

## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity  
**Experiment:** 01GD **Trial ID** 3066 **Year:** 2007  
**Personnel:** J.G. Lauer, K.D. Kohn, and T.H. Diallo  
**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:** 10/1 /07 **pH:** 7.0 **OM (%)** 3.3 **P (ppm)** 137 **K (ppm)** 43

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Cultivated 6/8/07

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b> <b>Preplant :</b>	46-0-0	325 lbs	4 /23/07
<b>Starter :</b>	9-23-30	150	4 /30/07
<b>Post plant :</b>	N/A	N/A	N/A
<b>Manure:</b>	N/A	N/A	N/A

**Herbicide:** Harness 29 oz/A **Insecticide:** Force 3G 4.4lb/A  
 Callisto 3.0 oz/A **Hybrid:** See Factors

**Irrigation:** None

**Planting Date:** 4/30/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 10/5/07 **Harvest Method:** Massey Ferguson 8XP

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded** 10' x 25' **Experiment Size:** 0.28 Acre  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** 29849 plants per acre

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

##### Hybrids:

Brunner S3704Bt	Kussmaul	Pioneer 35A30
Croplan 591TS	SB2983RRYGPlus	Pioneer 39D82
Croplan 691BtLL	Lemke 3081Bt	Renk RK438YGCB
Dairyland Stealth 5204	Mycogen 2R174	Trelay 7454Bt
Kruger K1500RR	NK Brand N16-M1	Trelay 8K339
Kruger K9496YG	Pioneer 34N44	

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**Results: Table C-1 and C-2.**

**Table C-1. Determining Corn Hybrid Maturity - Comparison of Hybrids  
Arlington, WI - 2007**

Hybrid	Relative Grain		Test wt	lodb	return \$/A	Date	Early		Kernel Milk		Black layer	Plant height	Starch		Protein		Ethanol per bu	
	maturity	yield					dent	50%	25%	Oil			%	%	%	gallons		
NK Brand N16-M1	82	178	15.1	60.3	11	613	188	215	220	229	235	244	96	3.6	60.1	8.1	2.88	511
Kusmaul SB2983RRYGPlus	83	206	13.4	60.9	2	712	190	224	229	235	243	248	98	3.7	59.2	8.3	2.86	590
Mycogen 2R174	85	210	14.4	60.8	1	723	188	223	229	235	242	246	96	3.6	59.6	8.2	2.86	600
Pioneer 39D82	87	156	14.4	58.8	19	537	188	220	226	233	240	245	101	3.9	58.8	8.9	2.78	434
Lemke 3081Bt	90	213	13.6	58.8	2	735	190	224	232	239	246	252	102	3.5	60.1	7.7	2.91	619
Renk RK438YGCB	93	210	13.7	59.6	17	725	192	225	233	240	247	251	103	3.5	59.8	7.8	2.90	612
Kruger K9496YG	96	218	14.0	58.4	3	752	192	226	233	239	245	248	104	3.6	60.0	7.6	2.91	634
Brunner S3704Bt	97	208	13.4	57.9	15	717	192	225	233	239	244	247	102	3.6	59.9	7.8	2.91	605
Trelay 7454Bt	98	198	14.1	57.3	12	682	193	227	234	242	247	250	99	3.5	59.9	7.7	2.90	573
Kruger K1500RR	100	222	13.7	58.0	19	765	195	227	233	238	245	249	105	3.5	59.8	8.0	2.89	641
Pioneer 35A30	103	225	19.3	56.1	34	760	195	229	237	246	252	257	118	3.3	60.2	7.9	2.90	654
Dairyland Stealth 5204	104	210	20.1	55.9	14	706	198	234	242	247	255	264	109	3.7	59.4	8.4	2.84	598
Croplan 591TS	107	223	21.5	57.7	6	744	196	229	238	246	253	262	114	3.8	59.4	8.5	2.85	636
Pioneer 34N44	109	238	20.5	56.3	6	796	194	230	236	247	255	260	108	3.2	60.6	7.6	2.91	691
Croplan 691BILL	112	238	23.7	51.1	37	783	198	235	239	245	254	264	113	3.4	60.1	7.5	2.90	690
Trelay 8K339	113	257	23.3	53.5	3	845	193	231	242	248	257	265	109	3.4	59.9	7.8	2.88	738
Mean		213	16.8	57.6	13	725	193	226	233	241	248	253	104	3.6	59.8	8.0	2.88	614
<b>Probability(%)</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	0.0	0.0	0.0	0.0
<b>LSD(0.10)</b>																		
Hybrid (H)		23	1.0	0.9	12	78	1	3	3	2	2	3	5	0.1	0.4	0.3	0.02	67
<b>CV(%)</b>		8	4	1	71	8	0	1	1	1	1	1	3	3	0	3	1	8

**Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids  
Arlington, WI - 2007**

Hybrid	Relative maturity	Day of year	Leaf Development			Plant height inches
			Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
		149	3.8	5.9	6.6	7.1
		162	6.7	8.8	10.9	19.9
		177	11.2	13.8	15.8	62.5
		191	17.4	17.7	18.6	96.2
		204	19.6	19.6	19.6	104.8
NK Brand N16-M1	82		11.4	12.9	13.8	56.2
Kusssmaul SB2983RRYGPlus	83		12.2	13.7	14.6	55.6
Mycogen 2R174	85		12.2	13.6	14.7	55.5
Pioneer 39D82	87		11.4	12.8	13.7	60.1
Lemke 3081Bt	90		12.3	13.8	15.1	58.5
Renk RK438YGCB	93		11.9	13.3	14.6	57.2
Kruger K9496YG	96		11.9	13.4	14.6	57.0
Brunner S3704Bt	97		11.9	13.2	14.5	56.3
Trelay 7454Bt	98		11.7	13.2	14.1	54.0
Kruger K1500RR	100		11.6	12.7	13.9	57.1
Pioneer 35A30	103		12.0	13.5	14.8	64.0
Dairyland Stealth 5204	104		11.8	13.4	14.5	58.4
Croplan 591TS	107		11.6	13.1	14.4	61.7
Pioneer 34N44	109		11.5	12.7	13.8	60.4
Croplan 691BtLL	112		11.4	12.6	13.9	57.5
Trelay 8K339	113		11.6	12.9	14.1	60.5
NK Brand N16-M1	82	149	3.7	6.0	6.5	6.6
NK Brand N16-M1	82	162	6.7	8.8	10.8	18.3
NK Brand N16-M1	82	177	10.3	13.0	15.2	64.3
NK Brand N16-M1	82	191	18.2	18.2	18.3	95.8
NK Brand N16-M1	82	204	18.3	18.3	18.3	96.0
Kusssmaul SB2983RRYGPlus	83	149	4.0	6.0	7.0	7.2
Kusssmaul SB2983RRYGPlus	83	162	7.0	9.3	11.2	19.0
Kusssmaul SB2983RRYGPlus	83	177	12.2	15.2	16.7	60.2
Kusssmaul SB2983RRYGPlus	83	191	18.7	18.7	19.0	93.2
Kusssmaul SB2983RRYGPlus	83	204	19.3	19.3	19.3	98.3
Mycogen 2R174	85	149	4.3	6.5	7.3	7.7
Mycogen 2R174	85	162	7.2	9.3	11.7	20.8
Mycogen 2R174	85	177	11.3	13.8	16.0	64.8
Mycogen 2R174	85	191	18.7	18.8	19.2	88.7
Mycogen 2R174	85	204	19.3	19.3	19.3	95.5

continued

**Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids**  
**Arlington, WI - 2007**

(continued)

Hybrid	Relative maturity	Day of year	Leaf Development			Plant height inches
			Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
Pioneer 39D82	87	149	3.8	6.0	6.8	8.1
Pioneer 39D82	87	162	6.2	8.7	10.8	21.7
Pioneer 39D82	87	177	11.5	13.8	15.5	68.7
Pioneer 39D82	87	191	17.7	17.7	17.7	98.8
Pioneer 39D82	87	204	17.7	17.7	17.7	103.0
Lemke 3081Bt	90	149	4.0	6.5	7.2	8.4
Lemke 3081Bt	90	162	7.0	9.2	11.7	22.3
Lemke 3081Bt	90	177	11.5	14.2	16.7	65.0
Lemke 3081Bt	90	191	19.0	19.3	19.8	95.0
Lemke 3081Bt	90	204	20.0	20.0	20.0	101.8
Renk RK438YGCB	93	149	4.0	5.8	6.8	6.8
Renk RK438YGCB	93	162	7.0	9.2	11.3	21.0
Renk RK438YGCB	93	177	11.0	14.0	16.0	62.8
Renk RK438YGCB	93	191	17.7	17.7	18.7	92.7
Renk RK438YGCB	93	204	20.0	20.0	20.0	102.5
Kruger K9496YG	96	149	4.0	6.2	6.8	6.6
Kruger K9496YG	96	162	6.8	9.0	11.3	20.7
Kruger K9496YG	96	177	11.3	14.5	16.3	60.0
Kruger K9496YG	96	191	17.2	17.5	18.3	93.7
Kruger K9496YG	96	204	20.0	20.0	20.0	104.0
Brunner S3704Bt	97	149	3.8	6.0	6.7	7.0
Brunner S3704Bt	97	162	6.8	8.7	11.0	18.0
Brunner S3704Bt	97	177	11.3	13.7	16.2	62.5
Brunner S3704Bt	97	191	17.3	17.7	18.7	92.5
Brunner S3704Bt	97	204	20.0	20.0	20.0	101.7
Trelay 7454Bt	98	149	3.3	5.7	6.2	5.9
Trelay 7454Bt	98	162	7.0	9.0	10.7	19.2
Trelay 7454Bt	98	177	11.8	14.5	16.0	55.2
Trelay 7454Bt	98	191	16.8	17.2	18.0	91.2
Trelay 7454Bt	98	204	19.7	19.7	19.7	98.8
Kruger K1500RR	100	149	3.5	5.3	6.2	6.4
Kruger K1500RR	100	162	6.5	8.5	10.3	19.7
Kruger K1500RR	100	177	11.5	12.8	15.2	61.3
Kruger K1500RR	100	191	16.8	16.8	18.2	92.8
Kruger K1500RR	100	204	19.8	19.8	19.8	105.2
Pioneer 35A30	103	149	4.0	6.2	7.0	7.6
Pioneer 35A30	103	162	7.0	9.0	11.3	22.2
Pioneer 35A30	103	177	11.0	14.2	15.8	67.5
Pioneer 35A30	103	191	17.0	17.5	18.8	104.8
Pioneer 35A30	103	204	20.8	20.8	20.8	117.7

continued

**Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids**  
**Arlington, WI - 2007**

(continued)

Hybrid	Relative maturity	Day of year	Leaf Development			Plant height inches
			Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
Dairyland Stealth 5204	104	149	3.7	5.8	6.5	7.1
Dairyland Stealth 5204	104	162	6.7	8.8	10.8	18.8
Dairyland Stealth 5204	104	177	11.3	14.3	15.8	57.5
Dairyland Stealth 5204	104	191	17.2	17.7	19.2	99.7
Dairyland Stealth 5204	104	204	20.2	20.2	20.2	108.8
Croplan 591TS	107	149	3.3	5.8	6.2	6.8
Croplan 591TS	107	162	6.3	8.7	10.8	19.7
Croplan 591TS	107	177	11.0	13.2	15.8	63.7
Croplan 591TS	107	191	17.2	17.7	19.0	104.3
Croplan 591TS	107	204	20.2	20.2	20.2	114.2
Pioneer 34N44	109	149	4.0	6.0	6.2	8.0
Pioneer 34N44	109	162	6.7	8.3	10.3	19.0
Pioneer 34N44	109	177	10.8	12.5	15.2	67.8
Pioneer 34N44	109	191	16.3	17.0	18.0	99.8
Pioneer 34N44	109	204	19.5	19.5	19.5	107.5
Croplan 691BtLL	112	149	3.7	5.3	6.0	6.8
Croplan 691BtLL	112	162	6.3	8.3	10.2	18.7
Croplan 691BtLL	112	177	11.0	13.5	15.7	53.3
Croplan 691BtLL	112	191	16.0	16.2	17.7	95.3
Croplan 691BtLL	112	204	19.8	19.8	19.8	113.2
Trelay 8K339	113	149	4.0	6.0	6.5	7.4
Trelay 8K339	113	162	6.7	8.7	10.8	19.8
Trelay 8K339	113	177	10.8	13.3	15.2	65.7
Trelay 8K339	113	191	16.8	17.0	18.5	101.2
Trelay 8K339	113	204	19.7	19.7	19.7	108.5
Mean			11.8	13.2	14.3	58.1
<b><u>Probability(%)</u></b>						
Hybrid (H)			0.2	0.1	0.0	0.0
Day Of Year (D)			0.0	0.0	0.0	0.0
H x D			0.0	0.0	0.0	0.0
<b><u>LSD(0.10)</u></b>						
Hybrid (H)			0.4	0.5	0.5	2.7
Day Of Year (D)			0.1	0.2	0.1	0.7
H x D			0.5	0.6	0.5	2.9
<b><u>CV(%)</u></b>						
			3	3	2	4

## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity  
**Experiment:** 01GD **Trial ID** 3067 **Year:** 2007  
**Personnel:** J.G. Lauer, K.D. Kohn, and T.H. Diallo  
**Location:** Marshfield, WI **County:** Wood  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Withee Silt Loam  
**Soil Test:** **Date:** 10/1 /07 **pH:** 6.4 **OM (%)** 3.3 **P (ppm)** 220 **K (ppm)** 75

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Cultivated 6/19/07

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b> <b>Preplant :</b>	N/A	N/A	N/A
<b>Starter :</b>	9-23-30	150	5 /10/07
<b>Post plant :</b>	28-0-0	27 gal/A	6 /19/07
<b>Manure:</b>	N/A	N/A	N/A

**Herbicide:** Hornet 2.4 oz/A **Insecticide:** None  
 Atrazine 1.0 qt/A **Hybrid:** See Factors  
 Outlook 14 oz/A

**Irrigation:** None

**Planting Date:** 5/10/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 10/25/07 **Harvest Method:** Massey Ferguson 8XP

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded** 10' x 25' **Experiment Size:** 0.28 Acre  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** 30096 plants per acre

### Factors/Treatments:

#### Hybrids:

Brunner S3704Bt	Kussmaul	Pioneer 35A30
Croplan 591TS	SB2983RRYGPlus	Pioneer 39D82
Croplan 691BtLL	Lemke 3081Bt	Renk RK438YGCB
Dairyland Stealth 5204	Mycogen 2R174	Trelay 7454Bt
Kruger K1500RR	NK Brand N16-M1	Trelay 8K339
Kruger K9496YG	Pioneer 34N44	

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**Results: Table C-3.**

**Table C-3. Determining Corn Hybrid Maturity - Comparison of Hybrids**  
**Marshfield, WI - 2007**

Hybrid	Relative maturity	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Lodging %	Grower return \$/A	Grain Composition			Ethanol	
							Oil %	Starch %	Protein %	per bu gallons	per A gallons
NK Brand N16-M1	82	165	16.7	58.1	2	564	3.5	60.2	8.1	2.88	475
Kusmaul SB2983RRYGPlus	83	167	16.6	57.4	9	573	3.7	59.6	7.9	2.88	482
Mycogen 2R174	85	174	17.9	58.3	5	593	3.6	59.1	8.5	2.85	497
Pioneer 39D82	87	166	19.1	55.4	9	562	3.6	59.4	8.6	2.81	467
Lemke 3081Bt	90	192	17.6	55.2	16	655	3.4	60.2	7.6	2.91	559
Renk RK438YGCB	93	178	18.2	54.4	22	605	3.4	60.1	7.5	2.91	518
Kruger K9496YG	96	177	18.1	53.4	14	602	3.5	60.3	7.4	2.91	515
Brunner S3704Bt	97	177	18.3	53.2	15	602	3.5	60.4	7.4	2.90	515
Trelay 7454Bt	98	165	18.6	53.8	16	558	3.7	60.2	7.6	2.89	476
Kruger K1500RR	100	167	18.3	52.5	8	568	3.6	60.1	7.9	2.88	483
Pioneer 35A30	103	171	20.8	53.9	22	572	3.2	60.0	7.9	2.90	497
Dairyland Stealth 5204	104	145	24.7	51.1	5	475	3.4	59.4	8.4	2.85	414
Croplan 591TS	107	157	25.9	51.9	14	510	3.5	59.3	8.3	2.86	449
Pioneer 34N44	109	164	23.9	50.9	27	539	3.1	60.2	7.7	2.90	476
Croplan 691BtLL	112	141	31.1	46.1	24	443	3.2	59.7	7.5	2.87	405
Trelay 8K339	113	151	28.0	48.7	14	482	3.2	59.7	8.3	2.86	431
Mean		166	20.9	53.4	14	556	3.5	59.9	7.9	2.88	479
<b>Probability(%)</b>											
Hybrid (H)		0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
<b>LSD(0.10)</b>											
Hybrid (H)		15	1.2	1.1	12	48	0	0.5	0.4	0.02	43
<b>CV(%)</b>		6	4	2	61	6	2	1	4	1	7

## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity  
**Experiment:** 01GD **Trial ID** 3068 **Year:** 2007  
**Personnel:** J.G. Lauer, K.D. Kohn, and T.H. Diallo  
**Location:** Seymour, WI **County:** Onieda  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Clay Loam  
**Soil Test:** **Date:** 10/1 /07 **pH:** 6.3 **OM (%)** 3.4 **P (ppm)** 246 **K (ppm)** 125

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Cultivated 6/14/07  

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b> <b>Preplant :</b>	N/A	N/A	N/A
<b>Starter :</b>	9-23-30	150	5 /7 /07
<b>Post plant :</b>	34-0-0	324	6 /14/07
<b>Manure:</b>	N/A	N/A	N/A

**Herbicide:** Hornet 2.0 oz/A **Insecticide:** None  
Keystone LA 1.7 qt/A **Hybrid:** See Factors  
**Irrigation:** None  
**Planting Date:** 5/7/07 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/12/07 **Harvest Method:** Massey Ferguson 8XP

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded** 10' x 25' **Experiment Size:** 0.28 Acre  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** 29375 plants per acre

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

##### Hybrids:

Brunner S3704Bt	Kussmaul	Pioneer 35A30
Croplan 591TS	SB2983RRYGPlus	Pioneer 39D82
Croplan 691BtLL	Lemke 3081Bt	Renk RK438YGCB
Dairyland Stealth 5204	Mycogen 2R174	Trelay 7454Bt
Kruger K1500RR	NK Brand N16-M1	Trelay 8K339
Kruger K9496YG	Pioneer 34N44	

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**Results: Table C-4.**



**Table C-4. Determining Corn Hybrid Maturity - Comparison of Hybrids  
Seymour, WI - 2007**

Hybrid	Relative maturity	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Lodging %	Grower return \$/A	Grain Composition			Ethanol	
							Oil %	Starch %	Protein %	per bu gallons	per A gallons
NK Brand N16-M1	82	131	13.4	59.9	0	451	3.3	60.3	8.3	2.87	375
Kusmaul SB2983RRYGPlus	83	156	14.7	61.0	1	537	3.7	60.1	7.8	2.88	449
Mycogen 2R174	85	163	15.2	61.6	0	563	3.3	61.0	7.8	2.89	471
Pioneer 39D82	87	152	14.1	59.1	2	524	3.5	60.4	8.0	2.86	435
Lemke 3081Bt	90	177	14.8	58.4	3	612	3.5	60.9	7.3	2.93	519
Renk RK438YGCB	93	164	15.7	59.5	7	564	3.4	60.9	7.3	2.92	478
Kruger K9496YG	96	180	15.7	58.4	6	621	3.5	61.0	7.0	2.92	527
Brunner S3704Bt	97	171	17.6	57.7	6	583	3.3	61.5	6.8	2.93	501
Trelay 7454Bt	98	179	17.8	56.7	9	608	3.5	61.1	6.8	2.93	523
Kruger K1500RR	100	181	15.4	58.8	6	623	3.4	60.9	7.4	2.91	527
Pioneer 35A30	103	178	21.6	56.8	6	593	3.4	60.7	7.3	2.91	520
Dairyland Stealth 5204	104	164	21.5	57.6	1	547	3.8	60.7	7.4	2.89	474
Croplan 591TS	107	165	24.6	57.3	3	541	3.9	60.1	7.8	2.86	473
Pioneer 34N44	109	203	24.9	54.9	0	664	3.1	61.5	6.9	2.96	627
Croplan 691BtLL	112	202	27.1	52.3	1	650	3.0	61.1	7.2	2.94	578
Trelay 8K339	113	194	25.3	55.0	0	631	3.5	60.5	7.4	2.87	558
Mean		173	18.7	57.8	3	582	3.5	60.8	7.4	2.90	498
<b>Probability(%)</b>											
Hybrid (H)		0.0	0.0	0.0	5.5	0.2	0.4	13.6	0.0	0.3	0.0
<b>LSD(0.10)</b>											
Hybrid (H)		20	1.7	1.4	5	71	0	NS	0.4	0.03	60
<b>CV(%)</b>		8	7	2	112	9	6	1	4	1	9