

## Grain Corn Hybrids Evaluation

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In 2009, 25 corn hybrids were grouped into three maturity groups based on their relative maturity (RM) provided by the seed companies; Group I, early maturity group (78-89 days), group II mid maturity group (90-100 days), and group III, full season maturity group (101-117 days). Corn hybrids were harvested by hand at different dates when their kernels reached 20-30% moisture. Grain yields were adjusted to 15.5% moisture.

The exceptional combination of cool and wet weather throughout the entire growing season had a significant effect on early vegetative growth stages as well as the overall growth, which lead to a significant reduction in grain yield potential for all hybrids tested. Results obtained in this study are summarized in Table 2.

The results from 2009 grain corn hybrid trial indicated:

- Grain yields ranged from 224 bu/ac to 121 bu/ac where overall weighted mean was 179 bu/ac (15.5% moisture content).
- Lower yield in 2009 compared to previous years was mainly attributed to the exceptionally cool and wet conditions that occurred during the entire growing season.
- In average, full- season hybrids out-yielded shorter- season hybrids by about 50 bu/ac.
- The results from this year and 2008 indicated that when corn is not grown for heating purpose, use of full- season hybrids should be considered.

Table 1: Climate Data for 2009 in South Deerfield, MA.

	GDD <sup>1</sup>			Rainfall (inches)		
	2009	Norm	Deviation	2009	Norm	Deviation
May (27 days)	196	262	-66	4.27	3.81	+0.46
June	412	533	-121	5.16	3.75	+1.41
July	521	697	-176	9.88	3.91	+5.97
August	603	638	-35	6.43	4.10	+2.33
September	270	290	-20	1.55		
October						
Short (20 days)	28	32	-4	2.33	2.02	+0.31
Full	38	45	-7	5.23	4.65	+0.58
November						
Full (10 days)	7	8	-1	0	0.2	-0.20
<b>Total</b>	<b>2047 <sup>2</sup></b>	<b>2505</b>	<b>-430</b>	<b>34.85 <sup>3</sup></b>	<b>22.44</b>	<b>12.41</b>

<sup>1</sup> Growing Degree Days was calculated as  $GDD = \sum (T_{max} + T_{min})/2 - 50$ .

<sup>2</sup> Total GDD for full season maturity group. For short season maturity hybrids GDD was 2052.

<sup>3</sup> Total rainfall for full season maturity group. Total rainfall for short season maturity was 34.85 inches.

Table 2: Grain yield and cob/ear ratio of all hybrids planted on May 4, 2009 and harvested when kernel moisture was between 20-30%.

Brand	Hybrid	Maturity Group <sup>1</sup>	Grain yield <sup>2</sup> bu/ac	Cob/ear (%)	Silk DAP
Seedway	E197RR	I	121	11.9	82
Seedway	SW2170	I	138	13.3	83
Seedway	E224RR	I	152	13.4	82
Doebler's	P253X	I	150	11.8	83
Doebler's	P333X	I	185	11.3	83
Agrisure(NK)	N20R-GT	I	169	10.7	84
<b>Mean</b>			<b>152.5</b>	<b>11.9</b>	<b>83</b>
DEKALB	DKC 55-44	II	184	9.5	84
DEKALB	DKC 48-37	II	180	10.2	82
DEKALB	DKC 48-46	II	186	9.5	81
DEKALB	DKC 45-82	II	172	10.4	82
Dairyland	HidF-3195Q	II	189	8.7	86
Mycogen	TMF2L414	II	181	11.5	88
Mycogen	TMF2N494	II	142	10.7	88
Mycogen	TMF94	II	159	11.4	89
Doebler's	362GR	II	162	8.7	82
<b>Mean</b>			<b>172.8</b>	<b>10.1</b>	<b>85</b>
DEKALB	DKC 67-87	III	199	10.7	92
DEKALB	DKC 61-66	III	221	10.2	87
DEKALB	DKC 52-59	III	193	10.6	88
DEKALB	DKC 54-49	III	192	10.4	85
DEKALB	DKC 63-42	III	224	10.6	87
Dairyland	HidF- 3110	III	161	11.4	92
Dairyland	STEALTH-8208	III	206	9.1	90
Agrisure(NK)	N53W3	III	217	9.8	87
Mycogen	TMF2R521	III	208	10.4	84
<b>Mean</b>			<b>202.3</b>	<b>10.3</b>	<b>88</b>
<b>Overall Mean</b>			<b>178.9</b>	<b>10.8</b>	<b>85</b>
CV (%)			14.2	1.1	2

<sup>1</sup>Group 1, early maturity group (78-89 days), group II mid maturity group (90-100 days), and group III, full season maturity group (101-117 days).

<sup>2</sup>Grain yields were adjusted to 15.5% moisture.