | 60                      | 410                      |
| NK2555Bt               | ProShield w/Force | 32571                           | 33561                             | 2            | 196                    | 20.4                   | 60                      | 404                      |
| NK2555Bt               | UTC               | 33462                           | 33462                             | 3            | 197                    | 20.5                   | 60                      | 407                      |
| Mean                   |                   | 32307                           | 33033                             | 4            | 195                    | 20.3                   | 60                      | 402                      |
| <b>Probability (%)</b> |                   |                                 |                                   |              |                        |                        |                         |                          |
| Hybrid (H)             |                   | 100                             | 15.5                              | 0.8          | 24.3                   | 1.6                    | 33.8                    | 27.3                     |
| Treatment (T)          |                   | 25.8                            | 26.5                              | 62.9         | 39.5                   | 71.1                   | 52.2                    | 40.0                     |
| T x H                  |                   | 41.9                            | 3.3                               | 87.4         | 62.7                   | 88.5                   | 53.9                    | 62.8                     |
| <b>LSD (0.10)</b>      |                   |                                 |                                   |              |                        |                        |                         |                          |
| Hybrid (H)             |                   | NS                              | NS                                | 2            | NS                     | 0.2                    | NS                      | NS                       |
| Treatment (T)          |                   | NS                              | NS                                | NS           | NS                     | NS                     | NS                      | NS                       |
| T x H                  |                   | NS                              | 937                               | NS           | NS                     | NS                     | NS                      | NS                       |
| <b>CV (%)</b>          |                   |                                 |                                   |              |                        |                        |                         |                          |
|                        |                   | 6                               | 2                                 | 74           | 5                      | 1                      | 1                       | 5                        |

## FIELD EXPERIMENT HISTORY

**Title:** Syngenta Seeds  
**Experiment:** 08 Syngenta Seeds **Trial ID:** 2231 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Marshfield, WI **County:** Wood  
**Supported By:** Syngenta Seeds

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### Site Information

**Field:** **Previous Crop:** Corn **Soil Type:** Loyal Silt Loam  
**Soil Test:** **Date:** 11/1 /01 **pH** 7.2 **OM (%)** 3.0 **P (ppm)** 48 **K (ppm)** 147

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### Plot Management

**Tillage Operations:** Moldboard Plow Field Cultivator Cultivated

**Fertilizer:** **Preplant Analysis:** N/A **Rate lbs/A:** N/A **Date:** N/A  
**Starter Analysis:** 6-24-24 **Rate lbs/A:** 100 **Date:** 5 /18/01  
**Post plant Analysis:** 34-0-0 **Rate lbs/A:** 350 **Date:** N/A  
**Manure:** None

**Herbicide:** Harness 1.0 qt/A **Insecticide:** See Treatments  
Hornet 2.4 oz/A **Hybrid:** See Treatments

**Irrigation:** None

**Planting Date:** 5/18/01 **Planting Depth:** 1.5 **Row Width** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 11/5/01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 4  
**Plot Size Seeded:** 23.5' x 10' **Experiment Size:** 0.14 A  
**Harvest Plot Size:** 23.5' x 5' **Harvest Plant Density:** 25500 plants per acre

### **Factors/Treatments:**

#### Treatments:

Lorsban 15G @ 8 lb/A  
ProShield w/Force  
UTC

#### Hybrids:

NK Brand N2555  
NK Brand N2555 Bt

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**Results: Table C-36.**

**Table: C-38. Syngenta Seeds  
Marshfield, WI - 2001**

| Hybrid                 | Treatment         | Population<br>at V6<br>plants/A | Harvest<br>population<br>plants/A | Lodging<br>% | Grain<br>yield<br>bu/A | Grain<br>moisture<br>% | Test<br>weight<br>lb/bu | Grower<br>return<br>\$/A |
|------------------------|-------------------|---------------------------------|-----------------------------------|--------------|------------------------|------------------------|-------------------------|--------------------------|
|                        | Lorsban 15G       | 25740                           | 25889                             | 4            | 148                    | 23.1                   | 51                      | 299                      |
|                        | ProShield w/Force | 27522                           | 27671                             | 5            | 158                    | 23.2                   | 51                      | 319                      |
|                        | UTC               | 22820                           | 22820                             | 3            | 138                    | 23.9                   | 51                      | 279                      |
| NK2555                 |                   | 25113                           | 24849                             | 5            | 142                    | 23.2                   | 51                      | 287                      |
| NK2555Bt               |                   | 25608                           | 26070                             | 2            | 154                    | 23.6                   | 51                      | 310                      |
| NK2555                 | Lorsban 15G       | 26136                           | 25839                             | 5            | 144                    | 23.1                   | 51                      | 293                      |
| NK2555                 | ProShield w/Force | 28215                           | 28215                             | 7            | 158                    | 22.7                   | 51                      | 320                      |
| NK2555                 | UTC               | 20988                           | 20493                             | 4            | 124                    | 23.9                   | 51                      | 249                      |
| NK2555Bt               | Lorsban 15G       | 25344                           | 25938                             | 3            | 151                    | 23.2                   | 51                      | 305                      |
| NK2555Bt               | ProShield w/Force | 26829                           | 27126                             | 3            | 158                    | 23.7                   | 51                      | 318                      |
| NK2555Bt               | UTC               | 24651                           | 25146                             | 2            | 153                    | 23.9                   | 51                      | 308                      |
| Mean                   |                   | 25361                           | 25460                             | 4            | 148                    | 23.4                   | 51                      | 299                      |
| <b>Probability (%)</b> |                   |                                 |                                   |              |                        |                        |                         |                          |
| Hybrid (H)             |                   | 68.3                            | 37.5                              | 1.0          | 15.2                   | 37.3                   | 90.0                    | 17.5                     |
| Treatment (T)          |                   | 1.8                             | 2.9                               | 37.9         | 16.8                   | 18.3                   | 96.4                    | 16.3                     |
| T x H                  |                   | 20.0                            | 21.3                              | 61.0         | 30.4                   | 42.2                   | 98.2                    | 30.5                     |
| <b>LSD (0.10)</b>      |                   |                                 |                                   |              |                        |                        |                         |                          |
| Hybrid (H)             |                   | NS                              | NS                                | 2            | NS                     | NS                     | NS                      | NS                       |
| Treatment (T)          |                   | 2551                            | 2868                              | NS           | NS                     | NS                     | NS                      | NS                       |
| T x H                  |                   | NS                              | NS                                | NS           | NS                     | NS                     | NS                      | NS                       |
| <b>CV (%)</b>          |                   |                                 |                                   |              |                        |                        |                         |                          |
|                        |                   | 11                              | 13                                | 60           | 13                     | 4                      | 2                       | 13                       |

## FIELD EXPERIMENT HISTORY

**Year:** 2001  
**Expt. Number:** 2190  
**Title:** Twenty Year Corn/Soybean Rotation Study  
**Personnel:** P. Pedersen, J.G. Lauer, C. R. Grau, J.M. Gaska, and K.D. Kohn  
**Organization:** University of Wisconsin, Dept. of Agronomy and Plant Pathology  
**Location:** Arlington Research Station, Arlington, WI  
**Supported by:** HATCH Project 142-E018

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### FIELD INFORMATION

**Field:** 334W  
**Soil Type:** Plano Silt Loam  
**Soil Test Results:** Date:10/99 pH: 6.5 P: 35 ppm K: 203 ppm O.M.: 3.2%  
**Fertilizer Applied:** Soybean : None  
Corn: 210 lb/a nitrogen preemerge  
**Tillage Operations:** No-till and fall chisel plowed  
Spring field cultivated and cultmulched  
**Previous Crop:** Corn and soybean  
**Previous Herbicide:** Roundup  
**Irrigation:** None

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### EXPERIMENTAL PROCEDURE

**Exp. Design:** RCB Split-Split Plot  
**Replicates:** 4  
**Variables:** A: Tillage, B: Rotation Sequence, C: Row Spacing

|                           | <u>Corn</u>   | <u>Soybean</u>  |
|---------------------------|---|---|
| <b>Area Planted:</b>      | 10' x 35'   | 10' x 35'   |
| <b>Area Harvested:</b>    | 5' x 31'  | 5' x 31' for 15" and 30" rows, 4.375' x 31' for 7.5" rows |
| <b>Row Spacing:</b>       | 7.5, 15, and 30"  | 7.5, 15, and 30"  |
| <b>Seeding Rate (spa)</b> | 40K, 35K, and 30K   | 225K, 175K, and 125K                                      |
| <b>Hybrid/Variety:</b>    | DeKalb DK493RR Roundup Ready  | Asgrow AG2301 Roundup Ready                               |
| <b>Planting Date:</b>     | 2-May-00  |   |
| <b>Planting Equip:</b>    | Kinze 2000 Interplant planter (15" and 30") and John Deere 750 No-till Drill (7.5") |   |
| <b>Harvesting Date:</b>   | Oct. 8  | Oct. 8  |
| <b>Harvesting Equip:</b>  | Kincaid plot combine  | Almaco plot combine #1                                    |

|                      | <u>Date</u> | <u>Material</u> | <u>Crop</u>  | <u>Rate</u>    |
|----------------------|-------------|-----------------|--------------|----------------|
| <b>Herbicides:</b>   | 27-Apr      | Touchdown       | No-till only | 1 qt/a         |
|                      | 1-May       | Dual            | Both         | 2 pt/a         |
|                      | 30-May      | Round-Up        | Both         | 1 qt/a         |
|                      | 3-Jul       | Warrior         | SB only      | 0.02 lb ai/a   |
|                      | 17-Jul      | Warrior         | SB only      | 0.02 lb ai/a   |
| <b>Insecticides:</b> | 2-May       | Force 3G        | Corn only    | 4 oz/1000' row |

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**Results:** Table C39-C45.

**Table C-40. 20 Year Corn/Soybean Rotation Study - Soybean  
Arlington, WI Expt. 2190**

| Tillage | Rotation           | Row Spacing | Yield<br>bu/a | Moist.<br>% | Plant density<br>x 1000 | Plant density<br>x 1000 | Plant height<br>in | Lodge score<br>1-5 | -----Brown stem rot incidence----- |        |        |       |        |                        | Seed wt<br>g/100 seeds |
|---------|--------------------|-------------|---------------|-------------|-------------------------|-------------------------|--------------------|--------------------|------------------------------------|--------|--------|-------|--------|------------------------|------------------------|
|         |                    |             |               |             |                         |                         |                    |                    | -----Foliar-----                   |        |        |       |        | Stem<br>25-Sep<br>1-11 |                        |
|         |                    |             |               |             |                         |                         |                    |                    | 17-Aug                             | 24-Aug | 29-Aug | 6-Sep | 12-Sep |                        |                        |
| Notill  |                    |             | 59.1          | 11.8        | 132.4                   | 128.8                   | 39.9               | 1.7                | 0.0                                | 0.1    | 0.1    | 0.5   | 1.1    | 0.8                    | 13.88                  |
| Conv    |                    |             | 53.7          | 11.9        | 135.3                   | 135.6                   | 38.4               | 1.6                | 0.0                                | 0.0    | 0.2    | 0.3   | 0.3    | 0.6                    | 13.41                  |
|         | 1st year soybean   |             | 61.0          | 12.2        | 125.9                   | 126.0                   | 39.8               | 2.0                | 0.0                                | 0.0    | 0.2    | 0.3   | 0.5    | 0.3                    | 14.25                  |
|         | 2nd year soybean   |             | 59.1          | 11.8        | 129.3                   | 131.8                   | 40.9               | 1.9                | 0.0                                | 0.2    | 0.1    | 0.4   | 0.8    | 0.6                    | 13.70                  |
|         | 3rd year soybean   |             | 54.9          | 11.9        | 136.7                   | 131.8                   | 39.0               | 1.5                | 0.0                                | 0.0    | 0.1    | 0.3   | 1.0    | 0.6                    | 13.65                  |
|         | 4th year soybean   |             | 54.4          | 11.8        | 138.7                   | 138.3                   | 38.0               | 1.4                | 0.0                                | 0.0    | 0.2    | 0.5   | 1.0    | 0.8                    | 13.10                  |
|         | 5th year soybean   |             | 53.8          | 11.8        | 135.9                   | 135.6                   | 38.3               | 1.3                | 0.0                                | 0.0    | 0.0    | 0.2   | 1.0    | 1.1                    | 13.44                  |
|         | Continuous soybean |             | 53.1          | 11.7        | 137.3                   | 133.7                   | 38.9               | 1.1                | 0.0                                | 0.0    | 0.0    | 0.4   | 0.4    | 0.9                    | 13.56                  |
|         | S/C rotation       |             | 58.7          | 12.0        | 133.1                   | 124.0                   | 39.2               | 2.1                | 0.0                                | 0.2    | 0.6    | 0.5   | 0.0    | 0.7                    | 13.85                  |
| Notill  | 1st year soybean   |             | 61.3          | 12.3        | 116.7                   | 117.7                   | 39.8               | 1.9                | 0.0                                | 0.0    | 0.2    | 0.3   | 0.3    | 0.3                    | 14.46                  |
| Notill  | 2nd year soybean   |             | 60.4          | 11.8        | 127.5                   | 129.6                   | 41.3               | 2.0                | 0.0                                | 0.3    | 0.1    | 0.3   | 1.5    | 1.0                    | 13.72                  |
| Notill  | 3rd year soybean   |             | 56.8          | 11.9        | 139.7                   | 129.8                   | 40.0               | 1.6                | 0.0                                | 0.0    | 0.1    | 0.6   | 1.6    | 0.8                    | 13.97                  |
| Notill  | 4th year soybean   |             | 60.1          | 11.7        | 143.6                   | 135.3                   | 40.2               | 1.6                | 0.0                                | 0.1    | 0.2    | 1.0   | 1.5    | 0.9                    | 13.64                  |
| Notill  | 5th year soybean   |             | 57.5          | 11.6        | 135.6                   | 137.2                   | 40.1               | 1.4                | 0.0                                | 0.0    | 0.1    | 0.4   | 1.6    | 1.3                    | 13.82                  |
| Notill  | Continuous soybean |             | 55.1          | 11.6        | 140.0                   | 132.7                   | 39.2               | 1.1                | 0.0                                | 0.0    | 0.1    | 0.8   | 0.6    | 0.9                    | 13.83                  |
| Notill  | S/C rotation       |             | 62.7          | 12.1        | 123.9                   | 112.0                   | 38.8               | 2.0                | 0.0                                | 0.1    | 0.0    | 0.5   | 0.7    | 0.7                    | 13.75                  |
| Conv    | 1st year soybean   |             | 60.7          | 12.2        | 135.0                   | 134.2                   | 39.7               | 2.2                | 0.0                                | 0.1    | 0.3    | 0.3   | 0.6    | 0.4                    | 14.04                  |
| Conv    | 2nd year soybean   |             | 57.8          | 11.8        | 131.1                   | 134.6                   | 40.5               | 1.8                | 0.0                                | 0.1    | 0.1    | 0.6   | 0.1    | 0.2                    | 13.67                  |
| Conv    | 3rd year soybean   |             | 52.9          | 11.9        | 133.7                   | 133.7                   | 38.1               | 1.3                | 0.0                                | 0.0    | 0.2    | 0.1   | 0.3    | 0.5                    | 13.33                  |
| Conv    | 4th year soybean   |             | 48.6          | 11.9        | 133.7                   | 141.6                   | 35.8               | 1.2                | 0.0                                | 0.0    | 0.2    | 0.0   | 0.4    | 0.7                    | 12.56                  |
| Conv    | 5th year soybean   |             | 50.2          | 11.9        | 136.2                   | 134.0                   | 36.6               | 1.2                | 0.0                                | 0.1    | 0.0    | 0.0   | 0.4    | 0.9                    | 13.06                  |
| Conv    | Continuous soybean |             | 51.1          | 11.8        | 134.6                   | 134.6                   | 38.7               | 1.1                | 0.0                                | 0.0    | 0.0    | 0.0   | 0.3    | 0.8                    | 13.29                  |
| Conv    | S/C rotation       |             | 54.8          | 12.0        | 142.4                   | 135.9                   | 39.6               | 2.2                | 0.0                                | 0.0    | 0.4    | 0.8   | 0.3    | 0.6                    | 13.94                  |
|         |                    | 7.5"        | 53.7          | 12.0        | 118.5                   | 124.5                   | 39.3               | 2.1                | 0.0                                | 0.0    | 0.1    | 0.5   | 0.9    | 0.7                    | 13.69                  |
|         |                    | 15"         | 58.0          | 11.9        | 153.0                   | 151.2                   | 39.5               | 1.5                | 0.0                                | 0.1    | 0.1    | 0.3   | 0.6    | 0.8                    | 13.78                  |
|         |                    | 30"         | 57.5          | 11.7        | 130.0                   | 118.9                   | 38.7               | 1.3                | 0.0                                | 0.0    | 0.1    | 0.4   | 0.7    | 0.6                    | 13.48                  |
| Notill  |                    | 7.5"        | 56.0          | 12.0        | 114.9                   | 123.2                   | 39.8               | 2.1                | 0.0                                | 0.1    | 0.2    | 0.6   | 1.4    | 0.7                    | 13.94                  |
| Notill  |                    | 15"         | 61.0          | 11.9        | 152.8                   | 147.3                   | 40.3               | 1.5                | 0.0                                | 0.1    | 0.0    | 0.4   | 0.9    | 1.0                    | 13.93                  |
| Notill  |                    | 30"         | 60.3          | 11.7        | 129.6                   | 114.7                   | 39.5               | 1.3                | 0.0                                | 0.0    | 0.0    | 0.6   | 1.0    | 0.7                    | 13.78                  |
| Conv    |                    | 7.5"        | 51.4          | 12.0        | 122.2                   | 125.8                   | 38.7               | 2.0                | 0.0                                | 0.0    | 0.1    | 0.3   | 0.4    | 0.7                    | 13.44                  |
| Conv    |                    | 15"         | 55.1          | 12.0        | 153.2                   | 155.3                   | 38.6               | 1.5                | 0.0                                | 0.1    | 0.2    | 0.3   | 0.3    | 0.5                    | 13.63                  |
| Conv    |                    | 30"         | 54.7          | 11.8        | 130.4                   | 123.3                   | 37.9               | 1.2                | 0.0                                | 0.0    | 0.2    | 0.2   | 0.4    | 0.5                    | 13.17                  |

CONTINUED



**Table C-40. 20 Year Corn/Soybean Rotation Study - Soybean  
Arlington, WI Expt. 2190**

| Tillage | Rotation           | Row Spacing | Yield<br>bu/a | Moist.<br>% | Plant density<br>x 1000 | Plant density<br>x 1000 | Plant height<br>in | Lodge score<br>1-5 | -----Brown stem rot incidence----- |        |        |       |        |                | Seed wt<br>g/100 seeds |
|---------|--------------------|-------------|---------------|-------------|-------------------------|-------------------------|--------------------|--------------------|------------------------------------|--------|--------|-------|--------|----------------|------------------------|
|         |                    |             |               |             |                         |                         |                    |                    | -----Foliar-----                   |        |        |       |        | Stem<br>25-Sep |                        |
|         |                    |             |               |             |                         |                         |                    |                    | 17-Aug                             | 24-Aug | 29-Aug | 6-Sep | 12-Sep |                |                        |
|         |                    |             |               |             |                         |                         |                    |                    |                                    |        |        |       |        |                |                        |
|         | 1st year soybean   | 7.5"        | 58.1          | 12.4        | 103.5                   | 120.2                   | 38.6               | 2.6                | 0.0                                | 0.0    | 0.3    | 0.4   | 0.9    | 0.5            | 14.09                  |
|         | 1st year soybean   | 15"         | 57.7          | 12.3        | 148.1                   | 140.3                   | 40.1               | 2.1                | 0.0                                | 0.0    | 0.1    | 0.3   | 0.3    | 0.1            | 14.58                  |
|         | 1st year soybean   | 30"         | 67.3          | 12.0        | 126.1                   | 113.5                   | 40.5               | 1.4                | 0.0                                | 0.1    | 0.3    | 0.4   | 0.3    | 0.4            | 14.08                  |
|         | 2nd year soybean   | 7.5"        | 58.2          | 11.9        | 113.5                   | 123.1                   | 40.9               | 2.3                | 0.0                                | 0.1    | 0.0    | 0.1   | 1.1    | 0.2            | 14.00                  |
|         | 2nd year soybean   | 15"         | 60.1          | 11.9        | 145.5                   | 163.8                   | 41.5               | 1.9                | 0.0                                | 0.3    | 0.1    | 0.8   | 0.4    | 1.0            | 13.59                  |
|         | 2nd year soybean   | 30"         | 58.9          | 11.6        | 128.9                   | 107.2                   | 40.3               | 1.6                | 0.0                                | 0.1    | 0.1    | 0.4   | 0.9    | 0.5            | 13.50                  |
|         | 3rd year soybean   | 7.5"        | 52.2          | 12.0        | 122.4                   | 122.8                   | 38.9               | 2.1                | 0.0                                | 0.0    | 0.0    | 0.5   | 1.0    | 0.3            | 13.65                  |
|         | 3rd year soybean   | 15"         | 56.8          | 11.9        | 157.5                   | 148.5                   | 39.5               | 1.1                | 0.0                                | 0.0    | 0.3    | 0.3   | 1.1    | 0.9            | 13.82                  |
|         | 3rd year soybean   | 30"         | 55.6          | 11.8        | 130.2                   | 123.9                   | 38.8               | 1.1                | 0.0                                | 0.0    | 0.1    | 0.3   | 0.8    | 0.6            | 13.48                  |
|         | 4th year soybean   | 7.5"        | 51.9          | 12.0        | 124.4                   | 131.2                   | 39.4               | 1.9                | 0.0                                | 0.1    | 0.4    | 0.8   | 1.9    | 1.0            | 12.99                  |
|         | 4th year soybean   | 15"         | 57.7          | 11.8        | 159.2                   | 154.4                   | 37.6               | 1.3                | 0.0                                | 0.0    | 0.0    | 0.1   | 0.4    | 0.8            | 12.98                  |
|         | 4th year soybean   | 30"         | 53.5          | 11.5        | 132.4                   | 128.5                   | 36.9               | 1.0                | 0.0                                | 0.0    | 0.1    | 0.6   | 0.6    | 0.6            | 13.34                  |
|         | 5th year soybean   | 7.5"        | 53.0          | 11.8        | 122.0                   | 123.3                   | 37.8               | 1.5                | 0.0                                | 0.0    | 0.1    | 0.4   | 0.8    | 1.4            | 13.53                  |
|         | 5th year soybean   | 15"         | 55.2          | 11.9        | 156.6                   | 160.7                   | 39.4               | 1.3                | 0.0                                | 0.1    | 0.0    | 0.0   | 1.0    | 1.0            | 13.62                  |
|         | 5th year soybean   | 30"         | 53.3          | 11.6        | 129.2                   | 122.8                   | 37.9               | 1.1                | 0.0                                | 0.0    | 0.0    | 0.3   | 1.3    | 0.8            | 13.15                  |
|         | Continuous soybean | 7.5"        | 47.3          | 11.8        | 128.7                   | 127.6                   | 40.5               | 1.3                | 0.0                                | 0.0    | 0.1    | 0.5   | 0.5    | 0.9            | 13.67                  |
|         | Continuous soybean | 15"         | 59.8          | 11.8        | 150.9                   | 155.3                   | 39.0               | 1.0                | 0.0                                | 0.0    | 0.0    | 0.1   | 0.3    | 1.0            | 13.96                  |
|         | Continuous soybean | 30"         | 52.1          | 11.5        | 132.2                   | 118.0                   | 37.3               | 1.0                | 0.0                                | 0.0    | 0.0    | 0.5   | 0.5    | 0.8            | 13.05                  |
|         | S/C rotation       | 7.5"        | 55.1          | 12.2        | 115.4                   | 117.1                   | 38.9               | 2.8                | 0.0                                | 0.0    | 0.1    | 0.5   | 0.4    | 0.6            | 13.90                  |
|         | S/C rotation       | 15"         | 59.1          | 12.0        | 153.3                   | 134.4                   | 39.1               | 2.0                | 0.0                                | 0.1    | 0.3    | 0.8   | 0.5    | 0.7            | 13.91                  |
|         | S/C rotation       | 30"         | 62.0          | 11.9        | 130.7                   | 117.0                   | 39.5               | 1.5                | 0.0                                | 0.0    | 0.3    | 0.6   | 0.6    | 0.6            | 13.73                  |
| Notill  | 1st year soybean   | 7.5"        | 57.9          | 12.6        | 89.7                    | 109.8                   | 37.5               | 2.5                | 0.0                                | 0.0    | 0.5    | 0.3   | 0.5    | 0.2            | 14.36                  |
| Notill  | 1st year soybean   | 15"         | 58.7          | 12.2        | 146.8                   | 134.7                   | 41.0               | 1.8                | 0.0                                | 0.0    | 0.0    | 0.3   | 0.3    | 0.2            | 14.75                  |
| Notill  | 1st year soybean   | 30"         | 67.2          | 11.9        | 113.7                   | 103.4                   | 41.0               | 1.5                | 0.0                                | 0.0    | 0.0    | 0.5   | 0.3    | 0.4            | 14.27                  |
| Notill  | 2nd year soybean   | 7.5"        | 60.2          | 11.9        | 108.0                   | 114.1                   | 40.8               | 2.3                | 0.0                                | 0.3    | 0.0    | 0.0   | 2.3    | 0.2            | 14.00                  |
| Notill  | 2nd year soybean   | 15"         | 62.2          | 11.8        | 142.0                   | 162.5                   | 43.8               | 2.0                | 0.0                                | 0.3    | 0.0    | 0.5   | 0.5    | 1.7            | 13.63                  |
| Notill  | 2nd year soybean   | 30"         | 58.8          | 11.6        | 132.4                   | 104.5                   | 39.3               | 1.8                | 0.0                                | 0.3    | 0.3    | 0.3   | 1.8    | 1.0            | 13.53                  |
| Notill  | 3rd year soybean   | 7.5"        | 53.9          | 12.0        | 122.4                   | 118.0                   | 39.5               | 2.3                | 0.0                                | 0.0    | 0.0    | 0.8   | 1.8    | 0.6            | 14.01                  |
| Notill  | 3rd year soybean   | 15"         | 58.2          | 11.9        | 160.3                   | 144.6                   | 41.0               | 1.3                | 0.0                                | 0.0    | 0.3    | 0.5   | 2.0    | 1.6            | 14.11                  |
| Notill  | 3rd year soybean   | 30"         | 58.4          | 11.8        | 136.3                   | 126.8                   | 39.5               | 1.3                | 0.0                                | 0.0    | 0.0    | 0.5   | 1.0    | 0.2            | 13.79                  |
| Notill  | 4th year soybean   | 7.5"        | 54.9          | 12.0        | 128.1                   | 128.9                   | 41.0               | 2.3                | 0.0                                | 0.3    | 0.5    | 1.5   | 3.0    | 1.1            | 13.50                  |
| Notill  | 4th year soybean   | 15"         | 63.1          | 11.7        | 165.1                   | 151.2                   | 39.3               | 1.5                | 0.0                                | 0.0    | 0.0    | 0.3   | 0.8    | 1.0            | 13.43                  |
| Notill  | 4th year soybean   | 30"         | 62.3          | 11.5        | 137.7                   | 125.9                   | 40.3               | 1.0                | 0.0                                | 0.0    | 0.0    | 1.3   | 0.8    | 0.5            | 14.01                  |

Continued



**Table C-40. 20 Year Corn/Soybean Rotation Study - Soybean  
Arlington, WI Expt. 2190**

| Tillage            | Rotation | Row Spacing | Yield<br>bu/a | Moist.<br>% | Plant<br>density<br>x 1000 | Plant<br>density<br>x 1000 | Plant<br>height<br>in | Lodge<br>score<br>1-5 | -----Brown stem rot incidence----- |        |        |       |        | Seed wt<br>g/100 seeds |      |
|--------------------|----------|-------------|---------------|-------------|----------------------------|----------------------------|-----------------------|-----------------------|------------------------------------|--------|--------|-------|--------|------------------------|------|
|                    |          |             |               |             |                            |                            |                       |                       | -----Foliar-----                   |        |        | Stem  |        |                        |      |
|                    |          |             |               |             |                            |                            |                       |                       | 17-Aug                             | 24-Aug | 29-Aug | 6-Sep | 12-Sep | 25-Sep                 |      |
|                    |          |             |               |             |                            |                            |                       |                       | -----1-11-----                     |        |        |       |        | 1-11                   |      |
| <b>Probability</b> |          |             |               |             |                            |                            |                       |                       |                                    |        |        |       |        |                        |      |
| Tillage (T)        |          |             | 1.2           | 7.2         | 8.5                        | 19.9                       | 3.5                   | 26.7                  | >50                                | 49.5   | >50    | 1.1   | 8.7    | 18.5                   | 1.4  |
| Rotation (R)       |          |             | 0.3           | 0.8         | 11.2                       | 9.0                        | 16.7                  | <0.1                  | >50                                | >50    | 48.8   | >50   | 15.8   | 5.6                    | <0.1 |
| T x R              |          |             | 22.8          | >50         | 2.3                        | 22.0                       | 17.7                  | 53.4                  | >50                                | >50    | 27.8   | 5.7   | 4.8    | 48.1                   | 1.6  |
| Row Spacing (S)    |          |             | <0.1          | <0.1        | <0.1                       | <0.1                       | 14.6                  | <0.1                  | >50                                | 45.3   | >50    | 44.6  | 2.5    | >50                    | 0.6  |
| T x S              |          |             | >50           | 21.8        | 41.7                       | >50                        | >50                   | >50                   | >50                                | 45.3   | 3.9    | 39.8  | 31.4   | 23.0                   | 24.2 |
| R x S              |          |             | 0.4           | >50         | >50                        | >50                        | 6.8                   | 9.6                   | >50                                | 42.7   | >50    | 24.4  | 2.8    | 42.4                   | 2.9  |
| T x R x S          |          |             | >50           | >50         | >50                        | >50                        | 0.9                   | >50                   | >50                                | 42.7   | >50    | 20.6  | 8.0    | 10.8                   | 72.0 |
| <b>LSD 10%</b>     |          |             |               |             |                            |                            |                       |                       |                                    |        |        |       |        |                        |      |
| Tillage (T)        |          |             | 2.3           | 0.1         | 2.6                        | NS                         | 1.0                   | NS                    | NS                                 | NS     | NS     | 0.1   | 0.7    | NS                     | 0.21 |
| Rotation (R)       |          |             | 3.7           | 0.2         | NS                         | 9.6                        | NS                    | 0.3                   | NS                                 | NS     | NS     | NS    | NS     | 0.4                    | 0.29 |
| T x R              |          |             | NS            | NS          | 11.0                       | NS                         | NS                    | NS                    | NS                                 | NS     | NS     | 0.5   | 0.9    | NS                     | 0.44 |
| Row Spacing (S)    |          |             | 1.7           | 0.1         | 4.9                        | 6.0                        | NS                    | 0.2                   | NS                                 | NS     | NS     | NS    | 0.2    | NS                     | 0.16 |
| T x S              |          |             | NS            | NS          | NS                         | NS                         | NS                    | NS                    | NS                                 | NS     | 0.2    | NS    | NS     | NS                     | NS   |
| R x S              |          |             | 5.2           | NS          | NS                         | NS                         | 2.3                   | 0.5                   | NS                                 | NS     | NS     | NS    | 0.7    | NS                     | 0.45 |
| <b>CV %</b>        |          |             | 10            | 2           | 12                         | 15                         | 5                     | 31                    | 0                                  | 362    | 287    | 140   | 99     | 102                    | 4    |

**Table C-41. 20 Year Corn/Soybean Rotation Study - Soybean  
Arlington, WI Expt. 2190**

| Tillage            | Rotation           | <i>Diaporthe-Phomopsis</i> Complex |         |         |         | <i>Fusarium oxysporum</i> |         |         |         | <i>Rhizoctonia solani</i> |         |         |         | <i>Trichoderma</i> ssp. |         |         |         |
|--------------------|--------------------|------------------------------------|---------|---------|---------|---------------------------|---------|---------|---------|---------------------------|---------|---------|---------|-------------------------|---------|---------|---------|
|                    |                    | Percent incidence                  |         |         |         | Percent incidence         |         |         |         | Percent incidence         |         |         |         | Percent incidence       |         |         |         |
|                    |                    | V1<br>%                            | R1<br>% | R2<br>% | R8<br>% | V1<br>%                   | R1<br>% | R2<br>% | R8<br>% | V1<br>%                   | R1<br>% | R2<br>% | R8<br>% | V1<br>%                 | R1<br>% | R2<br>% | R8<br>% |
| Notill             |                    | 43.6                               | 52.9    | 56.5    | 64.8    | 19.3                      | 15.4    | 13.5    | 7.8     | 3.6                       | 0.4     | 2.2     | 0.0     | 3.2                     | 4.6     | 2.2     | 2.6     |
| Conv               |                    | 47.9                               | 43.6    | 53.8    | 53.1    | 23.6                      | 17.9    | 12.5    | 10.4    | 3.6                       | 2.5     | 2.9     | 1.2     | 1.4                     | 2.9     | 2.1     | 2.3     |
|                    | 1st year soybean   | 50.0                               | 36.3    | 55.0    | 51.4    | 8.8                       | 12.5    | 5.0     | 17.1    | 1.3                       | 2.5     | 1.3     | 0.0     | 1.3                     | 2.5     | 1.3     | 7.1     |
|                    | 2nd year soybean   | 40.0                               | 42.5    | 50.0    | 56.3    | 27.5                      | 13.8    | 18.3    | 2.5     | 2.5                       | 0.0     | 1.7     | 1.3     | 0.0                     | 5.0     | 0.0     | 1.3     |
|                    | 3rd year soybean   | 35.0                               | 50.0    | 55.7    | 61.3    | 22.5                      | 12.5    | 18.6    | 11.3    | 7.5                       | 1.3     | 1.4     | 1.3     | 1.3                     | 7.5     | 1.4     | 0.0     |
|                    | 4th year soybean   | 43.8                               | 52.5    | 55.0    | 67.5    | 35.0                      | 18.8    | 13.8    | 2.5     | 0.0                       | 3.8     | 1.3     | 0.0     | 0.0                     | 2.5     | 7.5     | 2.5     |
|                    | 5th year soybean   | 57.5                               | 60.0    | 48.8    | 61.4    | 11.3                      | 16.3    | 13.8    | 10.0    | 5.0                       | 2.5     | 2.5     | 0.0     | 6.3                     | 0.0     | 0.0     | 0.0     |
|                    | Continuous soybean | 60.0                               | 58.8    | 61.7    | 67.5    | 11.3                      | 18.8    | 16.7    | 11.3    | 3.8                       | 0.0     | 8.3     | 1.3     | 3.8                     | 3.8     | 0.0     | 5.0     |
|                    | S/C rotation       | 33.8                               | 37.5    | 65.0    | 45.7    | 33.8                      | 23.8    | 2.5     | 10.0    | 5.0                       | 0.0     | 2.5     | 0.0     | 3.8                     | 5.0     | 5.0     | 1.4     |
| Notill             | 1st year soybean   | 52.5                               | 40.0    | 60.0    | 56.7    | 12.5                      | 15.0    | 10.0    | 13.3    | 0.0                       | 2.5     | 2.5     | 0.0     | 0.0                     | 0.0     | 2.5     | 16.7    |
| Notill             | 2nd year soybean   | 40.0                               | 37.5    | 56.7    | 72.5    | 27.5                      | 22.5    | 13.3    | 2.5     | 0.0                       | 0.0     | 0.0     | 0.0     | 0.0                     | 0.0     | 0.0     | 0.0     |
| Notill             | 3rd year soybean   | 32.5                               | 60.0    | 62.5    | 60.0    | 15.0                      | 7.5     | 12.5    | 12.5    | 5.0                       | 0.0     | 0.0     | 0.0     | 2.5                     | 12.5    | 2.5     | 0.0     |
| Notill             | 4th year soybean   | 45.0                               | 62.5    | 52.5    | 67.5    | 27.5                      | 12.5    | 15.0    | 5.0     | 0.0                       | 0.0     | 0.0     | 0.0     | 0.0                     | 5.0     | 2.5     | 0.0     |
| Notill             | 5th year soybean   | 55.0                               | 67.5    | 47.5    | 67.5    | 10.0                      | 12.5    | 12.5    | 2.5     | 5.0                       | 0.0     | 5.0     | 0.0     | 10.0                    | 0.0     | 0.0     | 0.0     |
| Notill             | Continuous soybean | 57.5                               | 55.0    | 55.0    | 75.0    | 12.5                      | 15.0    | 30.0    | 12.5    | 5.0                       | 0.0     | 10.0    | 0.0     | 5.0                     | 7.5     | 0.0     | 5.0     |
| Notill             | S/C rotation       | 22.5                               | 47.5    | 65.0    | 52.5    | 30.0                      | 22.5    | 5.0     | 7.5     | 10.0                      | 0.0     | 0.0     | 0.0     | 5.0                     | 7.5     | 10.0    | 0.0     |
| Conv               | 1st year soybean   | 47.5                               | 32.5    | 50.0    | 47.5    | 5.0                       | 10.0    | 0.0     | 20.0    | 2.5                       | 2.5     | 0.0     | 0.0     | 2.5                     | 5.0     | 0.0     | 0.0     |
| Conv               | 2nd year soybean   | 40.0                               | 47.5    | 43.3    | 40.0    | 27.5                      | 5.0     | 23.3    | 2.5     | 5.0                       | 0.0     | 3.3     | 2.5     | 0.0                     | 10.0    | 0.0     | 2.5     |
| Conv               | 3rd year soybean   | 37.5                               | 40.0    | 46.7    | 62.5    | 30.0                      | 17.5    | 26.7    | 10.0    | 10.0                      | 2.5     | 3.3     | 2.5     | 0.0                     | 2.5     | 0.0     | 0.0     |
| Conv               | 4th year soybean   | 42.5                               | 42.5    | 57.5    | 67.5    | 42.5                      | 25.0    | 12.5    | 0.0     | 0.0                       | 7.5     | 2.5     | 0.0     | 0.0                     | 0.0     | 12.5    | 5.0     |
| Conv               | 5th year soybean   | 60.0                               | 52.5    | 50.0    | 53.3    | 12.5                      | 20.0    | 15.0    | 20.0    | 5.0                       | 5.0     | 0.0     | 0.0     | 2.5                     | 0.0     | 0.0     | 0.0     |
| Conv               | Continuous soybean | 62.5                               | 62.5    | 65.0    | 60.0    | 10.0                      | 22.5    | 10.0    | 10.0    | 2.5                       | 0.0     | 7.5     | 2.5     | 2.5                     | 0.0     | 0.0     | 5.0     |
| Conv               | S/C rotation       | 45.0                               | 27.5    | 65.0    | 36.7    | 37.5                      | 25.0    | 0.0     | 13.3    | 0.0                       | 0.0     | 5.0     | 0.0     | 2.5                     | 2.5     | 0.0     | 3.3     |
| <b>Means</b>       |                    | 45.7                               | 48.2    | 55.1    | 59.1    | 21.4                      | 16.6    | 13.0    | 9.1     | 3.6                       | 1.4     | 2.6     | 0.6     | 2.3                     | 3.8     | 2.1     | 2.5     |
| <b>Probability</b> |                    |                                    |         |         |         |                           |         |         |         |                           |         |         |         |                         |         |         |         |
| Tillage (T)        |                    | >50                                | 4.4     | 40.1    | 2.4     | >50                       | >50     | >50     | 24.4    | >50                       | 18.2    | >50     | 9.1     | 23.9                    | 31.2    | >50     | >50     |
| Rotation (R)       |                    | 2.5                                | 3.7     | >50     | 15.2    | <0.1                      | >50     | 18.7    | 9.1     | >50                       | 29.4    | 40.8    | >50     | 13.1                    | >50     | 3.8     | 35.2    |
| T x R              |                    | >50                                | 34.4    | >50     | >50     | >50                       | 34.4    | 25.5    | 39.7    | >50                       | 29.4    | >50     | >50     | >50                     | 12      | 8.5     | 16      |
| <b>LSD 10%</b>     |                    |                                    |         |         |         |                           |         |         |         |                           |         |         |         |                         |         |         |         |
| Tillage (T)        |                    | NS                                 | 6.5     | NS      | 6.4     | NS                        | NS      | NS      | NS      | NS                        | NS      | NS      | NS      | NS                      | NS      | NS      | NS      |
| Rotation (R)       |                    | 10.0                               | 14.5    | NS      | NS      | 6.6                       | NS      | NS      | 8.7     | NS                        | NS      | NS      | NS      | NS                      | NS      | 4.5     | NS      |
| T x R              |                    | NS                                 | NS      | NS      | NS      | NS                        | NS      | NS      | NS      | NS                        | NS      | NS      | NS      | NS                      | NS      | 6.1     | NS      |
| <b>CV %</b>        |                    | 39                                 | 36      | 33      | 30      | 69                        | 83      | 97      | 111     | 258                       | 266     | 256     | 448     | 213                     | 200     | 223     | 297     |

**Table C-42. 20 Year Corn/Soybean Rotation Study - Soybean  
Arlington, WI Expt. 2190  
Leaf Area Index for 15" row spacing**

| Tillage                   | Rotation           | Leaf Area Index                           |       |        |        |        |
|---------------------------|--------------------|---|-------|--------|--------|--------|
|                           |                    | 25-Aug                                    | 5-Sep | 12-Sep | 18-Sep | 24-Sep |
|                           |                    | -----M <sup>2</sup> /M <sup>2</sup> ----- |       |        |        |        |
| Notill                    |                    | 6.11                                      | 5.57  | 4.56   | 4.25   | 3.13   |
| Conv                      |                    | 6.19                                      | 5.68  | 4.93   | 4.17   | 3.18   |
|                           | 1st year soybean   | 5.96                                      | 5.44  | 4.48   | 4.24   | 2.99   |
|                           | 2nd year soybean   | 6.17                                      | 5.71  | 4.58   | 4.51   | 3.15   |
|                           | 3rd year soybean   | 6.09                                      | 5.59  | 4.75   | 4.09   | 3.11   |
|                           | 4th year soybean   | 5.94                                      | 5.60  | 4.92   | 3.68   | 2.85   |
|                           | 5th year soybean   | 6.25                                      | 5.65  | 4.39   | 4.25   | 3.18   |
|                           | Continuous soybean | 6.22                                      | 5.74  | 5.05   | 4.32   | 3.63   |
|                           | S/C rotation       | 6.43                                      | 5.68  | 5.06   | 4.39   | 3.15   |
| Notill                    | 1st year soybean   | 5.89                                      | 5.41  | 4.59   | 4.33   | 3.10   |
| Notill                    | 2nd year soybean   | 6.26                                      | 5.69  | 4.52   | 4.42   | 3.25   |
| Notill                    | 3rd year soybean   | 6.02                                      | 5.61  | 4.65   | 4.44   | 3.27   |
| Notill                    | 4th year soybean   | 5.66                                      | 5.46  | 4.39   | 3.49   | 2.76   |
| Notill                    | 5th year soybean   | 6.07                                      | 5.51  | 4.24   | 3.90   | 2.69   |
| Notill                    | Continuous soybean | 6.18                                      | 5.55  | 4.67   | 4.74   | 3.54   |
| Notill                    | S/C rotation       | 6.69                                      | 5.79  | 4.88   | 4.46   | 3.30   |
| Conv                      | 1st year soybean   | 6.02                                      | 5.46  | 4.37   | 4.16   | 2.89   |
| Conv                      | 2nd year soybean   | 6.09                                      | 5.72  | 4.64   | 4.60   | 3.06   |
| Conv                      | 3rd year soybean   | 6.17                                      | 5.56  | 4.85   | 3.73   | 2.94   |
| Conv                      | 4th year soybean   | 6.22                                      | 5.74  | 5.44   | 3.88   | 2.95   |
| Conv                      | 5th year soybean   | 6.42                                      | 5.78  | 4.54   | 4.61   | 3.68   |
| Conv                      | Continuous soybean | 6.27                                      | 5.94  | 5.44   | 3.89   | 3.73   |
| Conv                      | S/C rotation       | 6.18                                      | 5.56  | 5.24   | 4.33   | 3.00   |
| <b>Means</b>              |                    | 6.15                                      | 5.63  | 4.75   | 4.21   | 3.15   |
| <b><u>Probability</u></b> |                    |   |       |        |        |        |
| Tillage (T)               |                    | 40.4                                      | 2.7   | 6.7    | 39.5   | >50    |
| Rotation (R)              |                    | 25.1                                      | >50   | 7.8    | 33.9   | >50    |
| T x R                     |                    | 25.1                                      | >50   | 31.5   | 27.5   | >50    |
| <b><u>LSD 10%</u></b>     |                    |   |       |        |        |        |
| Tillage (T)               |                    | NS  | 0.06  | 0.31   | NS     | NS     |
| Rotation (R)              |                    | NS  | NS    | 0.45   | NS     | NS     |
| T x R                     |                    | NS  | NS    | NS     | NS     | NS     |
| <b>CV %</b>               |                    | 7   | 7     | 11     | 17     | 26     |

**Table C-43. 20 Year Corn/Soybean Rotation Study - Soybean  
Arlington, WI Expt. 2190  
Multispectral Radiometer Readings for 15" row spacing**

| Tillage            | Rotation           | Wavelength (10 <sup>3</sup> m) |      |       |       | Wavelength (10 <sup>3</sup> m) |      |       |       | Wavelength (10 <sup>3</sup> m) |      |       |       | Wavelength (10 <sup>3</sup> m) |      |       |       |                              |       |       |       |
|--------------------|--------------------|--------------------------------|------|-------|-------|--------------------------------|------|-------|-------|--------------------------------|------|-------|-------|--------------------------------|------|-------|-------|------------------------------|-------|-------|-------|
|                    |                    | 660                            | 710  | 760   | 810   | 660                            | 710  | 760   | 810   | 660                            | 710  | 760   | 810   | 660                            | 710  | 760   | 810   | 660                          | 710   | 760   | 810   |
|                    |                    | % reflectance - 17 Aug, 2001   |      |       |       | % reflectance - 24 Aug, 2001   |      |       |       | % reflectance - 29 Aug, 2001   |      |       |       | % reflectance - 6 Sep, 2001    |      |       |       | % reflectance - 12 Sep, 2001 |       |       |       |
| Notill             |                    | 2.35                           | 3.75 | 43.99 | 56.69 | 3.11                           | 4.59 | 49.42 | 61.51 | 2.80                           | 4.39 | 46.79 | 59.26 | 3.61                           | 6.32 | 42.36 | 52.01 | 6.07                         | 10.18 | 34.51 | 43.01 |
| Conv               |                    | 2.38                           | 3.78 | 43.63 | 55.99 | 3.17                           | 4.67 | 49.37 | 61.29 | 2.75                           | 4.32 | 45.50 | 57.63 | 3.67                           | 6.40 | 41.01 | 50.34 | 6.44                         | 10.60 | 32.98 | 41.23 |
|                    | 1st year soybean   | 2.38                           | 3.82 | 44.69 | 57.43 | 3.13                           | 4.65 | 49.74 | 61.89 | 2.75                           | 4.31 | 45.55 | 57.44 | 3.53                           | 6.08 | 42.53 | 52.18 | 5.93                         | 9.99  | 36.28 | 45.22 |
|                    | 2nd year soybean   | 2.34                           | 3.70 | 42.81 | 55.06 | 3.15                           | 4.66 | 48.28 | 59.78 | 2.82                           | 4.47 | 45.60 | 57.93 | 3.71                           | 6.52 | 41.75 | 51.26 | 6.71                         | 10.93 | 34.20 | 42.84 |
|                    | 3rd year soybean   | 2.52                           | 3.97 | 45.18 | 57.86 | 3.11                           | 4.58 | 49.80 | 61.91 | 2.69                           | 4.21 | 46.77 | 59.33 | 3.63                           | 6.33 | 40.93 | 50.38 | 5.69                         | 9.56  | 34.44 | 42.66 |
|                    | 4th year soybean   | 2.28                           | 3.67 | 42.99 | 55.33 | 3.12                           | 4.59 | 49.41 | 61.37 | 2.76                           | 4.33 | 45.72 | 57.93 | 3.63                           | 6.35 | 42.14 | 51.59 | 6.10                         | 9.99  | 31.94 | 39.62 |
|                    | 5th year soybean   | 2.32                           | 3.68 | 43.65 | 56.13 | 3.16                           | 4.67 | 50.07 | 62.33 | 2.75                           | 4.32 | 46.09 | 58.30 | 3.82                           | 6.60 | 41.13 | 50.56 | 7.24                         | 11.89 | 34.00 | 42.47 |
|                    | Continuous soybean | 2.35                           | 3.71 | 43.40 | 56.07 | 3.14                           | 4.62 | 48.78 | 60.71 | 2.94                           | 4.61 | 47.98 | 60.70 | 3.53                           | 6.22 | 41.95 | 51.52 | 5.74                         | 9.74  | 32.07 | 40.28 |
|                    | S/C rotation       | 2.39                           | 3.80 | 43.98 | 56.50 | 3.17                           | 4.66 | 49.70 | 61.79 | 2.74                           | 4.25 | 45.32 | 57.47 | 3.65                           | 6.44 | 41.36 | 50.73 | 6.39                         | 10.62 | 33.32 | 41.78 |
| Notill             | 1st year soybean   | 2.48                           | 3.93 | 46.90 | 60.34 | 3.07                           | 4.54 | 50.10 | 62.34 | 2.68                           | 4.14 | 47.28 | 59.78 | 3.12                           | 5.35 | 45.00 | 55.31 | 5.10                         | 8.88  | 39.32 | 48.57 |
| Notill             | 2nd year soybean   | 2.28                           | 3.66 | 42.04 | 54.26 | 3.13                           | 4.60 | 47.83 | 59.22 | 2.86                           | 4.49 | 45.55 | 57.72 | 3.58                           | 6.21 | 41.30 | 50.74 | 6.52                         | 10.51 | 33.70 | 41.86 |
| Notill             | 3rd year soybean   | 2.49                           | 3.97 | 44.91 | 57.53 | 3.07                           | 4.55 | 49.92 | 62.19 | 2.61                           | 4.11 | 45.82 | 58.13 | 3.69                           | 6.43 | 41.15 | 50.49 | 5.63                         | 9.53  | 35.65 | 44.58 |
| Notill             | 4th year soybean   | 2.41                           | 3.85 | 44.54 | 57.23 | 3.07                           | 4.52 | 48.96 | 60.94 | 2.94                           | 4.69 | 48.29 | 61.36 | 3.60                           | 6.45 | 43.65 | 53.52 | 5.28                         | 8.73  | 30.05 | 37.15 |
| Notill             | 5th year soybean   | 2.21                           | 3.54 | 43.38 | 56.19 | 3.19                           | 4.70 | 51.52 | 64.05 | 2.78                           | 4.39 | 47.08 | 59.41 | 3.95                           | 6.79 | 40.77 | 50.20 | 7.47                         | 12.27 | 34.24 | 42.55 |
| Notill             | Continuous soybean | 2.23                           | 3.55 | 41.94 | 54.45 | 3.09                           | 4.57 | 48.35 | 60.31 | 2.91                           | 4.55 | 47.09 | 59.58 | 3.68                           | 6.45 | 42.73 | 52.34 | 5.98                         | 10.40 | 35.15 | 44.19 |
| Notill             | S/C rotation       | 2.38                           | 3.74 | 44.26 | 56.85 | 3.15                           | 4.67 | 49.27 | 61.49 | 2.81                           | 4.36 | 46.45 | 58.82 | 3.69                           | 6.56 | 41.91 | 51.48 | 6.49                         | 10.93 | 33.49 | 42.20 |
| Conv               | 1st year soybean   | 2.29                           | 3.72 | 42.48 | 54.53 | 3.20                           | 4.76 | 49.37 | 61.43 | 2.82                           | 4.47 | 43.82 | 55.09 | 3.94                           | 6.80 | 40.07 | 49.06 | 6.77                         | 11.09 | 33.24 | 41.86 |
| Conv               | 2nd year soybean   | 2.40                           | 3.74 | 43.59 | 55.87 | 3.18                           | 4.73 | 48.74 | 60.34 | 2.78                           | 4.45 | 45.65 | 58.14 | 3.84                           | 6.84 | 42.20 | 51.78 | 6.90                         | 11.35 | 34.70 | 43.83 |
| Conv               | 3rd year soybean   | 2.55                           | 3.98 | 45.46 | 58.18 | 3.15                           | 4.61 | 49.67 | 61.62 | 2.76                           | 4.30 | 47.72 | 60.53 | 3.58                           | 6.23 | 40.70 | 50.27 | 5.74                         | 9.59  | 33.22 | 40.74 |
| Conv               | 4th year soybean   | 2.15                           | 3.48 | 41.44 | 53.43 | 3.18                           | 4.66 | 49.86 | 61.79 | 2.58                           | 3.97 | 43.14 | 54.50 | 3.67                           | 6.25 | 40.62 | 49.67 | 6.92                         | 11.25 | 33.83 | 42.09 |
| Conv               | 5th year soybean   | 2.43                           | 3.82 | 43.92 | 56.07 | 3.13                           | 4.64 | 48.61 | 60.62 | 2.71                           | 4.26 | 45.10 | 57.19 | 3.69                           | 6.41 | 41.50 | 50.92 | 7.01                         | 11.52 | 33.76 | 42.39 |
| Conv               | Continuous soybean | 2.48                           | 3.88 | 44.85 | 57.70 | 3.19                           | 4.66 | 49.21 | 61.12 | 2.97                           | 4.67 | 48.88 | 61.83 | 3.38                           | 5.98 | 41.17 | 50.71 | 5.49                         | 9.08  | 29.00 | 36.37 |
| Conv               | S/C rotation       | 2.41                           | 3.85 | 43.69 | 56.16 | 3.18                           | 4.66 | 50.13 | 62.10 | 2.66                           | 4.15 | 44.20 | 56.12 | 3.62                           | 6.31 | 40.80 | 49.98 | 6.29                         | 10.31 | 33.14 | 41.36 |
| Means              |                    | 2.37                           | 3.76 | 43.81 | 56.34 | 3.14                           | 4.63 | 49.40 | 61.40 | 2.78                           | 4.36 | 46.15 | 58.44 | 3.64                           | 6.36 | 41.68 | 51.17 | 6.26                         | 10.39 | 33.75 | 42.12 |
| <b>Probability</b> |                    |                                |      |       |       |                                |      |       |       |                                |      |       |       |                                |      |       |       |                              |       |       |       |
| Tillage (T)        |                    | 17.2                           | 19.3 | >50   | >50   | 21.9                           | 14.7 | >50   | >50   | 25.7                           | 46.1 | 32.1  | 32.1  | >50                            | >50  | 13.6  | 13.2  | 15.7                         | 24.6  | 24.7  | 25.7  |
| Rotation (R)       |                    | 38.9                           | 23.7 | 28.0  | 35.1  | >50                            | >50  | 40.2  | 28.0  | 46.6                           | 48.5 | >50   | >50   | >50                            | >50  | >50   | >50   | 4.3                          | 10.8  | 34.4  | 30.3  |
| T x R              |                    | 14.7                           | 10.4 | 2.2   | 2.9   | >50                            | >50  | 27.1  | 37.8  | 35                             | 21.9 | 13    | 11.2  | 35.2                           | 26.7 | 40.5  | 34.1  | 16.6                         | 18.4  | 13.8  | 9.5   |
| <b>LSD 10%</b>     |                    |                                |      |       |       |                                |      |       |       |                                |      |       |       |                                |      |       |       |                              |       |       |       |
| Tillage (T)        |                    | NS                             | NS   | NS    | NS    | NS                             | NS   | NS    | NS    | NS                             | NS   | NS    | NS    | NS                             | NS   | 1.99  | NS    | NS                           | NS    | NS    | NS    |
| Rotation (R)       |                    | NS                             | NS   | NS    | NS    | NS                             | NS   | NS    | NS    | NS                             | NS   | NS    | NS    | NS                             | NS   | NS    | NS    | 0.86                         | NS    | NS    | NS    |
| T x R              |                    | NS                             | NS   | 3.14  | 3.60  | NS                             | NS   | NS    | NS    | NS                             | NS   | NS    | NS    | NS                             | NS   | NS    | NS    | NS                           | NS    | NS    | 5.9   |
| CV %               |                    | 9                              | 7    | 5     | 5     | 4                              | 4    | 4     | 4     | 9                              | 9    | 6     | 6     | 14                             | 14   | 7     | 7     | 16                           | 16    | 12    | 16    |

**Table C-44. 20 Year Corn/Soybean Rotation Study - Soybean  
Arlington, WI Expt. 2190  
Biomass, height, and growth stages**

| Tillage            | Rotation           | 26 June, 2001        |         |         |              | 18 July, 2001        |         |         |              | 3 Aug, 2001          |         |         |              | 26 Sep, 2001         |         |         |              |
|--------------------|--------------------|----------------------|---------|---------|--------------|----------------------|---------|---------|--------------|----------------------|---------|---------|--------------|----------------------|---------|---------|--------------|
|                    |                    | Biomass<br>DM g/pla. | V-stage | R-stage | Height<br>cm | Biomass<br>DM g/pla. | V-stage | R-stage | Height<br>cm | Biomass<br>DM g/pla. | V-stage | R-stage | Height<br>cm | Biomass<br>DM g/pla. | V-stage | R-stage | Height<br>cm |
| Notill             |                    | 1.87                 | 4.73    | 0.18    | 14.00        | 13.55                | 10.35   | 1.95    | 36.76        | 19.96                | 15.71   | 3.39    | 77.05        | 36.32                | 19.61   | 7.81    | 101.24       |
| Conv               |                    | 1.58                 | 4.62    | 0.15    | 13.32        | 12.51                | 10.12   | 1.95    | 33.81        | 18.83                | 15.90   | 3.29    | 70.95        | 33.29                | 19.88   | 7.68    | 95.07        |
|                    | 1st year soybean   | 1.89                 | 4.67    | 0.21    | 14.08        | 13.60                | 10.67   | 2.00    | 37.75        | 19.32                | 15.54   | 3.42    | 77.67        | 41.44                | 19.96   | 7.58    | 103.42       |
|                    | 2nd year soybean   | 2.12                 | 5.04    | 0.29    | 14.67        | 13.89                | 10.71   | 1.83    | 39.71        | 18.98                | 15.96   | 3.42    | 78.71        | 36.12                | 19.75   | 7.96    | 105.04       |
|                    | 3rd year soybean   | 1.66                 | 4.46    | 0.08    | 14.21        | 12.82                | 9.88    | 1.92    | 35.50        | 20.59                | 16.17   | 3.42    | 75.50        | 37.75                | 20.08   | 7.79    | 99.29        |
|                    | 4th year soybean   | 1.54                 | 4.71    | 0.17    | 13.21        | 12.45                | 9.67    | 2.00    | 31.46        | 18.12                | 15.79   | 3.21    | 69.83        | 28.38                | 19.54   | 7.67    | 96.04        |
|                    | 5th year soybean   | 1.80                 | 4.83    | 0.21    | 14.00        | 12.91                | 10.29   | 1.92    | 34.25        | 17.38                | 15.46   | 3.50    | 74.38        | 36.43                | 20.00   | 7.63    | 87.75        |
|                    | Continuous soybean | 1.51                 | 4.42    | 0.17    | 12.88        | 13.36                | 10.17   | 2.00    | 32.38        | 20.38                | 16.33   | 3.29    | 67.42        | 29.76                | 19.33   | 7.88    | 93.38        |
|                    | S/C rotation       | 1.54                 | 4.58    | 0.04    | 12.58        | 12.16                | 10.25   | 2.00    | 35.96        | 21.02                | 15.42   | 3.13    | 74.50        | 33.78                | 19.54   | 7.71    | 102.17       |
| Notill             | 1st year soybean   | 1.61                 | 4.25    | 0.08    | 13.33        | 11.80                | 10.33   | 2.00    | 35.83        | 20.31                | 14.92   | 3.42    | 72.25        | 42.60                | 19.33   | 7.33    | 102.42       |
| Notill             | 2nd year soybean   | 2.27                 | 5.17    | 0.17    | 15.33        | 13.83                | 10.58   | 2.00    | 39.92        | 18.10                | 15.92   | 3.17    | 77.83        | 38.92                | 19.83   | 8.00    | 109.50       |
| Notill             | 3rd year soybean   | 1.92                 | 4.50    | 0.00    | 14.92        | 13.86                | 9.83    | 1.83    | 38.58        | 21.31                | 16.67   | 3.75    | 82.58        | 40.16                | 19.58   | 8.00    | 102.92       |
| Notill             | 4th year soybean   | 1.88                 | 5.08    | 0.33    | 13.83        | 14.04                | 10.33   | 2.00    | 37.00        | 19.89                | 16.17   | 3.58    | 85.75        | 33.19                | 19.83   | 7.75    | 107.17       |
| Notill             | 5th year soybean   | 2.22                 | 5.25    | 0.42    | 15.50        | 14.88                | 10.58   | 1.83    | 37.58        | 19.48                | 15.42   | 3.58    | 79.00        | 36.53                | 19.33   | 7.75    | 86.58        |
| Notill             | Continuous soybean | 1.73                 | 4.50    | 0.17    | 13.17        | 14.16                | 10.42   | 2.00    | 33.75        | 21.73                | 15.83   | 3.25    | 69.83        | 28.81                | 19.67   | 8.00    | 96.50        |
| Notill             | S/C rotation       | 1.44                 | 4.33    | 0.08    | 11.92        | 12.25                | 10.33   | 2.00    | 34.67        | 18.92                | 15.08   | 3.00    | 72.08        | 34.05                | 19.67   | 7.83    | 103.58       |
| Conv               | 1st year soybean   | 2.17                 | 5.08    | 0.33    | 14.83        | 15.40                | 11.00   | 2.00    | 39.67        | 18.33                | 16.17   | 3.42    | 83.08        | 40.29                | 20.58   | 7.83    | 104.42       |
| Conv               | 2nd year soybean   | 1.97                 | 4.92    | 0.42    | 14.00        | 13.96                | 10.83   | 1.67    | 39.50        | 19.85                | 16.00   | 3.67    | 79.58        | 33.31                | 19.67   | 7.92    | 100.58       |
| Conv               | 3rd year soybean   | 1.40                 | 4.42    | 0.17    | 13.50        | 11.79                | 9.92    | 2.00    | 32.42        | 19.88                | 15.67   | 3.08    | 68.42        | 35.34                | 20.58   | 7.58    | 95.67        |
| Conv               | 4th year soybean   | 1.21                 | 4.33    | 0.00    | 12.58        | 10.85                | 9.00    | 2.00    | 25.92        | 16.35                | 15.42   | 2.83    | 53.92        | 23.58                | 19.25   | 7.58    | 84.92        |
| Conv               | 5th year soybean   | 1.38                 | 4.42    | 0.00    | 12.50        | 10.94                | 10.00   | 2.00    | 30.92        | 15.29                | 15.50   | 3.42    | 69.75        | 36.33                | 20.67   | 7.50    | 88.92        |
| Conv               | Continuous soybean | 1.30                 | 4.33    | 0.17    | 12.58        | 12.55                | 9.92    | 2.00    | 31.00        | 19.02                | 16.83   | 3.33    | 65.00        | 30.71                | 19.00   | 7.75    | 90.25        |
| Conv               | S/C rotation       | 1.64                 | 4.83    | 0.00    | 13.25        | 12.06                | 10.17   | 2.00    | 37.25        | 23.12                | 15.75   | 3.25    | 76.92        | 33.52                | 19.42   | 7.58    | 100.75       |
| Means              |                    | 1.72                 | 4.67    | 0.17    | 13.66        | 13.03                | 10.23   | 1.95    | 35.29        | 19.40                | 15.81   | 3.34    | 74.00        | 34.81                | 19.74   | 7.74    | 98.16        |
| <b>Probability</b> |                    |                      |         |         |              |                      |         |         |              |                      |         |         |              |                      |         |         |              |
| Tillage (T)        |                    | 0.2                  | 48.6    | >50     | 11.9         | 14.0                 | >50     | >50     | 11.6         | 21.2                 | >50     | 17.0    | 0.5          | 9.2                  | 30.2    | 24.2    | 0.7          |
| Rotation (R)       |                    | 0.3                  | 19.4    | 27.4    | 1.1          | >50                  | 6.7     | 18.7    | <0.1         | >50                  | >50     | >50     | 6.7          | 20.0                 | >50     | 7.2     | 0.3          |
| T x R              |                    | <0.1                 | 1.7     |         | 0.7          | 2.20                 | 17.5    | 3.9     | <0.1         | >50                  | 43.3    | 15.4    | <0.1         | >50                  | >50     | 4.0     | 10.8         |
| <b>LSD 10%</b>     |                    |                      |         |         |              |                      |         |         |              |                      |         |         |              |                      |         |         |              |
| Tillage (T)        |                    | 0.07                 | NS      | NS      | NS           | NS                   | NS      | NS      | NS           | NS                   | NS      | NS      | 1.89         | NS                   | NS      | NS      | 2.2          |
| Rotation (R)       |                    | 0.27                 | NS      | NS      | 0.27         | NS                   | 0.61    | NS      | 2.87         | NS                   | NS      | NS      | 6.56         | NS                   | NS      | 0.22    | 7.22         |
| T x R              |                    | 0.33                 | NS      | 0.23    | 1.18         | 2.70                 | NS      | 0.16    | 5.79         | NS                   | NS      | NS      | 8.07         | NS                   | NS      | 0.40    | NS           |
| <b>CV %</b>        |                    | 18                   | 11      | 123     | 9            | 16                   | 7       | 8       | 10           | 28                   | 8       | 15      | 10           | 30                   | 8       | 3       | 9            |

**Table C-45. 20 Year Corn/Soybean Rotation Study - Soybean**  
**Arlington, WI Expt. 2190**  
**Gravimetric soil moisture**

| Tillage            | Rotation           | 2-May   |          | 25-May  |          | 13-Jun  |          | 29-Jun  |          | 11-Jul  |          | 27-Jul  |          | 10-Aug  |          | 24-Aug  |          | 5-Sep   |          |
|--------------------|--------------------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|
|                    |                    | 0-15 cm | 15-30 cm | 0-15 cm | 15-30 cm | 0-15 cm | 15-30 cm | 0-15 cm | 15-30 cm | 0-15 cm | 15-30 cm | 0-15 cm | 15-30 cm | 0-15 cm | 15-30 cm | 0-15 cm | 15-30 cm | 0-15 cm | 15-30 cm |
| Notill             |                    | 15.86   | 18.54    | 20.85   | 22.16    | 21.35   | 21.98    | 15.96   | 19.81    | 12.81   | 14.39    | 17.47   | 16.23    | 18.68   | 20.08    | 17.72   | 16.18    | 18.52   | 19.35    |
| Conv               |                    | 16.57   | 17.64    | 20.98   | 22.23    | 21.75   | 21.60    | 16.20   | 18.99    | 12.77   | 14.84    | 18.30   | 16.52    | 19.69   | 21.72    | 19.84   | 17.90    | 18.29   | 19.83    |
|                    | 1st year soybean   | -       | -        | 21.92   | 24.55    | 22.20   | 22.01    | 17.05   | 19.38    | 12.18   | 14.43    | 18.50   | 17.24    | 19.31   | 20.93    | 18.51   | 16.59    | 19.06   | 19.48    |
|                    | 2nd year soybean   | -       | -        | 20.58   | 23.14    | 22.03   | 22.25    | 16.28   | 20.25    | 13.06   | 15.11    | 18.94   | 17.22    | 20.93   | 22.36    | 19.84   | 18.60    | 19.11   | 20.09    |
|                    | 3rd year soybean   | -       | -        | 20.83   | 21.70    | 21.34   | 21.20    | 16.04   | 18.66    | 12.59   | 14.68    | 17.83   | 16.51    | 18.46   | 19.96    | 18.89   | 17.13    | 18.29   | 19.01    |
|                    | 4th year soybean   | -       | -        | 20.83   | 21.32    | 21.29   | 21.01    | 15.54   | 18.40    | 12.75   | 14.30    | 17.69   | 15.26    | 19.35   | 21.13    | 18.79   | 17.20    | 18.75   | 20.74    |
|                    | 5th year soybean   | -       | -        | 21.07   | 21.81    | 21.63   | 21.29    | 15.47   | 18.50    | 13.29   | 14.66    | 17.48   | 15.49    | 18.31   | 21.06    | 18.48   | 16.94    | 18.13   | 19.26    |
|                    | Continuous soybean | -       | -        | 20.70   | 21.09    | 20.97   | 20.86    | 15.52   | 18.48    | 12.47   | 14.03    | 16.79   | 15.55    | 17.43   | 19.01    | 17.47   | 15.69    | 18.01   | 18.44    |
|                    | S/C rotation       | -       | -        | 20.47   | 21.76    | 21.39   | 23.93    | 16.69   | 22.11    | 13.21   | 15.09    | 17.97   | 17.34    | 20.49   | 21.84    | 19.48   | 17.15    | 17.49   | 20.11    |
| Notill             | 1st year soybean   | -       | -        | 22.19   | 22.53    | 21.78   | 21.58    | 17.19   | 20.22    | 13.72   | 15.08    | 18.77   | 17.48    | 18.56   | 20.27    | 18.53   | 16.39    | 19.55   | 19.52    |
| Notill             | 2nd year soybean   | -       | -        | 19.56   | 23.27    | 22.02   | 22.03    | 16.82   | 19.94    | 12.95   | 14.89    | 18.78   | 17.67    | 20.80   | 22.23    | 18.77   | 18.24    | 19.34   | 20.06    |
| Notill             | 3rd year soybean   | -       | -        | 21.08   | 22.17    | 21.15   | 21.21    | 15.10   | 18.67    | 12.59   | 14.83    | 17.15   | 16.17    | 18.03   | 19.41    | 16.55   | 15.45    | 18.35   | 19.08    |
| Notill             | 4th year soybean   | -       | -        | 21.14   | 21.50    | 21.27   | 21.03    | 15.48   | 18.22    | 12.25   | 13.19    | 16.97   | 14.80    | 18.45   | 20.05    | 18.44   | 16.67    | 19.24   | 22.05    |
| Notill             | 5th year soybean   | -       | -        | 20.89   | 21.70    | 21.34   | 21.13    | 14.97   | 17.82    | 12.65   | 13.62    | 16.14   | 14.73    | 18.56   | 19.78    | 17.15   | 15.66    | 17.09   | 17.91    |
| Notill             | Continuous soybean | -       | -        | 20.93   | 21.14    | 20.49   | 20.90    | 15.30   | 18.35    | 12.33   | 13.68    | 16.39   | 14.53    | 15.97   | 17.28    | 16.09   | 14.24    | 17.73   | 17.92    |
| Notill             | S/C rotation       | -       | -        | 20.17   | 22.80    | 21.40   | 25.97    | 16.89   | 25.44    | 13.17   | 15.47    | 18.09   | 18.22    | 20.38   | 21.54    | 18.50   | 16.62    | 18.37   | 18.90    |
| Conv               | 1st year soybean   | -       | -        | 21.66   | 26.57    | 22.63   | 22.44    | 16.91   | 18.54    | 10.63   | 13.78    | 18.23   | 16.99    | 20.05   | 21.60    | 18.49   | 16.79    | 18.57   | 19.45    |
| Conv               | 2nd year soybean   | -       | -        | 21.61   | 23.00    | 22.04   | 22.46    | 15.74   | 20.57    | 13.16   | 15.34    | 19.10   | 16.78    | 21.06   | 22.48    | 20.91   | 18.96    | 18.87   | 20.12    |
| Conv               | 3rd year soybean   | -       | -        | 20.58   | 21.24    | 21.54   | 21.19    | 16.98   | 18.65    | 12.59   | 14.54    | 18.51   | 16.86    | 18.90   | 20.52    | 21.24   | 18.80    | 18.22   | 18.95    |
| Conv               | 4th year soybean   | -       | -        | 20.52   | 21.15    | 21.31   | 20.99    | 15.61   | 18.57    | 13.24   | 15.42    | 18.41   | 15.71    | 20.24   | 22.21    | 19.14   | 17.73    | 18.26   | 19.43    |
| Conv               | 5th year soybean   | -       | -        | 21.25   | 21.91    | 21.93   | 21.45    | 15.97   | 19.19    | 13.93   | 15.71    | 18.81   | 16.26    | 18.07   | 22.35    | 19.80   | 18.22    | 19.16   | 20.61    |
| Conv               | Continuous soybean | -       | -        | 20.47   | 21.03    | 21.46   | 20.82    | 15.73   | 18.61    | 12.61   | 14.38    | 17.19   | 16.57    | 18.90   | 20.74    | 18.85   | 17.13    | 18.29   | 18.96    |
| Conv               | S/C rotation       | -       | -        | 20.76   | 20.72    | 21.37   | 21.88    | 16.49   | 18.78    | 13.26   | 14.71    | 17.85   | 16.45    | 20.61   | 22.14    | 20.45   | 17.68    | 16.62   | 21.32    |
| Means              |                    |         |          | 20.91   | 22.20    | 21.55   | 21.79    | 16.08   | 19.40    | 12.79   | 14.62    | 17.88   | 16.37    | 19.18   | 20.90    | 18.78   | 17.04    | 18.40   | 19.59    |
| <b>Probability</b> |                    |         |          |         |          |         |          |         |          |         |          |         |          |         |          |         |          |         |          |
| Tillage (T)        |                    | -       | -        | >50     | >50      | 3.7     | >50      | 27.4    | 46.4     | >50     | 12.7     | 6.4     | >50      | 4.5     | 1.5      | 0.2     | 1.1      | 15.5    | >50      |
| Rotation (R)       |                    | -       | -        | >50     | 2.7      | 29.6    | 28.8     | 30.0    | 28.1     | >50     | 39.8     | 25.2    | 4.7      | 3.0     | 4.0      | 13.4    | 18.2     | >50     | >50      |
| T x R              |                    | -       | -        | >50     | 16.2     | >50     | >50      | >50     | 28.2     | 12.2    | 1.5      | >50     | 26.6     | >50     | >50      | 13.4    | >50      | >50     | >50      |
| <b>LSD 10%</b>     |                    |         |          |         |          |         |          |         |          |         |          |         |          |         |          |         |          |         |          |
| Tillage (T)        |                    | -       | -        | NS      | NS       | 0.27    | NS       | NS      | NS       | NS      | NS       | 0.68    | NS       | 0.72    | 0.76     | 0.47    | 0.7      | NS      | NS       |
| Rotation (R)       |                    | -       | -        | NS      | 1.77     | NS      | NS       | NS      | NS       | NS      | NS       | NS      | 1.42     | 1.8     | 1.69     | NS      | NS       | NS      | NS       |
| T x R              |                    | -       | -        | NS      | NS       | NS      | NS       | NS      | NS       | NS      | NS       | NS      | NS       | NS      | NS       | NS      | NS       | NS      | NS       |
| CV %               |                    | -       | -        | 9       | 9        | 5       | 12       | 10      | 17       | 12      | 7        | 9       | 10       | 11      | 7        | 9       | 11       | 11      | 18       |



## FIELD EXPERIMENT HISTORY

**Title:** Syngenta Fungicide Trial  
**Experiment:** 10Fungicide **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn **Trial ID** 1618  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Syngenta Crop Protection

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### Site Information

**Field:** 408 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/19/01 **pH** 6.4 **OM (%)** 2.8 **P (ppm)** 64 **K (ppm)** 158

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher 2x 1  
**Fertilizer:** **Preplant Analysis:** 46-0-0 **Rate lbs/A:** 325 **Date:** 4 /18/01  
**Starter Analysis:** 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /20/01  
**Post plant Analysis:** N/A **Rate lbs/A:** N/A **Date:** N/A  
**Manure:** None  
**Herbicide:** Harness 2.5 oz/A **Insecticide:** None  
Permit .66 oz/A **Hybrid:** Cargill F657  
None NK48-V8  
Pioneer 35R5  
**Planting Date:** 05/20/01 **Planting Depth:** 1 1/2 **Row Width** 30"  
**Target Plant Density:** ##### plants per acre **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/8/01 **Harvest Method:** New Holland 707 Plot Cho  
**Notes:** 7/31/01 V16 treatment on Pioneer 35R57  
8/2/01 V16 treatment on Cargill F657

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### Experimental Design

**Design:** RCB **Replications:** 4  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.13 A  
**Harvest Plot Size:** 21' x 2.5' **Harvest Plant Density:** 30803 plants per acre  
**Factors/Treatments:**

**Hybrid:** Cargill F657  
NK48-V8  
Pioneer 35R57  
**Foliar Treatment:** Tilt @ 4 oz/A at V16  
Check

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**Results: Table C-46.**

**Table C-46. Control of Foliar Diseases in Corn  
Arlington, WI - 2001**

| Treatment              | Hybrid        | Harvest<br>Population<br>plants/A | Stay<br>Green †<br>Score | Yield<br>T/A | Moist<br>% | Kernel    |         |          |          |          |          | Milk per    |             |              |
|------------------------|---------------|-----------------------------------|--------------------------|--------------|------------|-----------|---------|----------|----------|----------|----------|-------------|-------------|--------------|
|                        |               |                                   |                          |              |            | Milk<br>% | CP<br>% | ADF<br>% | NDF<br>% | IVD<br>% | CWD<br>% | Starch<br>% | Ton<br>lb/T | Acre<br>lb/A |
| Tilt 4 oz/A at V16     |               | 30284                             | 2                        | 7.7          | 64.1       | 45        | 7.9     | 27.0     | 53.0     | 70.5     | 44.5     | 23.1        | 2686        | 20660        |
| Check                  |               | 31321                             | 3                        | 8.2          | 62.7       | 47        | 8.0     | 26.0     | 51.6     | 71.3     | 44.3     | 25.1        | 2683        | 22043        |
|                        | Cargill F657  | 30699                             | 2                        | 6.7          | 70.9       | 51        | 8.5     | 26.2     | 52.3     | 73.3     | 48.9     | 22.7        | 2956        | 19783        |
|                        | NK48-V8       | 31010                             | 2                        | 8.6          | 61.9       | 55        | 8.0     | 29.3     | 56.5     | 67.3     | 42.2     | 17.2        | 2415        | 21003        |
|                        | Pioneer 35R57 | 30699                             | 2                        | 8.7          | 57.5       | 33        | 7.3     | 23.9     | 48.0     | 72.1     | 42.0     | 32.3        | 2683        | 23268        |
| Tilt 4 oz/A at V16     | Cargill F657  | 30284                             | 2                        | 6.5          | 71.0       | 48        | 8.4     | 26.3     | 52.4     | 73.6     | 49.6     | 22.0        | 2980        | 19406        |
| Tilt 4 oz/A at V16     | NK48-V8       | 30077                             | 2                        | 8.6          | 62.1       | 56        | 7.8     | 29.5     | 57.1     | 67.0     | 42.4     | 18.0        | 2428        | 20998        |
| Tilt 4 oz/A at V16     | Pioneer 35R57 | 30491                             | 2                        | 8.1          | 59.2       | 33        | 7.4     | 25.1     | 49.5     | 71.0     | 41.5     | 29.2        | 2650        | 21576        |
| Check                  | Cargill F657  | 31114                             | 2                        | 6.9          | 70.8       | 55        | 8.7     | 26.1     | 52.2     | 73.1     | 48.3     | 23.4        | 2932        | 20160        |
| Check                  | NK48-V8       | 31943                             | 3                        | 8.7          | 61.6       | 54        | 8.2     | 29.2     | 56.0     | 67.6     | 42.1     | 16.5        | 2401        | 21008        |
| Check                  | Pioneer 35R57 | 30906                             | 3                        | 9.2          | 55.8       | 33        | 7.2     | 22.8     | 46.5     | 73.2     | 42.5     | 35.3        | 2716        | 24960        |
| Mean                   |               | 30803                             | 2                        | 8.0          | 63.4       | 46        | 8.0     | 26.5     | 52.3     | 70.9     | 44.4     | 24.1        | 2685        | 21351        |
| <b>Probability (%)</b> |               |                                   |                          |              |            |           |         |          |          |          |          |             |             |              |
| Treatment (T)          |               | 32.6                              | 3.2                      | 31.8         | 33.6       | 62.4      | 29.9    | 39.1     | 39.6     | 44.5     | 78.4     | 38.8        | 96.4        | 40.0         |
| Hybrid (H)             |               | 96.0                              | 42.9                     | 0.5          | 0.0        | 0.0       | 0.0     | 0.4      | 0.3      | 0.0      | 0.0      | 0.0         | 0.0         | 22.8         |
| T x H                  |               | 83.8                              | 42.9                     | 69.8         | 56.5       | 46.2      | 21.6    | 67.2     | 78.1     | 52.2     | 37.7     | 40.8        | 76.0        | 67.0         |
| <b>LSD (0.10)</b>      |               |                                   |                          |              |            |           |         |          |          |          |          |             |             |              |
| Treatment (T)          |               | NS                                | NS                       | NS           | NS         | NS        | NS      | NS       | NS       | NS       | NS       | NS          | NS          | NS           |
| Hybrid (H)             |               | NS                                | NS                       | 1.4          | 2.9        | 7         | 0.3     | 2.3      | 3.5      | 2.1      | 1.4      | 4.9         | 142         | NS           |
| T x H                  |               | NS                                | NS                       | NS           | NS         | NS        | NS      | NS       | NS       | NS       | NS       | NS          | NS          | NS           |
| <b>CV (%)</b>          |               |                                   |                          |              |            |           |         |          |          |          |          |             |             |              |
|                        |               | 8                                 | 19                       | 14           | 5          | 18        | 5       | 10       | 8        | 3        | 4        | 23          | 6           | 18           |

† Stay Green rating based on a scale 1 through 5. 1 = brown plants and 5 = green plants.

## FIELD EXPERIMENT HISTORY

**Title:** Effect of Cutting Height on Corn Forage  
**Experiment:** 15Harvest **Trial ID** 1619 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:**

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### Site Information

**Field:** 408 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/19/01 **pH** 6.4 **OM (%)** 2.8 **P (ppm)** 64 **K (ppm)** 158

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher 2x 1 Cultivation  
**Fertilizer:** **Preplant :** 46-0-0 **Rate lbs/A:** 325 **Date:** 4 /18/01  
**Starter :** 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /20/01  
**Post plant :** N/A **Rate lbs/A:** N/A **Date:** N/A  
**Manure:** None **Rate lbs/A:** None **Date:** N/A  
**Herbicide:** Harness 2.5 oz/A **Insecticide:** None  
Permit 0.66 oz/A **Hybrid:**  
**Irrigation:** None  
**Planting Date:** 05/20/01 **Planting Depth:** 1 1/2 **Row Width:** 30"  
**Target Plant Density:** **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/8/01 **Harvest Method:** New Holland 707 Plot Chopper

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### Experimental Design

**Design:** RCB **Replications:** 4  
**Plot Size Seeded:** 25' x 10' **Experiment Size:** 0.13 A  
**Harvest Plot Size:** 21' x 2.5' **Harvest Plant Density:** 31701 plants per acre

### Factors/Treatments:

| <u>Hybrid:</u> | <u>Cutting Height:</u> |
|----------------|------------------------|
| Cargill F657   | 24"                    |
| NK48-V8        | 6"                     |
| Pioneer 35R57  |                        |

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**Results:** Table C-47.

**Table C-47. Effect of Cutting Height on Corn Forage.  
Arlington, WI - 2001**

| Treatment              | Hybrid        | Harvest<br>Population<br>plants/A | Yield<br>T/A | Moist<br>% | Kernel    |         |          |          |          |          |             | Milk per    |              |
|------------------------|---------------|-----------------------------------|--------------|------------|-----------|---------|----------|----------|----------|----------|-------------|-------------|--------------|
|                        |               |                                   |              |            | Milk<br>% | CP<br>% | ADF<br>% | NDF<br>% | IVD<br>% | CWD<br>% | Starch<br>% | Ton<br>lb/T | Acre<br>lb/A |
|                        | Cargill F657  | 31736                             | 6.6          | 69.6       | 55.0      | 8.7     | 25.3     | 51.2     | 74.1     | 49.4     | 22.7        | 3005        | 19699        |
|                        | NK48-V8       | 31943                             | 7.7          | 61.4       | 53.8      | 8.2     | 29.6     | 56.7     | 67.5     | 42.6     | 14.6        | 2374        | 18416        |
|                        | Pioneer 35R57 | 31425                             | 8.9          | 54.1       | 32.5      | 7.4     | 22.2     | 45.7     | 73.6     | 42.2     | 35.3        | 2710        | 24069        |
| 24" Cut                |               | 32082                             | 7.2          | 60.7       | 47.1      | 8.2     | 25.4     | 50.8     | 72.1     | 45.1     | 23.3        | 2713        | 19437        |
| 6" Cut                 |               | 31321                             | 8.2          | 62.7       | 47.1      | 8.0     | 26.0     | 51.6     | 71.3     | 44.3     | 25.1        | 2680        | 22019        |
| 24" Cut                | Cargill F657  | 32358                             | 6.3          | 68.4       | 55.0      | 8.8     | 24.6     | 50.3     | 75.1     | 50.4     | 22.0        | 3081        | 19256        |
| 24" Cut                | NK48-V8       | 31943                             | 6.7          | 61.2       | 53.8      | 8.3     | 29.9     | 57.4     | 67.3     | 43.0     | 12.8        | 2351        | 15850        |
| 24" Cut                | Pioneer 35R57 | 31943                             | 8.6          | 52.4       | 32.5      | 7.5     | 21.7     | 44.9     | 74.0     | 41.9     | 35.2        | 2708        | 23206        |
| 6" Cut                 | Cargill F657  | 31114                             | 6.9          | 70.8       | 55.0      | 8.7     | 26.1     | 52.2     | 73.1     | 48.3     | 23.4        | 2930        | 20142        |
| 6" Cut                 | NK48-V8       | 31943                             | 8.7          | 61.6       | 53.8      | 8.2     | 29.2     | 56.0     | 67.6     | 42.1     | 16.5        | 2398        | 20982        |
| 6" Cut                 | Pioneer 35R57 | 30906                             | 9.2          | 55.8       | 32.5      | 7.2     | 22.8     | 46.5     | 73.2     | 42.5     | 35.3        | 2713        | 24932        |
| Mean                   |               | 31701                             | 7.7          | 61.7       | 47.1      | 8.1     | 25.7     | 51.2     | 71.7     | 44.7     | 24.2        | 2697        | 20728        |
| <b>Probability (%)</b> |               |                                   |              |            |           |         |          |          |          |          |             |             |              |
|                        | Hybrid (H)    | 93.0                              | 1.6          | 0.0        |           | 0.0     | 0.0      | 0.0      | 0.0      | 0.0      | 0.0         | 0.0         | 4.3          |
|                        | Treatment (T) | 51.3                              | 7.2          | 8.7        |           | 7.7     | 50.5     | 35.4     | 26.2     | 3.6      | 42.7        | 61.2        | 14.1         |
|                        | H x T         | 88.9                              | 50.6         | 53.8       |           | 39.0    | 57.2     | 53.4     | 42.4     | 3.3      | 77.9        | 43.0        | 54.1         |
| <b>LSD (0.10)</b>      |               |                                   |              |            |           |         |          |          |          |          |             |             |              |
|                        | Hybrid (H)    | NS                                | 0.8          | 3.9        |           | 0.2     | 2.1      | 3.6      | 1.9      | 1.1      | 5.5         | 82          | 2695         |
|                        | Treatment (T) | NS                                | 0.9          | 2.0        |           | 0.1     | NS       | NS       | NS       | 0.6      | NS          | NS          | NS           |
|                        | H x T         | NS                                | NS           | NS         |           | NS      | NS       | NS       | NS       | 1.1      | NS          | NS          | NS           |
| <b>CV (%)</b>          |               |                                   |              |            |           |         |          |          |          |          |             |             |              |
|                        |               | 9                                 | 16           | 4          |           | 2       | 8        | 6        | 2        | 2        | 21          | 6           | 19           |

## FIELD EXPERIMENT HISTORY

**Title:** Corn Silage Response to Hail Damage  
**Experiment:** 11 Hail **Trial ID:** 1558 **Year:** 2001  
**Personnel:** J.G. Lauer, P. J. Flannery, and K. D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** National Crop Insurance Service

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### Site Information

**Field:** 408 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 20/01/ **pH** 6.8 **OM (%)** 2.6 **P (ppm)** 78 **K (ppm)** 202

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Cultivation on 6/14/01

| <b>Fertilizer:</b> |                   | <b>Analysis</b> | <b>Rate</b> | <b>Date</b> |
|--------------------|-------------------|-----------------|-------------|-------------|
|                    | <b>Preplant</b>   | 46-0-0          | 150 A       | 4 /18/01    |
|                    | <b>Starter</b>    | 6-24-24         | 150         | 4 /28/01    |
|                    | <b>Post plant</b> | N/A             | N/A         | N/A         |
|                    | <b>Manure:</b>    | N/A             | None        |             |

**Herbicide:** Harness @ 2.5 pt/A **Insecticide:** None  
Permit @ .66 oz/A

**Irrigation:** None **Hybrid:** Pioneer 34G82

**Planting Date:** 4/28/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 9/18/01 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** V7 treatments conducted on 6/18/01  
V10 treatments conducted on 7/3/01  
R1 treatments conducted on 7/23/01  
R4 treatments conducted on 8/20/01

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### Experimental Design

**Design:** RCB **Replications:** 4  
**Plot Size Seeded:** 25' x 10' **Experiment Size:** 0.23 A  
**Harvest Plot Size:** 21' x 2.5' **Harvest Plant Density:** 34371 plants per acre

#### **Factors/Treatments:**

##### Treatments:

|            |                 |
|------------|-----------------|
| 100% @ V7  | 100% @ R1       |
| 50% @ V10  | 25% @ R4        |
| 100% @ V10 | 50% @ R4        |
| 25% @ R1   | 100% @ R4       |
| 50% @ R1   | Untreated Check |

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**Results: Table C-48.**

**Table C-48. Corn Silage Response to Hail Damage  
Arlington, WI 2001.**

| Leaf Removal<br>treatment     | Dry Matter<br>yield | Moisture | Kernel<br>milk | Plant<br>population |
|-------------------------------|---------------------|----------|----------------|---------------------|
|                               | T/A                 | %        | %              | plants/A            |
| 100% @ V7                     | 8.8                 | 64.0     | 23             | 35263               |
| 50% @ V10                     | 9.9                 | 64.5     | 24             | 34226               |
| 100% @ V10                    | 6.3                 | 68.1     | 21             | 34641               |
| 25% @ R1                      | 10.7                | 64.7     | 19             | 33396               |
| 50% @ R1                      | 9.3                 | 66.8     | 19             | 34226               |
| 100% @ R1                     | 2.9                 | 59.6     | 6              | 33603               |
| 25% @ R4                      | 10.6                | 65.0     | 14             | 33603               |
| 50% @ R4                      | 10.6                | 62.0     | 21             | 35263               |
| 100% @ R4                     | 6.2                 | 43.7     | 16             | 34433               |
| Check                         | 11.2                | 63.7     | 21             | 35055               |
| Mean                          | 8.7                 | 62.2     | 18             | 34371               |
| <b><u>Probability (%)</u></b> |                     |          |                |                     |
| Treatment                     | 0.0                 | 0.0      | 65.1           | 49.4                |
| <b><u>LSD (0.10)</u></b>      |                     |          |                |                     |
| Treatment                     | 0.8                 | 2.8      | NS             | NS                  |
| <b><u>CV (%)</u></b>          |                     |          |                |                     |
|                               | 8                   | 4        | 65             | 4                   |

## FIELD EXPERIMENT HISTORY

**Title:** 15 Harvest Timing  
**Experiment:** 15 Harvest Timing **Trial ID:** 2257 **Year:** 2000  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** 427 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 10/1 /00 **pH** 6.5 **OM (%)** 3.4 **P (ppm)** 43 **K (ppm)** 115

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Cultivated

|                                      | <u>Analysis:</u> | <u>Rate lbs/A:</u> | <u>Date:</u> |
|--------------------------------------|------------------|--------------------|--------------|
| <b>Fertilizer:</b> <b>Preplant :</b> | 46-0-0           | 325                | N/A          |
| <b>Starter :</b>                     | 6-24-24          | 150                | 4 /25/00     |
| <b>Post plant :</b>                  | N/A              | N/A                | N/A          |
| <b>Manure:</b>                       | N/A              | N/A                |              |

**Herbicide:** Harness 1.5 pt/A **Insecticide:** None  
Hornet 2.4 oz/A **Hybrid:** See Factors  
Banvel 2.0 oz/A

**Irrigation:** None

**Planting Date:** 4/25/00 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** See Factors: **Harvest Method:** Hand Harvest

**Notes:** Snow drifts of 5 feet and greater interfered with harvest from December through March.

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.12 A  
**Harvest Plot Size:** 22' x 2.5'

**Factors/Treatments:**

Harvest Dates:

October 13  
November 15  
December 15  
January 17  
February 16  
March 15  
April 18

Hybrids:

Pioneer 34G82  
Pioneer 37M34

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**Results:** Table C-49.

**Table C-49. Harvest Timing Effects on Grain Yield  
Arlington, WI - 2000**

| Harvest Date                 | Hybrid        | Grain yield<br>bu/A | Grain moisture<br>% | Harvested plant<br>population<br>plants/A | Lodging<br>% | Ear weight<br>g/ear | Grower return<br>\$/A |
|------------------------------|---------------|---------------------|---------------------|---|--------------|---------------------|-----------------------|
| October                      |               | 204                 | 25.6                | 29700                                     | 9            | 191                 | 406                   |
| November                     |               | 206                 | 17.8                | 29568                                     | 30           | 187                 | 433                   |
| December                     |               | 122                 | 16.3                | 16434                                     | 79           | 203                 | 258                   |
| January                      |               | 95                  | 17.4                | 11880                                     | 30           | 199                 | 199                   |
| February                     |               | 86                  | 16.0                | 12672                                     | 24           | 194                 | 183                   |
| March                        |               | 77                  | 16.4                | 10098                                     | 59           | 199                 | 164                   |
| April                        |               | 127                 | 13.6                | 27588                                     | 81           | 199                 | 268                   |
|                              | Pioneer 34G82 | 141                 | 18.5                | 20441                                     | 43           | 201                 | 292                   |
|                              | Pioneer 37M34 | 134                 | 16.7                | 22063                                     | 43           | 186                 | 279                   |
| October                      | Pioneer 34G82 | 210                 | 28.4                | 29832                                     | 12           | 194                 | 408                   |
| November                     | Pioneer 34G82 | 229                 | 17.8                | 29832                                     | 23           | 202                 | 481                   |
| December                     | Pioneer 34G82 | 134                 | 17.1                | 18480                                     | 72           | 200                 | 283                   |
| January                      | Pioneer 34G82 | 106                 | 17.3                | 13200                                     | 33           | 200                 | 224                   |
| February                     | Pioneer 34G82 | 94                  | 16.0                | 13728                                     | 19           | 206                 | 200                   |
| March                        | Pioneer 34G82 | 82                  | 16.6                | 10824                                     | 55           | 208                 | 174                   |
| April                        | Pioneer 34G82 | 131                 | 16.6                | 27192                                     | 88           | 200                 | 274                   |
| October                      | Pioneer 37M34 | 199                 | 22.9                | 29568                                     | 5            | 187                 | 404                   |
| November                     | Pioneer 37M34 | 183                 | 17.9                | 29304                                     | 38           | 173                 | 385                   |
| December                     | Pioneer 37M34 | 85                  | 14.0                | 10296                                     | 100          | 215                 | 182                   |
| January                      | Pioneer 37M34 | 60                  | 17.8                | 7920                                      | 20           | 193                 | 127                   |
| February                     | Pioneer 37M34 | 74                  | 16.0                | 11088                                     | 30           | 176                 | 157                   |
| March                        | Pioneer 37M34 | 62                  | 15.8                | 7920                                      | 70           | 172                 | 133                   |
| April                        | Pioneer 37M34 | 123                 | 10.6                | 27984                                     | 74           | 198                 | 262                   |
| Mean                         |               | 138                 | 17.8                | 21090                                     | 43           | 195                 | 287                   |
| <b><u>Probability(%)</u></b> |               |                     |                     |   |              |                     |                       |
| Harvest Date (D)             |               | 0.0                 | 0.0                 | 0.0                                       | 0.1          | 66.1                | 0.0                   |
| Hybrid (H)                   |               | 0.1                 | 53.7                | 0.0                                       | 1.2          | 1.1                 | 0.2                   |
| D x H                        |               | 13.5                | 97.3                | 0.3                                       | 1.6          | 17.1                | 13.6                  |
| <b><u>LSD(0.10)</u></b>      |               |                     |                     |   |              |                     |                       |
| Harvest Date (D)             |               | 30                  | 1.3                 | 3523                                      | 27           | NS                  | 63                    |
| Hybrid (H)                   |               | 12                  | NS                  | 814                                       | 7            | 8                   | 28                    |
| D x H                        |               | NS                  | NS                  | 671                                       | 19           | NS                  | NS                    |
| <b><u>CV(%)</u></b>          |               |                     |                     |   |              |                     |                       |
|                              |               | 15                  | 39                  | 7   | 28           | 7                   | 16                    |



## FIELD EXPERIMENT HISTORY

**Title:** 16 Influence of Clipping Timing on Corn Grain Yield  
**Experiment:** 16 Influence of Clipping on Corn **Trial ID:** 2250 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** ARS 372 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 11/01/01 **pH** 5.8 **OM (%)** 2.7 **P (ppm)** 38 **K (ppm)** 180

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher Cultivated

|                    | <u>Analysis:</u> | <u>Rate lbs/A:</u> | <u>Date:</u> |
|--------------------|------------------|--------------------|--------------|
| <b>Fertilizer:</b> |                  |                    |              |
| Preplant :         | 46-0-0           | 325                | N/A          |
| Starter :          | N/A              | N/A                | N/A          |
| Post plant :       | N/A              | N/A                | N/A          |
| Manure:            | None             | N/A                |              |

**Herbicide:** Harness 2.5 pt/A **Insecticide:** None  
Permitt 0.66 oz/A **Hybrid:** Pioneer 35R57

**Irrigation:** None

**Planting Date:** 5/6/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Inter-Row Planter  
**Harvest Date:** 10/25/01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB Factorial **Replications:** 3  
**Plot Size Seeded:** 23' x 10' **Experiment Size:** 0.1 A  
**Harvest Plot Size:** 22' x 5' **Harvest Plant Density:** 30000 plants per acre

### Factors/Treatments:

| <u>Growth Stage at Time of Clipping:</u> |                      | <u>Date of Clipping:</u> |
|--|----------------------|--------------------------|
| V2 - 2 plant pattern                     | V6 - 2 plant pattern | V2 - May 30              |
| V2 - 4 plant pattern                     | V6 - 4 plant pattern | V4 - June 18             |
| V2 - 8 plant pattern                     | V6 - 8 plant pattern | V6 - June 26             |
| V4 - 2 plant pattern                     | Control              |                          |
| V4 - 4 plant pattern                     | V4 - Random          |                          |
| V4 - 8 plant pattern                     | V4 - Entire Plot     |                          |

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**Results: Table C-50.**

**Table C-50. Influence of Clipping on Corn Grain Yield and Quality  
Arlington, WI - 2001**

| Treatment                    | Population | Grain<br>yield<br>bu/A | Grain<br>moisture<br>% | Test<br>weight<br>lbs/bu | Lodging<br>% | Grower<br>return<br>\$/A |
|------------------------------|------------|------------------------|------------------------|--------------------------|--------------|--------------------------|
| Control - UTC                | 30888      | 205                    | 25.2                   | 49                       | 3            | 409                      |
| V2 - 2 plant                 | 29568      | 191                    | 27.2                   | 49                       | 2            | 375                      |
| V2 - 4 plant                 | 30624      | 196                    | 26.6                   | 49                       | 0            | 387                      |
| V2 - 8 plant                 | 31416      | 193                    | 27.9                   | 48                       | 1            | 377                      |
| V2 - Clip entire plot        | 31152      | 168                    | 30.0                   | 47                       | 0            | 323                      |
| V4 - 2 plant                 | 27720      | 180                    | 26.4                   | 49                       | 4            | 355                      |
| V4 - 4 plant                 | 31944      | 188                    | 26.9                   | 50                       | 2            | 370                      |
| V4 - 8 plant                 | 29304      | 196                    | 26.6                   | 49                       | 3            | 386                      |
| V4 - Clip entire plot        | 24552      | 138                    | 30.7                   | 48                       | 0            | 263                      |
| V6 - 2 plant                 | 29832      | 199                    | 25.6                   | 49                       | 5            | 395                      |
| V6 - 4 plant                 | 29832      | 199                    | 26.3                   | 50                       | 1            | 393                      |
| V6 - 8 plant                 | 30624      | 206                    | 26.4                   | 49                       | 2            | 407                      |
| Mean                         | 29788      | 188                    | 27.2                   | 49                       | 2            | 370                      |
| <b><u>Probability(%)</u></b> |            |                        |                        |                          |              |                          |
| Treatment (T)                | 26.7       | 0.1                    | 0.0                    | 42.7                     | 30.7         | 0.0                      |
| <b><u>LSD(0.10)</u></b>      |            |                        |                        |                          |              |                          |
| Treatment (T)                | NS         | 20                     | 1.5                    | NS                       | NS           | 42                       |
| <b><u>CV(%)</u></b>          |            |                        |                        |                          |              |                          |
|                              | 10         | 8                      | 4                      | 3                        | 141          | 8                        |

## FIELD EXPERIMENT HISTORY

**Title:** 16 Cohorts  
**Experiment:** 16 Cohorts **Trial ID:** 2256 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** ARS372 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 11/1 /01 **pH** 6.6 **OM (%)** 2.4 **P (ppm)** 46 **K (ppm)** 185

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher Cultivated

|                    | <u>Analysis:</u>                      | <u>Rate lbs/A:</u>           | <u>Date:</u> |
|--------------------|---------------------------------------|------------------------------|--------------|
| <b>Fertilizer:</b> |                                       |                              |              |
| Preplant :         | 46-0-0                                | 325                          | N/A          |
| Starter :          | N/A                                   | N/A                          | N/A          |
| Post plant :       | N/A                                   | N/A                          | N/A          |
| Manure:            | None                                  | None                         |              |
| <b>Herbicide:</b>  | Harness 2.5 pt/A<br>Permitt 0.66 oz/A | <b>Insecticide:</b> None     |              |
| <b>Irrigation:</b> | None                                  | <b>Hybrid:</b> Pioneer 35R57 |              |

**Planting Date:** 5/6/01 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Inter-Row Planter  
**Harvest Date:** 10/30/01 **Harvest Method:** Hand Harvest

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### Experimental Design

**Design:** RCB Factorial **Replications:** 6  
**Plot Size Seeded:** 10' x 125' **Experiment Size:** 0.115 A  
**Harvest Plot Size:** Single Plants  
**Factors/Treatments:**

#### Treatments:

A = Plant clipped completely at V3 on 6/8  
B = Emerged leaves clipped at V3 on 6/8  
C = Control - No clipping

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**Results:** Table C-51.

**Table C-51. Cohorts  
Arlington, WI - 2001**

| Treatment                    | Five Neighboring       |       | Five Neighboring       |  | Yield Components @ 0% Moisture |                           |                               |
|------------------------------|------------------------|-------|------------------------|--|--------------------------------|---------------------------|-------------------------------|
|                              | plants<br>east         | Plant | plants<br>west         |  | Kernels<br>per ear<br>no./ear  | Yield<br>per ear<br>grams | 100 Kernel<br>weight<br>grams |
| 1                            | All leaves clipped     | A     | All leaves clipped     |  | 413                            | 102.4                     | 27.2                          |
| 2                            | All leaves clipped     | B     | All leaves clipped     |  | 575                            | 140.6                     | 24.4                          |
| 3                            | All leaves clipped     | C     | All leaves clipped     |  | 558                            | 145.5                     | 25.7                          |
| 4                            | All leaves clipped     | A     | Emerged leaves clipped |  | 450                            | 70.5                      | 23.7                          |
| 5                            | All leaves clipped     | B     | Emerged leaves clipped |  | 489                            | 115.5                     | 24.6                          |
| 6                            | All leaves clipped     | C     | Emerged leaves clipped |  | 583                            | 147.5                     | 25.4                          |
| 7                            | All leaves clipped     | A     | Control                |  | 270                            | 32.3                      | 27.3                          |
| 8                            | All leaves clipped     | B     | Control                |  | 498                            | 124.6                     | 25.3                          |
| 9                            | All leaves clipped     | C     | Control                |  | 634                            | 150.2                     | 23.6                          |
| 10                           | Emerged leaves clipped | A     | Emerged leaves clipped |  | 255                            | 14.7                      | 34.5                          |
| 11                           | Emerged leaves clipped | B     | Emerged leaves clipped |  | 526                            | 126.5                     | 23.9                          |
| 12                           | Emerged leaves clipped | C     | Emerged leaves clipped |  | 449                            | 109.5                     | 26.4                          |
| 13                           | Emerged leaves clipped | A     | Control                |  | 284                            | 22.0                      | 23.7                          |
| 14                           | Emerged leaves clipped | B     | Control                |  | 555                            | 112.7                     | 24.4                          |
| 15                           | Emerged leaves clipped | C     | Control                |  | 599                            | 143.2                     | 23.7                          |
| 16                           | Control                | A     | Control                |  | 177                            | 24.2                      | 23.1                          |
| 17                           | Control                | B     | Control                |  | 457                            | 100.6                     | 22.1                          |
| 18                           | Control                | C     | Control                |  | 565                            | 142.9                     | 25.1                          |
| Mean                         |                        |       |                        |  | 496                            | 101.4                     | 24.9                          |
| <b><u>Probability(%)</u></b> |                        |       |                        |  |                                |                           |                               |
| Treatment (T)                |                        |       |                        |  | 0.0                            | 0.0                       | 54.4                          |
| <b><u>LSD(0.10)</u></b>      |                        |       |                        |  |                                |                           |                               |
| Treatment (T)                |                        |       |                        |  | 123                            | 37                        | NS                            |
| <b><u>CV(%)</u></b>          |                        |       |                        |  |                                |                           |                               |
|                              |                        |       |                        |  | 37                             | 26                        | 17                            |

A = All leaves clipped  
 B = Emerged leaves clipped  
 C = Control

## FIELD EXPERIMENT HISTORY

**Title:** 16 Corn Grain Yield and Yield Component Response to Gaps in Corn Stands  
**Experiment:** 16 Gap **Trial ID:** 2255 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** ARS 372 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 11/1 /01 **pH** 6.6 **OM (%)** 2.4 **P (ppm)** 46 **K (ppm)** 185

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher Cultivated

|  | <u>Analysis:</u>                      | <u>Rate lbs/A:</u>                              | <u>Date:</u>          |
|--|---------------------------------------|---|-----------------------|
| <b>Fertilizer:</b>                                 |                                       |   |                       |
| Preplant :   | 46-0-0                                | 325   | N/A                   |
| Starter :  | N/A                                   | N/A   | N/A                   |
| Post plant :                                       | N/A                                   | N/A   | N/A                   |
| Manure:  | None                                  | None  |                       |
| <b>Herbicide:</b>                                  | Harness 2.5 pt/A<br>Permitt 0.66 oz/A | <b>Insecticide:</b> None                        |                       |
| <b>Irrigation:</b>                                 | None                                  | <b>Hybrid:</b> Pioneer 35R57                    |                       |
| <b>Planting Date:</b>                              | 5/6/01                                | <b>Planting Depth:</b> 1.5"                     | <b>Row Width:</b> 30" |
| <b>Target Plant Density:</b> 30000 plants per acre |                                       | <b>Planting Method:</b> Kinze Inter-Row Planter |                       |
| <b>Harvest Date:</b> 10/25/01                      |                                       | <b>Harvest Method:</b> Kincaid Plot Combine     |                       |

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### Experimental Design

**Design:** RCB Factorial **Replications:** 3  
**Plot Size Seeded:** 10' x 25' **Experiment Size:** 0.17 A  
**Harvest Plot Size:** 5' x 22'

#### **Factors/Treatments:**

##### Treatment (gap)

|                 |                 |
|-----------------|-----------------|
| 1 row - 2 feet  | 2 row - 2 feet  |
| 1 row - 4 feet  | 2 row - 4 feet  |
| 1 row - 8 feet  | 2 row - 8 feet  |
| 1 row - 12 feet | 2 row - 12 feet |
| 1 row - UTC     | 2 row - UTC     |

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**Results:** Table C-52.

**Table C-52. Corn grain yield and yield component response to field gaps in corn stands.  
Arlington, WI - 2001**

| Treatment             | Harvest population<br>no./A | Grain yield<br>bu/a | Grain moisture<br>% | Test Weight<br>lb/bu | Lodging<br>% | Grower return<br>\$/A | Bordered plants |             |                               |                    | Plants in-row next to gap |             |                               |                    | Plants across from gap |             |                               |                    |
|-----------------------|-----------------------------|---------------------|---------------------|----------------------|--------------|-----------------------|-----------------|-------------|-------------------------------|--------------------|---------------------------|-------------|-------------------------------|--------------------|------------------------|-------------|-------------------------------|--------------------|
|                       |                             |                     |                     |                      |              |                       | Ear number      | Kernels Ear | Kernel weight<br>g/100kernels | Ear yield<br>g/Ear | Ear number                | Kernels Ear | Kernel weight<br>g/100kernels | Ear yield<br>g/Ear | Ear number             | Kernels Ear | Kernel weight<br>g/100kernels | Ear yield<br>g/Ear |
|                       |                             |                     |                     |                      |              |                       | no./Plant       | no./Ear     |                               |                    | no./Plant                 | no./Ear     |                               |                    | no./Plant              | no./Ear     |                               |                    |
| 1 row - UTC           | 31152                       | 216                 | 23.7                | 51                   | 3            | 435                   | 1.00            | 620         | 28.8                          | 179                | -                         | -           | -                             | -                  | -                      | -           | -                             | -                  |
| 1 row - 2 feet        | 29964                       | 199                 | 23.7                | 52                   | 2            | 402                   | 1.00            | 597         | 30.3                          | 181                | 1.00                      | 646         | 33.3                          | 215                | 1.00                   | 633         | 30.3                          | 191                |
| 1 row - 4 feet        | 28512                       | 191                 | 23.7                | 51                   | 3            | 386                   | 1.00            | 613         | 31.9                          | 196                | 1.00                      | 646         | 36.7                          | 237                | 1.00                   | 670         | 32.0                          | 215                |
| 1 row - 8 feet        | 25476                       | 183                 | 23.7                | 52                   | 2            | 369                   | 1.00            | 604         | 30.0                          | 181                | 1.00                      | 662         | 37.2                          | 246                | 1.00                   | 646         | 37.0                          | 239                |
| 1 row -12 feet        | 22572                       | 164                 | 24.1                | 51                   | 1            | 329                   | 1.00            | 580         | 30.1                          | 175                | 1.08                      | 620         | 34.6                          | 217                | 1.00                   | 680         | 34.0                          | 231                |
| 2 row - UTC           | 31020                       | 214                 | 23.9                | 51                   | 1            | 431                   | 1.00            | 607         | 31.0                          | 188                | -                         | -           | -                             | -                  | -                      | -           | -                             | -                  |
| 2 row - 2 feet        | 26004                       | 190                 | 23.7                | 52                   | 2            | 383                   | 1.00            | 570         | 30.3                          | 173                | 1.00                      | 638         | 35.9                          | 229                | 1.00                   | 656         | 31.3                          | 205                |
| 2 row - 4 feet        | 26664                       | 194                 | 23.7                | 52                   | 2            | 392                   | 1.00            | 620         | 30.4                          | 189                | 1.00                      | 680         | 35.7                          | 243                | 1.00                   | 625         | 32.5                          | 203                |
| 2 row - 8 feet        | 20328                       | 153                 | 23.2                | 52                   | 3            | 311                   | 1.00            | 586         | 32.3                          | 189                | 1.00                      | 679         | 37.0                          | 251                | 1.00                   | 562         | 36.5                          | 204                |
| 2 row -12 feet        | 13596                       | 112                 | 24.1                | 51                   | 1            | 224                   | 1.00            | 624         | 30.5                          | 190                | 1.00                      | 680         | 37.9                          | 258                | 1.00                   | 657         | 36.1                          | 237                |
| Mean                  | 25529                       | 182                 | 23.7                | 51                   | 2            | 366                   | 1.00            | 602         | 30.6                          | 184                | 1.01                      | 657         | 36.0                          | 237                | 1.00                   | 641         | 33.7                          | 216                |
| <b>Probability(%)</b> |                             |                     |                     |                      |              |                       |                 |             |                               |                    |                           |             |                               |                    |                        |             |                               |                    |
| Treatment             | 0.0                         | 0.0                 | 20.5                | 58.9                 | 51.2         | 0.0                   | -               | 94.9        | 68.9                          | 94.2               | -                         | 82.6        | 28.4                          | 40.6               | -                      | 0.8         | 9.4                           | 3.0                |
| <b>LSD(0.10)</b>      |                             |                     |                     |                      |              |                       |                 |             |                               |                    |                           |             |                               |                    |                        |             |                               |                    |
| Treatment             | 1828                        | 13                  | NS                  | NS                   | NS           | 27                    | -               | NS          | NS                            | NS                 | -                         | NS          | NS                            | NS                 | -                      | 43          | 4.3                           | 25                 |
| <b>CV(%)</b>          |                             |                     |                     |                      |              |                       |                 |             |                               |                    |                           |             |                               |                    |                        |             |                               |                    |
| Treatment             | 5                           | 5                   | 1                   | 1                    | 82           | 5                     | -               | 9           | 7                             | 12                 | -                         | 8           | 6                             | 11                 | -                      | 5           | 9                             | 8                  |

## FIELD EXPERIMENT HISTORY

**Title:** 16 Influence of Thinning Timing on Corn Grain Yield  
**Experiment:** 16 Influence of Thinning on Corn **Trial ID:** 2249 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** ARS 372 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 11/01/01 **pH:** 7.0 **OM (%)** 2.6 **P (ppm)** 66 **K (ppm)** 187

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher Cultivated

|                    | <u>Analysis:</u> | <u>Rate lbs/A:</u> | <u>Date:</u> |
|--------------------|------------------|--------------------|--------------|
| <b>Fertilizer:</b> |                  |                    |              |
| Preplant :         | 46-0-0           | 325                | N/A          |
| Starter :          | N/A              | N/A                | N/A          |
| Post plant :       | N/A              | N/A                | N/A          |
| Manure:            | None             | N/A                |              |

**Herbicide:** Harness 2.5 pt/A **Insecticide:** None  
Permitt 0.66 oz/A **Hybrid:** Pioneer 35R57

**Irrigation:** None

**Planting Date:** 5/6/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 32000 plants per acre **Planting Method:** Kinze Inter-Row Planter  
**Harvest Date:** 10/25/01 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB Factorial **Replications:** 3  
**Plot Size Seeded:** 23' x 10' **Experiment Size:** 0.1 A  
**Harvest Plot Size:** 22' x 5' **Harvest Plant Density:** 22000 plants per acre

### Factors/Treatments:

| <u>Stage of Thinning:</u> | <u>Date of Thinning:</u> |
|---------------------------|--------------------------|
| V2                        | May 30                   |
| V4                        | June 18                  |
| V6                        | June 26                  |
| V8                        | July 2                   |
| V10                       | July 11                  |
| V12                       | July 20                  |

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**Results:** Table C-53.

**Table C-53. Influence of Thinning Timing on Corn Grain Yield.  
Arlington, WI - 2001**

| Treatment                    | Population | Grain yield | Grain moisture | Test weight | Lodging | Grower return |
|------------------------------|------------|-------------|----------------|-------------|---------|---------------|
| growth stage                 | plants/A   | bu/A        | %              | lbs/bu      | %       | \$/A          |
| V2                           | 21384      | 200         | 24.3           | 50          | 0       | 401           |
| V4                           | 21912      | 196         | 25.9           | 50          | 0       | 389           |
| V6                           | 21912      | 200         | 24.9           | 51          | 0       | 400           |
| V8                           | 23760      | 192         | 25.0           | 51          | 0       | 383           |
| V10                          | 22968      | 190         | 25.2           | 51          | 2       | 379           |
| V12                          | 21384      | 182         | 24.5           | 51          | 4       | 365           |
| Mean                         | 22220      | 193         | 25.0           | 50          | 1       | 386           |
| <b><u>Probability(%)</u></b> |            |             |                |             |         |               |
| Treatment (T)                | 14.9       | 59.0        | 17.1           | 86.4        | 9.9     | 57.0          |
| <b><u>LSD(0.10)</u></b>      |            |             |                |             |         |               |
| Treatment (T)                | NS         | NS          | NS             | NS          | 3       | NS            |
| <b><u>CV(%)</u></b>          |            |             |                |             |         |               |
|                              | 5          | 7           | 3              | 3           | 174     | 7             |



## FIELD EXPERIMENT HISTORY

**Title:** Stand Variability Effects on Corn Yield  
**Experiment:** 16Variability **Trial ID** 2251 **Year:** 2001  
**Personnel:** J.G. Lauer, P. J. Flannery, and K. D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** HATCH

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### Site Information

**Field:** 408 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/01/01 **pH** 6.6 **OM (%)** 2.6 **P (ppm)** 65 **K (ppm)** 154

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher 1 Cultivation 6/14/01

|                    | <u>Analysis:</u> | <u>Rate lbs/A:</u> | <u>Date:</u> |
|--------------------|------------------|--------------------|--------------|
| <b>Fertilizer:</b> |                  |                    |              |
| Preplant :         | 46-0-0           | 325                | 4 /18/01     |
| Starter :          | 6-24-24          | 150                | 4 /28/01     |
| Post plant :       | N/A              | N/A                | N/A          |
| Manure:            | N/A              | N/A                |              |

**Herbicide:** Harness 2.5 pt/A Insecticide: None  
Permit 0.66 oz/A

**Irrigation:** None **Hybrid:** Pioneer 35R57

**Planting Date:** 4/28/01 **Planting Depth:** 1.5" **Row Width:** 30"  
**Harvest Date:** 10/25/01 **Planting Method:** Kinze Plot Planter  
**Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23.2' x 10' **Experiment Size:** 0.17 A  
**Harvest Plot Size:** 22.7' x 5'

### **Factors/Treatments:**

#### Treatments:

2 plant pattern @ 2", 2 plant pattern @ 4",  
4 plant pattern @ 2", 4 plant pattern @ 4",  
4 plant pattern @ 8", 8 plant pattern @ 2",  
8 plant pattern @ 4", 8 plant pattern @ 8",  
8 plant pattern @ 12" and Control

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**Results: Table C-54.**

**Table C-54. Plant Spacing Effects on Corn Yield  
Arlington, WI - 2001**

| Treatment                      | Plant spacing | Standard deviation | Population | Yield | Moisture | Test weight | Lodging | Grower Return |
|--------------------------------|---------------|--------------------|------------|-------|----------|-------------|---------|---------------|
|                                | inches        | inches             | plants/A   | bu/A  | %        | lbs/bu      | %       | \$/A          |
| Control                        | 6.7           | 1.9                | 30191      | 206   | 21.4     | 54          | 3       | \$422         |
| 2 plant pattern @ 2 inch S.D.  | 6.9           | 2.9                | 29552      | 201   | 21.3     | 53          | 1       | \$413         |
| 2 plant pattern @ 4 inch S.D.  | 6.9           | 3.7                | 30319      | 208   | 21.7     | 53          | 2       | \$426         |
| 4 plant pattern @ 2 inch S.D.  | 6.7           | 2.4                | 30447      | 206   | 21.5     | 53          | 2       | \$422         |
| 4 plant pattern @ 4 inch S.D.  | 6.6           | 4.5                | 30959      | 203   | 21.4     | 54          | 2       | \$417         |
| 4 plant pattern @ 8 inch S.D.  | 6.7           | 6.6                | 30703      | 199   | 20.9     | 53          | 2       | \$409         |
| 8 plant pattern @ 2 inch S.D.  | 6.9           | 2.4                | 31279      | 218   | 21.3     | 54          | 1       | \$447         |
| 8 plant pattern @ 4 inch S.D.  | 6.8           | 4.0                | 30319      | 195   | 21.3     | 53          | 3       | \$399         |
| 8 plant pattern @ 8 inch S.D.  | 6.4           | 6.8                | 31087      | 198   | 21.3     | 54          | 3       | \$406         |
| 8 plant pattern @ 12 inch S.D. | 6.3           | 10.1               | 30831      | 193   | 21.1     | 54          | 3       | \$396         |
| Mean                           | 6.7           | 4.6                | 30552      | 202   | 21.3     | 53          | 2       | \$415         |
| <b><u>Probability(%)</u></b>   |               |                    |            |       |          |             |         |               |
| Treatment (T)                  | 0.4           | 0.0                | 11.1       | 80.8  | 27.9     | 85.5        | 88      | 83.9          |
| <b><u>LSD(0.10)</u></b>        |               |                    |            |       |          |             |         |               |
| Treatment (T)                  | 0.2           | 0.4                | NS         | NS    | NS       | NS          | NS      | NS            |
| <b><u>CV(%)</u></b>            |               |                    |            |       |          |             |         |               |
|                                | 2             | 6                  | 2          | 7     | 1        | 1           | 79      | 7             |

## FIELD EXPERIMENT HISTORY

**Title:** Stand Variability Effects on Corn Yield  
**Experiment:** 16Variability **Trial ID** 2254 **Year:** 2001  
**Personnel:** J.G. Lauer, P. J. Flannery, and K. D. Kohn  
**Location:** Fond du Lac, WI **County:** Fond du Lac  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Virgil  
**Soil Test:** **Date:** N/A **pH** 6.9 **OM (%)** 4.0 **P (ppm)** 50 **K (ppm)** 98

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### Plot Management

**Tillage Operations:** Moldboard Plow Field Cultivator 1 Cultivation

|                    | <u>Analysis:</u> | <u>Rate lbs/A:</u> | <u>Date:</u> |
|--------------------|------------------|--------------------|--------------|
| <b>Fertilizer:</b> |                  |                    |              |
| Preplant :         | 82-0-0           | 130                | N/A          |
| Starter :          | 6-24-24          | 150                | 5 /20/01     |
| Post plant :       | 46-0-0           | 150                | 6 /29/01     |
| Manure:            | N/A              | N/A                |              |

**Herbicide:** Dual II Mag 0.75 pt/A  
Accent Gold 2.9 oz/A  
Atrazine 0.5 lb/A **Insecticide:** None

**Irrigation:** None **Hybrid:** Cargill 4111

**Planting Date:** 5/20/01 **Planting Depth:** 1.5" **Row Width:** 30"  
**Harvest Date:** 10/29/01 **Planting Method:** Kinze Plot Planter  
**Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23.2' x 10' **Experiment Size:** 0.17 A  
**Harvest Plot Size:** 22.7' x 5'  
**Factors/Treatments:**

#### Treatments:

2 plant pattern @ 2", 2 plant pattern @ 4",  
4 plant pattern @ 2", 4 plant pattern @ 4",  
4 plant pattern @ 8", 8 plant pattern @ 2",  
8 plant pattern @ 4", 8 plant pattern @ 8",  
8 plant pattern @ 12" and Control

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**Results:** Table C-55.

**Table C-55. Plant Spacing Effects on Corn Yield  
Fond du Lac, WI - 2001**

| Treatment                      | Plant spacing | Standard deviation | Population | Yield | Moisture | Test weight | Lodging | Grower Return |
|--------------------------------|---------------|--------------------|------------|-------|----------|-------------|---------|---------------|
|                                | inches        | inches             | plants/A   | bu/A  | %        | lbs/bu      | %       | \$/A          |
| Control                        | 6.6           | 2.1                | 30575      | 149   | 27.4     | 50          | 3       | \$292         |
| 2 plant pattern @ 2 inch S.D.  | 6.9           | 2.9                | 29168      | 143   | 27.6     | 50          | 1       | \$280         |
| 2 plant pattern @ 4 inch S.D.  | 6.7           | 3.9                | 30703      | 147   | 27.6     | 50          | 1       | \$288         |
| 4 plant pattern @ 2 inch S.D.  | 6.8           | 2.9                | 29808      | 151   | 27.9     | 50          | 1       | \$296         |
| 4 plant pattern @ 4 inch S.D.  | 6.6           | 4.5                | 30447      | 148   | 27.1     | 50          | 2       | \$290         |
| 4 plant pattern @ 8 inch S.D.  | 6.6           | 6.7                | 31471      | 150   | 27.1     | 50          | 2       | \$295         |
| 8 plant pattern @ 2 inch S.D.  | 6.6           | 2.8                | 30959      | 153   | 27.2     | 50          | 2       | \$301         |
| 8 plant pattern @ 4 inch S.D.  | 6.6           | 4.0                | 30703      | 146   | 26.9     | 50          | 2       | \$287         |
| 8 plant pattern @ 8 inch S.D.  | 6.7           | 7.4                | 30831      | 144   | 27.0     | 51          | 4       | \$283         |
| 8 plant pattern @ 12 inch S.D. | 6.4           | 10.1               | 31087      | 129   | 28.0     | 50          | 2       | \$252         |
| Mean                           | 6.7           | 4.7                | 30575      | 146   | 27.4     | 50          | 2       | \$286         |
| <b><u>Probability(%)</u></b>   |               |                    |            |       |          |             |         |               |
| Treatment (T)                  | 4.6           | 0.0                | 2.7        | 8.5   | 21.3     | 26.2        | 44.9    | 8.5           |
| <b><u>LSD(0.10)</u></b>        |               |                    |            |       |          |             |         |               |
| Treatment (T)                  | 0.2           | 0.4                | 952        | 12    | NS       | NS          | NS      | 23            |
| <b><u>CV(%)</u></b>            |               |                    |            |       |          |             |         |               |
|                                | 2             | 6                  | 2          | 6     | 2        | 1           | 71      | 6             |

## FIELD EXPERIMENT HISTORY

**Title:** Stand Variability Effects on Corn Yield  
**Experiment:** 16Variability **Trial ID** 2253 **Year:** 2001  
**Personnel:** J.G. Lauer, P. J. Flannery, and K. D. Kohn  
**Location:** Galesville, WI **County:** Trempealeau  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Downs  
**Soil Test:** **Date:** N/A **pH** 6.2 **OM (%)** 3.7 **P (ppm)** 60 **K (ppm)** 310

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### Plot Management

**Tillage Operations:** Field Cultivator

|                     | <u>Analysis:</u> | <u>Rate lbs/A:</u> | <u>Date:</u> |
|---------------------|------------------|--------------------|--------------|
| <b>Fertilizer:</b>  |                  |                    |              |
| <b>Preplant :</b>   | 46-0-0           | 350                | N/A          |
| <b>Starter :</b>    | 6-24-24          | 150                | 4 /26/01     |
| <b>Post plant :</b> | N/A              | N/A                | N/A          |
| <b>Manure:</b>      | N/A              | N/A                |              |

**Herbicide:** Dual II 2.25 pt/A **Insecticide:** None  
Hornet 5.0 oz/A

**Irrigation:** None **Hybrid:** Cargill 4111

**Planting Date:** 4/26/01 **Planting Depth:** 1.5" **Row Width:** 30"

**Harvest Date:** 10/17/01 **Planting Method:** Kinze Plot Planter  
**Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23.2' x 10' **Experiment Size:** 0.17 A  
**Harvest Plot Size:** 22.7' x 5'

#### **Factors/Treatments:**

##### Treatments:

2 plant pattern @ 2", 2 plant pattern @ 4",  
4 plant pattern @ 2", 4 plant pattern @ 4",  
4 plant pattern @ 8", 8 plant pattern @ 2",  
8 plant pattern @ 4", 8 plant pattern @ 8",  
8 plant pattern @ 12" and Control

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**Results: Table C-56.**

**Table C-56. Plant Spacing Effects on Corn Yield  
Galesville, WI - 2001**

| Treatment                      | Plant spacing | Standard deviation | Population | Yield | Moisture | Test weight | Lodging | Grower Return |
|--------------------------------|---------------|--------------------|------------|-------|----------|-------------|---------|---------------|
|                                | inches        | inches             | plants/A   | bu/A  | %        | lbs/bu      | %       | \$/A          |
| Control                        | 6.8           | 1.9                | 30575      | 188   | 22.4     | 54          | 1       | \$383         |
| 2 plant pattern @ 2 inch S.D.  | 6.9           | 2.4                | 30703      | 193   | 22.3     | 54          | 1       | \$393         |
| 2 plant pattern @ 4 inch S.D.  | 6.9           | 3.5                | 30063      | 187   | 21.9     | 55          | 3       | \$381         |
| 4 plant pattern @ 2 inch S.D.  | 6.8           | 2.4                | 30191      | 184   | 21.6     | 55          | 3       | \$376         |
| 4 plant pattern @ 4 inch S.D.  | 6.7           | 4.1                | 31343      | 181   | 22.4     | 55          | 3       | \$368         |
| 4 plant pattern @ 8 inch S.D.  | 6.7           | 6.8                | 30831      | 186   | 22.3     | 54          | 2       | \$378         |
| 8 plant pattern @ 2 inch S.D.  | 6.6           | 2.5                | 31215      | 195   | 22.5     | 55          | 2       | \$396         |
| 8 plant pattern @ 4 inch S.D.  | 6.6           | 3.4                | 31215      | 190   | 22.2     | 54          | 2       | \$387         |
| 8 plant pattern @ 8 inch S.D.  | 6.4           | 7.3                | 31215      | 174   | 22.5     | 55          | 1       | \$354         |
| 8 plant pattern @ 12 inch S.D. | 6.5           | 10.6               | 30447      | 164   | 22.6     | 56          | 2       | \$334         |
| Mean                           | 6.7           | 4.5                | 30780      | 184   | 22.3     | 55          | 2       | \$375         |
| <b><u>Probability(%)</u></b>   |               |                    |            |       |          |             |         |               |
| Treatment (T)                  | 0.0           | 0.0                | 23.8       | 0.2   | 72.4     | 5.2         | 80.7    | 0.2           |
| <b><u>LSD(0.10)</u></b>        |               |                    |            |       |          |             |         |               |
| Treatment (T)                  | 0.1           | 0.3                | NS         | 10    | NS       | 1           | NS      | 21            |
| <b><u>CV(%)</u></b>            |               |                    |            |       |          |             |         |               |
|                                | 2             | 5                  | 2          | 4     | 3        | 1           | 84      | 4             |

## FIELD EXPERIMENT HISTORY

**Title:** Stand Variability Effects on Corn Yield  
**Experiment:** 16Variability **Trial ID** 2252 **Year:** 2001  
**Personnel:** J.G. Lauer, P. J. Flannery, and K. D. Kohn  
**Location:** Janesville, WI **County:** Rock  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** N/A **pH** 6.9 **OM (%)** 3.4 **P (ppm)** 69 **K (ppm)** 195

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator 1 Cultivation

|                    | <u>Analysis:</u> | <u>Rate lbs/A:</u> | <u>Date:</u> |
|--------------------|------------------|--------------------|--------------|
| <b>Fertilizer:</b> |                  |                    |              |
| Preplant :         | 28-0-0           | 350                | N/A          |
| Starter :          | 6-24-24          | 150                | 4 /30/01     |
| Post plant :       | N/A              | N/A                | N/A          |
| Manure:            | N/A              | N/A                |              |

**Herbicide:** Harness 2.75 pt/A Insecticide: None  
Hornet 4.5 oz/A

**Irrigation:** None **Hybrid:** Pioneer 35R57

**Planting Date:** 4/30/01 **Planting Depth:** 1.5" **Row Width:** 30"  
**Harvest Date:** 10/11/01 **Planting Method:** Kinze Plot Planter  
**Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23.2' x 10' **Experiment Size:** 0.17 A  
**Harvest Plot Size:** 22.7' x 5'

### **Factors/Treatments:**

#### Treatments:

2 plant pattern @ 2", 2 plant pattern @ 4",  
4 plant pattern @ 2", 4 plant pattern @ 4",  
4 plant pattern @ 8", 8 plant pattern @ 2",  
8 plant pattern @ 4", 8 plant pattern @ 8",  
8 plant pattern @ 12" and Control

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**Results: Table C-57.**

**Table C-57. Plant Spacing Effects on Corn Yield  
Janesville, WI - 2001**

| Treatment                      | Plant spacing | Standard deviation | Population | Yield | Moisture | Test weight | Lodging | Grower Return |
|--------------------------------|---------------|--------------------|------------|-------|----------|-------------|---------|---------------|
|                                | inches        | inches             | plants/A   | bu/A  | %        | lbs/bu      | %       | \$/A          |
| Control                        | 6.9           | 1.6                | 30703      | 234   | 21.3     | 56          | 2       | \$479         |
| 2 plant pattern @ 2 inch S.D.  | 6.8           | 2.6                | 30831      | 238   | 21.6     | 56          | 2       | \$487         |
| 2 plant pattern @ 4 inch S.D.  | 6.9           | 3.7                | 30191      | 237   | 21.2     | 56          | 2       | \$486         |
| 4 plant pattern @ 2 inch S.D.  | 6.9           | 2.9                | 29744      | 231   | 21.0     | 55          | 6       | \$475         |
| 4 plant pattern @ 4 inch S.D.  | 6.8           | 4.4                | 30447      | 239   | 21.7     | 56          | 3       | \$490         |
| 4 plant pattern @ 8 inch S.D.  | 6.6           | 6.6                | 30959      | 236   | 21.5     | 56          | 1       | \$484         |
| 8 plant pattern @ 2 inch S.D.  | 6.8           | 2.7                | 30703      | 234   | 21.6     | 56          | 3       | \$479         |
| 8 plant pattern @ 4 inch S.D.  | 6.6           | 3.9                | 30959      | 235   | 21.7     | 56          | 3       | \$481         |
| 8 plant pattern @ 8 inch S.D.  | 6.4           | 7.2                | 30703      | 214   | 21.4     | 55          | 2       | \$438         |
| 8 plant pattern @ 12 inch S.D. | 6.1           | 9.0                | 32622      | 194   | 21.6     | 56          | 5       | \$398         |
| Mean                           | 6.7           | 4.4                | 30826      | 230   | 21.5     | 56          | 3       | \$471         |
| <b><u>Probability(%)</u></b>   |               |                    |            |       |          |             |         |               |
| Treatment (T)                  | 0.2           | 0.0                | 1.9        | 0.1   | 60.2     | 38.7        | 39.8    | 0.0           |
| <b><u>LSD(0.10)</u></b>        |               |                    |            |       |          |             |         |               |
| Treatment (T)                  | 0.3           | 0.6                | 980        | 13    | NS       | NS          | NS      | 26            |
| <b><u>CV(%)</u></b>            |               |                    |            |       |          |             |         |               |
|                                | 3             | 10                 | 2          | 4     | 2        | 1           | 74      | 4             |



## FIELD EXPERIMENT HISTORY

**Title:** Tillage in Corn and Soybean Production Systems  
**Experiment:** 17Tillage Trial ID 2259 Year: 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI County: Columbia  
**Supported By:** HATCH

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### Site Information

**Field:** 396 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 10/01/97 **pH** 6.8 **OM (%)** 3.4 **P (ppm)** 40 **K (ppm)** 210

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### Plot Management

**Tillage Operations:** See Factors 1 Cultivation

|                     | <u>Analysis:</u> | <u>Rate lbs/A:</u> | <u>Date:</u> |
|---------------------|------------------|--------------------|--------------|
| <b>Fertilizer:</b>  |                  |                    |              |
| <b>Preplant :</b>   | 46-0-0           | 325                | N/A          |
| <b>Starter :</b>    | N/A              | N/A                | N/A          |
| <b>Post plant :</b> | N/A              | N/A                | N/A          |
| <b>Manure:</b>      | N/A              | N/A                | N/A          |

**Herbicide:** Roundup 1.0 qt/A 5/9 - All  
Frontier 22 oz/A 5/14 - corn  
Permit 0.67 oz/A 6/14 - corn  
Buctril 1.5 pt/A 6/26 - corn  
Poast 2 pt/A - soybean

**Insecticide:** None

**Irrigation:** None

**Hybrid/Variety:** Pioneer 35R57  
Dairyland DSR215RR

**Planting Date:** C & S: 5/14/01

**Row Width:** 30"

**Planting Method:** Kinze Inter-Row Planter

**Planting Depth:** 1.5"

**Harvest Date:** C: 10/25  
S: 10/16

**Harvest Method:** C: Kincaid Plot Combine  
S: Almaco Plot Combine

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### Experimental Design

**Design:** RCB Split Plot **Replications:** 4  
**Plot Size Seeded:** 20' x 100' **Experiment Size:** 4.5A  
**Harvest Plot Size:** 5' x 100'  
**Factors/Treatments:**

#### Rotation

Continuous Corn  
Corn / Soybean  
Soybean / Corn

#### Tillage

CP = Fall chisel plow and spring soil finisher.  
T1 = Fall Zone Builder sub soiler and small ridger (offset east).  
T2 = Fall Zone Builder sub soiler (offset east).  
T3 = Fall coultter cart and small ridger.  
T4 = Spring chisel plow and spring soil finisher.  
NT = Spring 1-13 wave coultter with trash whippers.

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**Results: Tables C-58 and C-59.**

**Table C-58. Tillage in Corn and Soybean Production Systems.  
Arlington, WI - 2001.**

| Rotation                     | Future tillage treatment | Yield<br>bu/A | Moisture<br>% | Test weight<br>lbs/bu | Lodged<br>% | Harvest population<br>plants/A | Grower return<br>\$/A |
|------------------------------|--------------------------|---------------|---------------|-----------------------|-------------|--------------------------------|-----------------------|
| CC                           | CP                       | 177           | 23.4          | 49.4                  | 5           | 33000                          | 379                   |
| CC                           | T1                       | 182           | 23.5          | 49.5                  | 6           | 32250                          | 389                   |
| CC                           | T2                       | 191           | 23.5          | 49.2                  | 3           | 33333                          | 408                   |
| CC                           | T3                       | 185           | 24.2          | 48.9                  | 2           | 30750                          | 395                   |
| CC                           | T4                       | 185           | 23.2          | 49.6                  | 6           | 31750                          | 395                   |
| CC                           | NT                       | 178           | 22.7          | 49.8                  | 4           | 30750                          | 381                   |
| Mean                         |                          | 183           | 23.4          | 49.4                  | 4           | 31913                          | 391                   |
| CS                           | CP                       | 181           | 23.0          | 50.1                  | 3           | 31250                          | 387                   |
| CS                           | T1                       | 178           | 22.8          | 49.8                  | 5           | 32500                          | 380                   |
| CS                           | T2                       | 175           | 22.9          | 49.7                  | 4           | 30250                          | 374                   |
| CS                           | T3                       | 179           | 23.2          | 49.7                  | 1           | 31000                          | 384                   |
| CS                           | T4                       | 179           | 23.5          | 49.3                  | 8           | 32750                          | 382                   |
| CS                           | NT                       | 185           | 22.9          | 49.9                  | 2           | 32250                          | 395                   |
| Mean                         |                          | 179           | 23.0          | 49.7                  | 4           | 31667                          | 384                   |
| <b><u>Probability(%)</u></b> |                          |               |               |                       |             |                                |                       |
| Rotation (R)                 |                          | 51.2          | 53.6          | 60.9                  | 82.9        | 63.7                           | 51.2                  |
| Tillage (T)                  |                          | 97.3          | 34.5          | 64.9                  | 12.6        | 60.9                           | 97.3                  |
| R x T                        |                          | 30.2          | 36.3          | 67.2                  | 91.5        | 20.4                           | 30.2                  |
| <b><u>LSD (0.10)</u></b>     |                          |               |               |                       |             |                                |                       |
| Rotation (R)                 |                          | NS            | NS            | NS                    | NS          | NS                             | NS                    |
| Tillage (T)                  |                          | NS            | NS            | NS                    | NS          | NS                             | NS                    |
| R x T                        |                          | NS            | NS            | NS                    | NS          | NS                             | NS                    |
| <b><u>CV(%)</u></b>          |                          |               |               |                       |             |                                |                       |
|                              |                          | 5             | 3             | 2                     | 92          | 6                              | 5                     |

**Table C-59. Tillage in Corn and Soybean Production Systems.  
Arlington, WI - 2001.**

| Rotation                     | Future tillage treatment | Yield<br>bu/A | Moisture<br>% | Grower return<br>\$/A |
|------------------------------|--------------------------|---------------|---------------|-----------------------|
| SC                           | CP                       | 42            | 17.1          | 191                   |
| SC                           | T1                       | 44            | 17.2          | 203                   |
| SC                           | T2                       | 42            | 16.9          | 191                   |
| SC                           | T3                       | 45            | 17.1          | 206                   |
| SC                           | T4                       | 44            | 17.0          | 202                   |
| SC                           | NT                       | 43            | 17.3          | 196                   |
| Mean                         |                          | 43            | 17.1          | 198                   |
| <b><u>Probability(%)</u></b> |                          |               |               |                       |
| Tillage (T)                  |                          | 41.3          | 35.8          | 37.7                  |
| <b><u>LSD (0.10)</u></b>     |                          |               |               |                       |
| Tillage (T)                  |                          | NS            | NS            | NS                    |
| <b><u>CV(%)</u></b>          |                          |               |               |                       |
|                              |                          | 6             | 1             | 6                     |

## **Printing for Spine of Book**

**2001 Annual Research Report – Lauer, Kohn, and Flannery**