

## 2005 Evaluation of Corn Hybrids in Massachusetts

Stephen J. Herbert and Masoud Hashemi  
Department of Plant, Soil, and Insect Sciences

Corn hybrids submitted by contributing companies in 2005 were tested by the Department of Plant, Soil, and Insect Sciences, University of Massachusetts. Hybrids were evaluated for yield of silage and ear, percentage ears, and moisture content. The trials were planted in the Connecticut River Valley at the UMass Agronomy Research Farm in South Deerfield, Massachusetts. Results of these trials are made available to farmers, extension agents, seed distributors, seed salesmen and others upon request. Tables should not be reproduced if any portion is omitted or if order of data is changed.

The trials were planted on May 11, 2005. A cone type distributor mounted on a double disc opening corn planter was used in a conventionally prepared seed bed at each site. Each plot was planted at the rate of 32,000 seeds per acre in 30 inch rows. Plots consisted of 3 rows with a length of 25 feet. Each hybrid was replicated 4 times. Weeds were controlled with a pre-emergence application of 1 quart Atrazine (AAtrex 4L) plus 1 quart Metolachlor (Dual 8E) per acre. An amount of 650 lbs/ac of 15-8-12 fertilizer was applied pre-plant, and a further 85 lb/acre of nitrogen side dressed on July 10 using ammonium nitrate.

During entire growing period, especially early stages of growth, temperature was much warmer than 2004 and the normal conditions for this location (Table 1). For example, during the months of May and June, corn plants had 465 and 288 more growing degree days compared to 2004 and the normal conditions, respectively. During the early stages of growth, noticeably in month of June, corn plants received significantly more rainfall than 2004. In these two months the amount of precipitation was 7.9 inches compared to 4.71 and 7.64 inches of rain in 2004 and normal conditions for this location. The high temperature continued for the rest of growing season while the rainfall except for the month of September was adequate for plant growth. Overall, silage and ear yield in 2005 were much higher compared to the previous year. This could be attributed mostly to the rapid growth of plants during early stages and optimum conditions during kernel set and kernel growth during the month of August and September.

Corn plots were harvested In September 21, when all entries were almost beyond the full dent stage (Table 2). Nine feet of central row from each plot was taken for yield estimation. Silage yields were adjusted to 70% moisture and earcorn yields to 25% moisture. Moisture content is reported as a percentage of corn harvested as silage.

Table 1: Climate Data for 2005, 2004, and Norm in South Deerfield

	<u>GDD<sup>1</sup></u>			<u>Rainfall (inches)</u>		
	2005	2004	Norm	2005	2004	Norm
May	418	140	282	1.96	2.10	3.89
Jun	685	498	533	5.94	2.61	3.75
Jul	661	682	697	3.47	4.11	3.91
Aug	682	694	638	2.76	4.28	4.10
Sep	505	453	381	0.77	8.70	3.79
<b>Total</b>	<b>2951</b>	<b>2467</b>	<b>2531</b>	<b>14.90</b>	<b>21.80</b>	<b>19.44</b>

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

Table 2: Yield, Moist%, and Ear Percentage for all hybrids-Harvested September 21, 2005.

BRAND	HYBRID	silage <sup>1</sup> T/ac	smoist %	earcorn <sup>2</sup> T/ac	emoist %	ear %
AGWAY	3998 XRR	28.5	62.8	6.8	40.1	58.9
DEKALB	DKC 61-72	30.8	66.0	6.4	41.8	52.4
DEKALB	DKC 61-45	33.7	68.4	8.1	42.6	60.1
DEKALB	DKC 57-84	34.5	62.3	8.4	39.0	61.4
DEKALB	DKC 63-62	36.0	64.3	8.9	40.3	61.5
DEKALB	DKC 57-30	28.2	59.7	6.3	37.1	56.9
DEKALB	DKC 54-51	29.1	58.8	7.3	37.6	62.2
DEKALB	DKC 52-23	31.7	59.1	8.0	37.8	63.7
BLUE SEAL	985GS	26.9	57.6	6.3	39.9	58.4
BLUE SEAL	1041L (Glenn Rep)	27.3	64.4	6.1	41.4	55.6
BLUE SEAL	1041L MF	29.0	65.5	6.1	43.0	52.7
BLUE SEAL	972L (Glenn Rep)	32.0	59.8	7.0	39.6	54.7
BLUE SEAL	972L R11	29.6	58.2	7.2	37.4	60.9
BLUE SEAL	920 (Glenn Rep)	29.3	58.7	6.7	40.3	57.9
BLUE SEAL	920L MR	25.6	61.3	6.0	39.5	59.1
TA SEEDS	TA 7280F	27.6	62.8	6.1	44.2	55.7
TA SEEDS	TA 6993	24.5	60.4	5.9	37.7	60.4
TA SEEDS	TA 685-00	33.3	63.0	7.7	40.3	57.6
<b>Mean</b>		<b>29.9</b>	<b>61.9</b>	<b>7.0</b>	<b>39.0</b>	<b>58.5</b>
<b>LSD</b>		<b>2.4</b>	<b>2.8</b>	<b>1.6</b>	<b>3.9</b>	<b>3.0</b>
<b>CV (%)</b>		<b>12.2</b>	<b>5.4</b>	<b>13.5</b>	<b>6.4</b>	<b>6.1</b>

<sup>1</sup>Silage @ 70% moisture

<sup>2</sup>Earcorn @ 25% moisture