

FIELD EXPERIMENT HISTORY

Title: Determining Corn Hybrid Maturity
Experiment: 01GD **Trial ID** 2344 **Year:** 2002
Personnel: J.G. Lauer, P. J. Flannery, and K. D. Kohn
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: 406 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** 11/01/02 **pH** 6.2 **OM (%)** 3.3 **P (ppm)** 79 **K (ppm)** 247

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated

| | <u>Analysis:</u> | <u>Rate lbs/A:</u> | <u>Date:</u> |
|--------------------|------------------|--------------------|--------------|
| Fertilizer: | | | |
| Preplant : | 46-0-0 | 325 | N/A |
| Starter : | 6-24-24 | 150 | 4 /24/02 |
| Post plant : | N/A | N/A | N/A |
| Manure: | None | N/A | |

Herbicide: Harness 2.5 pt/A Insecticide: None
Hornet 3.0 oz/A Hybrid: See Factors

Irrigation: None

Planting Date: 4/24/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 10/15/02 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22' x 10' **Experiment Size:** 0.275 Acre
Harvest Plot Size: 22' x 5' **Harvest Plant Density:** 24140 plants per acre

Factors/Treatments:

Hybrids:

| | | |
|----------------------|----------------|------------------------|
| Mycogen 2141 | Dekalb DKC4442 | Pioneer 35R58 |
| NK Brand N17R3 | Pioneer 37R71 | NK Brand N58D1 |
| Renk RK232 | Pioneer 37H26 | Dairyland Stealth 1410 |
| Golden Harvest H6355 | Midwest G7101B | Jung 2710 |
| NK Brand N2555Bt | Cargill 4521Bt | Pioneer 33A14 |
| Golden Harvest H6675 | | |

Results: Table C-1 and C-2.

**Table C-1. Determining Corn Hybrid Maturity - Comparison of Hybrids
Arlington, WI - 2002**

| Hybrid | Relative maturity | Grain yield bu/A | Grain moisture % | Test weight lb/bu | Lodging % | Flag Leaf height inches | Plant population no./A | Grower return \$/A |
|------------------------|-------------------|---------------------|---------------------|----------------------|--------------|----------------------------|---------------------------|-----------------------|
| Mycogen 2141 | 81 | 139 | 18.6 | 62 | 2 | 78 | 24116 | 298 |
| NK Brand N17R3 | 82 | 134 | 18.6 | 61 | 0 | 86 | 21464 | 286 |
| Renk RK232 | 85 | 168 | 17.2 | 59 | 0 | 85 | 25000 | 362 |
| Golden Harvest H6355 | 87 | 144 | 17.6 | 58 | 0 | 86 | 25126 | 310 |
| NK Brand N2555Bt | 88 | 161 | 19.7 | 60 | 0 | 87 | 21843 | 342 |
| Golden Harvest H6675 | 90 | 157 | 19.4 | 60 | 1 | 87 | 23990 | 333 |
| Dekalb DKC4442 | 94 | 187 | 19.6 | 56 | 0 | 91 | 23737 | 397 |
| Pioneer 37R71 | 97 | 190 | 20.7 | 55 | 0 | 89 | 25378 | 399 |
| Pioneer 37H26 | 99 | 197 | 22.1 | 59 | 0 | 91 | 25000 | 410 |
| Midwest G7101B | 100 | 187 | 19.8 | 57 | 0 | 99 | 26389 | 395 |
| Cargill 4521Bt | 105 | 174 | 21.0 | 57 | 0 | 96 | 23737 | 366 |
| Pioneer 35R58 | 105 | 190 | 23.2 | 55 | 0 | 103 | 24242 | 392 |
| NK Brand N58D1 | 107 | 200 | 25.8 | 53 | 0 | 98 | 25000 | 405 |
| Dairyland Stealth 1410 | 110 | 179 | 26.3 | 53 | 1 | 100 | 23232 | 363 |
| Jung 2710 | 112 | 182 | 26.5 | 52 | 1 | 99 | 21969 | 367 |
| Pioneer 33A14 | 113 | 205 | 29.9 | 54 | 0 | 106 | 26010 | 402 |
| Mean | | 174 | 21.7 | 57 | 0 | 92 | 24140 | 364 |
| Probability(%) | | | | | | | | |
| Hybrid (H) | | 0.0 | 0.0 | 0.0 | 34.2 | 0.0 | 5.1 | 0.0 |
| LSD(0.10) | | | | | | | | |
| Hybrid (H) | | 19 | 0.8 | 1 | NS | 3 | 2461 | 41 |
| CV(%) | | | | | | | | |
| | | 8 | 3 | 1 | 263 | 2 | 7 | 8 |

**Table C-1. Determining Corn Hybrid Maturity - Comparison of Hybrids
Arlington, WI - 2002**

| Hybrid | Relative maturity | Kernel Milk on Day of Year | | | | | | | | | | | | Silks on Day of Year | | | | | |
|------------------------|-------------------|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------------|-----|-----|-----|------|------|
| | | 238 | 242 | 246 | 249 | 253 | 256 | 260 | 263 | 267 | 269 | 274 | 276 | 203 | 206 | 210 | 213 | 217 | 220 |
| | | ----- % ----- | | | | | | | | | | | | ----- % ----- | | | | | |
| Mycogen 2141 | 81 | 82 | 63 | 48 | 43 | 30 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 70 | 95 | 98 | 99 | 99 | 99 |
| NK Brand N17R3 | 82 | 83 | 60 | 52 | 47 | 33 | 23 | 8 | 0 | 0 | 0 | 0 | 0 | 77 | 90 | 96 | 99 | 99 | 99 |
| Renk RK232 | 85 | 97 | 85 | 70 | 58 | 40 | 37 | 15 | 0 | 0 | 0 | 0 | 0 | 21 | 78 | 98 | 99 | 100 | 100 |
| Golden Harvest H6355 | 87 | 99 | 83 | 75 | 52 | 38 | 35 | 13 | 0 | 0 | 0 | 0 | 0 | 14 | 67 | 88 | 92 | 94 | 95 |
| NK Brand N2555Bt | 88 | 93 | 77 | 63 | 57 | 52 | 43 | 12 | 0 | 0 | 0 | 0 | 0 | 71 | 83 | 94 | 98 | 98 | 98 |
| Golden Harvest H6675 | 90 | 97 | 80 | 62 | 53 | 48 | 43 | 10 | 0 | 0 | 0 | 0 | 0 | 22 | 79 | 92 | 97 | 98 | 98 |
| Dekalb DKC4442 | 94 | 95 | 92 | 77 | 65 | 53 | 48 | 30 | 10 | 3 | 2 | 0 | 0 | 22 | 74 | 95 | 98 | 99 | 99 |
| Pioneer 37R71 | 97 | 90 | 85 | 75 | 58 | 48 | 37 | 25 | 10 | 3 | 3 | 2 | 0 | 81 | 90 | 94 | 98 | 100 | 100 |
| Pioneer 37H26 | 99 | 92 | 83 | 72 | 62 | 57 | 47 | 25 | 3 | 0 | 0 | 0 | 0 | 71 | 90 | 96 | 99 | 100 | 100 |
| Midwest G7101B | 100 | 100 | 97 | 87 | 72 | 53 | 43 | 30 | 23 | 7 | 3 | 2 | 2 | 0 | 31 | 90 | 96 | 100 | 100 |
| Cargill 4521Bt | 105 | 98 | 95 | 83 | 72 | 63 | 53 | 35 | 22 | 12 | 12 | 5 | 2 | 0 | 31 | 92 | 96 | 98 | 98 |
| Pioneer 35R58 | 105 | 95 | 93 | 88 | 82 | 68 | 62 | 48 | 43 | 25 | 28 | 13 | 5 | 0 | 19 | 85 | 95 | 97 | 97 |
| NK Brand N58D1 | 107 | 100 | 97 | 90 | 77 | 75 | 67 | 57 | 48 | 33 | 30 | 8 | 3 | 0 | 16 | 80 | 94 | 97 | 97 |
| Dairyland Stealth 1410 | 110 | 100 | 100 | 100 | 93 | 75 | 67 | 55 | 48 | 42 | 25 | 12 | 10 | 0 | 0 | 52 | 86 | 96 | 98 |
| Jung 2710 | 112 | 100 | 98 | 98 | 92 | 78 | 63 | 55 | 52 | 35 | 27 | 15 | 8 | 0 | 4 | 70 | 91 | 97 | 100 |
| Pioneer 33A14 | 113 | 100 | 98 | 98 | 95 | 83 | 65 | 57 | 50 | 38 | 35 | 15 | 10 | 0 | 0 | 59 | 86 | 94 | 96 |
| Mean | | 95 | 87 | 77 | 67 | 56 | 47 | 30 | 19 | 12 | 10 | 4 | 3 | 28 | 53 | 86 | 95 | 98 | 98 |
| Probability(%) | | | | | | | | | | | | | | | | | | | |
| 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 | 0.0 | 0.0 | 5.6 | 71.7 | 93.4 |
| LSD(0.10) | | | | | | | | | | | | | | | | | | | |
| Hybrid (H) | | 5 | 13 | 14 | 15 | 12 | 7 | 9 | 11 | 10 | 11 | 5 | 4 | 15 | 14 | 10 | 7 | NS | NS |
| CV(%) | | | | | | | | | | | | | | | | | | | |
| | | 4 | 11 | 13 | 16 | 15 | 11 | 21 | 39 | 56 | 75 | 76 | 107 | 39 | 19 | 9 | 6 | 4 | 4 |

**Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids
Arlington, WI - 2002**

| Hybrid | Relative maturity | Day of year | Leaf Development | | | Plant height inches |
|------------------------|-------------------|-------------|---------------------------|---------------------------------------|---------------------------|------------------------|
| | | | Leaf collars no./plant | Hail adjusters method no./plant | Total leaves no./plant | |
| | | 154 | 2.3 | 3.5 | 4.1 | 3.6 |
| | | 168 | 4.3 | 5.9 | 7.3 | 9.8 |
| | | 179 | 7.1 | 9.4 | 10.6 | 24.9 |
| | | 193 | 11.8 | 14.2 | 16.3 | 62.1 |
| | | 206 | 17.7 | 17.8 | 18.2 | 88.9 |
| | | 220 | 18.5 | 18.4 | 18.5 | 92.4 |
| Mycogen 2141 | 81 | | 9.9 | 11.1 | 12.0 | 41.2 |
| NK Brand N17R3 | 82 | | 10.1 | 11.4 | 12.3 | 43.6 |
| Renk RK232 | 85 | | 10.1 | 11.2 | 12.1 | 46.7 |
| Golden Harvest H6355 | 87 | | 10.2 | 11.4 | 12.3 | 45.4 |
| NK Brand N2555Bt | 88 | | 10.7 | 11.8 | 12.8 | 47.2 |
| Golden Harvest H6675 | 90 | | 10.3 | 11.7 | 12.2 | 48.7 |
| Dekalb DKC4442 | 94 | | 10.6 | 11.8 | 12.6 | 45.9 |
| Pioneer 37R71 | 97 | | 10.5 | 12.0 | 12.9 | 48.0 |
| Pioneer 37H26 | 99 | | 11.4 | 12.7 | 13.6 | 49.1 |
| Midwest G7101B | 100 | | 10.5 | 11.9 | 12.8 | 48.0 |
| Cargill 4521Bt | 105 | | 10.5 | 11.8 | 12.7 | 49.5 |
| Pioneer 35R58 | 105 | | 9.6 | 10.8 | 11.9 | 47.5 |
| NK Brand N58D1 | 107 | | 10.2 | 11.9 | 12.9 | 46.7 |
| Dairyland Stealth 1410 | 110 | | 9.9 | 11.3 | 12.4 | 46.9 |
| Jung 2710 | 112 | | 10.1 | 11.2 | 12.4 | 47.8 |
| Pioneer 33A14 | 113 | | 9.9 | 10.7 | 12.1 | 48.8 |
| Mycogen 2141 | 81 | 154 | 2.2 | 3.5 | 4.0 | 3.2 |
| Mycogen 2141 | 81 | 168 | 4.2 | 5.8 | 7.2 | 7.5 |
| Mycogen 2141 | 81 | 179 | 6.8 | 9.2 | 10.3 | 22.0 |
| Mycogen 2141 | 81 | 193 | 11.8 | 13.8 | 16.0 | 60.0 |
| Mycogen 2141 | 81 | 206 | 17.2 | 17.2 | 17.2 | 77.3 |
| Mycogen 2141 | 81 | 220 | 17.2 | 17.2 | 17.2 | 77.3 |
| NK Brand N17R3 | 82 | 154 | 2.2 | 3.5 | 4.2 | 3.8 |
| NK Brand N17R3 | 82 | 168 | 4.3 | 5.5 | 7.2 | 9.1 |
| NK Brand N17R3 | 82 | 179 | 6.8 | 9.8 | 10.7 | 21.5 |
| NK Brand N17R3 | 82 | 193 | 11.7 | 14.0 | 16.2 | 59.2 |
| NK Brand N17R3 | 82 | 206 | 17.8 | 17.8 | 17.8 | 83.8 |
| NK Brand N17R3 | 82 | 220 | 17.8 | 17.8 | 17.8 | 84.2 |
| Renk RK232 | 85 | 154 | 2.0 | 3.2 | 4.0 | 3.4 |
| Renk RK232 | 85 | 168 | 4.3 | 5.8 | 7.5 | 10.2 |
| Renk RK232 | 85 | 179 | 7.2 | 9.8 | 10.7 | 27.0 |
| Renk RK232 | 85 | 193 | 12.2 | 14.2 | 15.3 | 65.8 |
| Renk RK232 | 85 | 206 | 17.3 | 17.0 | 17.5 | 87.0 |
| Renk RK232 | 85 | 220 | 17.3 | 17.0 | 17.5 | 87.0 |

continued

Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids
 (continued) **Arlington, WI - 2002**

| Hybrid | Relative maturity | Day of year | Leaf Development | | | Plant height |
|----------------------|-------------------|-------------|------------------|-----------------------|--------------|--------------|
| | | | Leaf collars | Hail adjusters method | Total leaves | |
| | | | no./plant | no./plant | no./plant | |
| Golden Harvest H6355 | 87 | 154 | 2.3 | 3.3 | 4.2 | 3.3 |
| Golden Harvest H6355 | 87 | 168 | 4.3 | 5.8 | 7.0 | 9.9 |
| Golden Harvest H6355 | 87 | 179 | 7.2 | 9.5 | 10.7 | 25.8 |
| Golden Harvest H6355 | 87 | 193 | 11.5 | 14.2 | 15.8 | 60.2 |
| Golden Harvest H6355 | 87 | 206 | 17.7 | 17.8 | 18.0 | 85.3 |
| Golden Harvest H6355 | 87 | 220 | 18.0 | 18.0 | 18.0 | 87.7 |
| NK Brand N2555Bt | 88 | 154 | 2.3 | 3.3 | 4.5 | 4.3 |
| NK Brand N2555Bt | 88 | 168 | 4.7 | 6.0 | 7.5 | 11.2 |
| NK Brand N2555Bt | 88 | 179 | 7.0 | 9.7 | 10.8 | 24.2 |
| NK Brand N2555Bt | 88 | 193 | 13.0 | 14.5 | 17.2 | 66.0 |
| NK Brand N2555Bt | 88 | 206 | 18.5 | 18.5 | 18.5 | 88.8 |
| NK Brand N2555Bt | 88 | 220 | 18.5 | 18.5 | 18.5 | 88.8 |
| Golden Harvest H6675 | 90 | 154 | 2.5 | 3.8 | 4.3 | 3.7 |
| Golden Harvest H6675 | 90 | 168 | 4.7 | 6.7 | 7.7 | 11.7 |
| Golden Harvest H6675 | 90 | 179 | 7.0 | 9.5 | 10.8 | 29.0 |
| Golden Harvest H6675 | 90 | 193 | 12.3 | 14.7 | 16.3 | 70.5 |
| Golden Harvest H6675 | 90 | 206 | 17.7 | 17.7 | 16.3 | 88.5 |
| Golden Harvest H6675 | 90 | 220 | 17.7 | 17.7 | 17.7 | 88.5 |
| Dekalb DKC4442 | 94 | 154 | 2.5 | 3.3 | 4.0 | 3.7 |
| Dekalb DKC4442 | 94 | 168 | 4.2 | 6.3 | 7.3 | 9.6 |
| Dekalb DKC4442 | 94 | 179 | 7.3 | 9.7 | 10.7 | 24.8 |
| Dekalb DKC4442 | 94 | 193 | 12.2 | 14.7 | 16.5 | 58.5 |
| Dekalb DKC4442 | 94 | 206 | 18.7 | 18.5 | 18.7 | 89.8 |
| Dekalb DKC4442 | 94 | 220 | 18.7 | 18.5 | 18.7 | 88.8 |
| Pioneer 37R71 | 97 | 154 | 2.2 | 3.7 | 4.2 | 4.1 |
| Pioneer 37R71 | 97 | 168 | 4.7 | 6.7 | 8.3 | 11.2 |
| Pioneer 37R71 | 97 | 179 | 7.5 | 10.3 | 11.5 | 28.8 |
| Pioneer 37R71 | 97 | 193 | 12.5 | 15.2 | 16.8 | 65.8 |
| Pioneer 37R71 | 97 | 206 | 18.2 | 18.2 | 18.2 | 89.2 |
| Pioneer 37R71 | 97 | 220 | 18.2 | 18.2 | 18.2 | 89.2 |
| Pioneer 37H26 | 99 | 154 | 2.5 | 3.5 | 4.5 | 3.9 |
| Pioneer 37H26 | 99 | 168 | 4.8 | 6.7 | 8.2 | 11.4 |
| Pioneer 37H26 | 99 | 179 | 7.7 | 10.2 | 11.3 | 28.5 |
| Pioneer 37H26 | 99 | 193 | 13.5 | 16.0 | 17.7 | 69.5 |
| Pioneer 37H26 | 99 | 206 | 20.0 | 20.0 | 20.0 | 90.7 |
| Pioneer 37H26 | 99 | 220 | 20.0 | 20.0 | 20.0 | 90.7 |
| Midwest G7101B | 100 | 154 | 2.3 | 3.5 | 4.0 | 3.6 |
| Midwest G7101B | 100 | 168 | 4.8 | 6.2 | 7.7 | 10.4 |
| Midwest G7101B | 100 | 179 | 7.2 | 9.5 | 10.7 | 26.8 |
| Midwest G7101B | 100 | 193 | 11.5 | 15.2 | 16.5 | 63.3 |
| Midwest G7101B | 100 | 206 | 18.5 | 18.5 | 19.0 | 91.8 |
| Midwest G7101B | 100 | 220 | 18.5 | 18.5 | 19.0 | 92.3 |
| Cargill 4521Bt | 105 | 154 | 2.2 | 3.8 | 4.2 | 3.8 |
| Cargill 4521Bt | 105 | 168 | 4.7 | 5.7 | 7.0 | 10.1 |
| Cargill 4521Bt | 105 | 179 | 7.0 | 9.7 | 10.8 | 26.2 |
| Cargill 4521Bt | 105 | 193 | 11.8 | 14.8 | 16.7 | 62.7 |
| Cargill 4521Bt | 105 | 206 | 18.5 | 18.5 | 18.7 | 97.2 |
| Cargill 4521Bt | 105 | 220 | 18.7 | 18.5 | 18.7 | 97.2 |

continued

Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids
 (continued) **Arlington, WI - 2002**

| Hybrid | Relative maturity | Day of year | Leaf Development | | | Plant height inches |
|------------------------|-------------------|-------------|------------------|--------------------------|--------------|------------------------|
| | | | Leaf collars | Hail adjusters method | Total leaves | |
| | | | no./plant | no./plant | no./plant | |
| Pioneer 35R58 | 105 | 154 | 2.0 | 3.3 | 3.8 | 3.4 |
| Pioneer 35R58 | 105 | 168 | 4.0 | 5.2 | 6.7 | 9.1 |
| Pioneer 35R58 | 105 | 179 | 6.5 | 8.8 | 10.2 | 24.0 |
| Pioneer 35R58 | 105 | 193 | 10.7 | 13.3 | 14.7 | 57.8 |
| Pioneer 35R58 | 105 | 206 | 16.2 | 16.2 | 17.7 | 89.5 |
| Pioneer 35R58 | 105 | 220 | 18.2 | 18.2 | 18.2 | 101.3 |
| NK Brand N58D1 | 107 | 154 | 2.0 | 3.3 | 4.2 | 3.0 |
| NK Brand N58D1 | 107 | 168 | 4.0 | 6.2 | 7.2 | 7.6 |
| NK Brand N58D1 | 107 | 179 | 7.0 | 9.2 | 10.2 | 21.5 |
| NK Brand N58D1 | 107 | 193 | 11.0 | 14.7 | 16.8 | 55.2 |
| NK Brand N58D1 | 107 | 206 | 17.3 | 18.0 | 19.2 | 93.2 |
| NK Brand N58D1 | 107 | 220 | 19.8 | 19.8 | 19.8 | 99.5 |
| Dairyland Stealth 1410 | 110 | 154 | 2.3 | 3.3 | 4.0 | 3.2 |
| Dairyland Stealth 1410 | 110 | 168 | 4.0 | 5.5 | 6.8 | 8.1 |
| Dairyland Stealth 1410 | 110 | 179 | 6.8 | 8.8 | 10.3 | 21.7 |
| Dairyland Stealth 1410 | 110 | 193 | 10.8 | 13.7 | 16.3 | 57.0 |
| Dairyland Stealth 1410 | 110 | 206 | 16.7 | 17.3 | 18.3 | 89.0 |
| Dairyland Stealth 1410 | 110 | 220 | 18.8 | 18.8 | 18.8 | 102.7 |
| Jung 2710 | 112 | 154 | 2.2 | 3.3 | 4.0 | 3 |
| Jung 2710 | 112 | 168 | 4.0 | 5.3 | 6.8 | 10 |
| Jung 2710 | 112 | 179 | 7.0 | 8.8 | 10.0 | 23 |
| Jung 2710 | 112 | 193 | 11.2 | 13.8 | 16.2 | 59 |
| Jung 2710 | 112 | 206 | 17.0 | 16.8 | 18.0 | 92 |
| Jung 2710 | 112 | 220 | 19.2 | 19.2 | 19.2 | 100 |
| Pioneer 33A14 | 113 | 154 | 2.5 | 3.5 | 4.2 | 4 |
| Pioneer 33A14 | 113 | 168 | 3.8 | 5.3 | 6.7 | 10 |
| Pioneer 33A14 | 113 | 179 | 6.8 | 8.3 | 9.5 | 24 |
| Pioneer 33A14 | 113 | 193 | 10.7 | 11.2 | 15.5 | 63 |
| Pioneer 33A14 | 113 | 206 | 16.7 | 16.7 | 17.8 | 90 |
| Pioneer 33A14 | 113 | 220 | 19.2 | 19.2 | 19.2 | 103 |
| Mean | | | 10.3 | 11.5 | 12.5 | 47 |
| Probability(%) | | | | | | |
| Hybrid (H) | | | 0.0 | 0.0 | 0.0 | 0.2 |
| Day Of Year (D) | | | 0.0 | 0.0 | 0.0 | 0.0 |
| H x D | | | 0.0 | 0.0 | 0.0 | 0.0 |
| LSD(0.10) | | | | | | |
| Hybrid (H) | | | 0.4 | 0.5 | 0.5 | 2.7 |
| Day Of Year (D) | | | 0.1 | 0.2 | 0.2 | 0.8 |
| H x D | | | 0.5 | 0.7 | 0.6 | 3.2 |
| CV(%) | | | 4 | 4 | 4 | 5 |