

## Evaluation of 2000 and 2001 Corn Hybrids in Massachusetts

Stephen J. Herbert and Betsey M. O'Toole  
Dept. of Plant and Soil Sciences

Corn hybrids submitted by contributing companies in 2000 and 2001 were tested by the Department of Plant & Soil Sciences, University of Massachusetts. Hybrids were evaluated for yield of silage and earcorn, percentage ears, and moisture content. The trials were planted in the Connecticut River Valley at the Massachusetts Agronomy Research Farm in South Deerfield, Massachusetts. The results are presented and have been incorporated into the long term results (3 or more years including one of the previous 3 years) of the testing program. 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 May 2, 2000 and May 1, 2001. 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 were 25 feet long and 3 rows wide. Each hybrid was replicated four times. Weeds were controlled with a pre-emergence application of 1 quart atrazine (AAtrax 4L) plus 1 quart metolachlor (Dual 8E) per acre. Pre-plant fertilization was at the rate of 100 lbs N/acre. Plants were side dressed, on June 30 in 2000 and 2001, with ammonium nitrate at the rate of 85 lb/acre of nitrogen.

In 2000 the month of May had warmer than normal temperatures, however, the months of June, July, and August had temperatures cooler than the norm, while September had 31 growing degree days above the norm. In 2001, the months of May, June and August had warmer than normal temperatures, and July had temperatures slightly cooler than the norm. In 2000, higher than normal precipitation fell throughout the growing season. Overall, the precipitation received in 2000 was 12.2 inches above the norm for the five month growing season. In 2001, although the overall rainfall was 0.39 inches above the norm, this was due to the fact that June received 2.31 inches above the norm. However, the amount of precipitation received in August was 3.01 inches below the norm.

The relatively cool and very wet growing season in 2000 may have had an adverse effect on the yield potential of the corn varieties, while the summer drought in (August 2001) may have had an adverse effect on the yield potential of the corn varieties since this period coincided with corn pollination, and may have interfered with synchronization of tasseling and silking.

Corn plots were harvested when most entries had reached or were beyond the full dent stage. Harvested dates are shown on each table of results. Ten feet of 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.

## Climate Data for 2000 and 2001 in South Deerfield, MA

	Growing Degree Days			Rainfall (inches)		
	2000	2001	Norm	2000	2001	Norm
May	354	372	282	4.25	3.87	3.89
June	524	601	533	8.36	6.11	3.75
July	589	613	697	7.34	3.96	3.91
Aug.	601	770	638	6.20	1.03	4.10
Sept.	412*	394*	381	5.49	4.87	3.79
<b>Total</b>	<b>2480*</b>	<b>2750*</b>	<b>2531</b>	<b>31.64</b>	<b>19.84</b>	<b>19.44</b>

\* To harvest date for medium-late maturity hybrids.

### Average Corn Yield from University of Massachusetts South Deerfield Trials<sup>1</sup>

<u>Brand</u>	<u>Hybrid</u>	<u>No. of Years</u>	<u>Silage<sup>1</sup> T/ac</u>	<u>Earcorn<sup>2</sup> T/ac</u>
<u>AGWAY</u>	AG6191	3	31.1	6.6
	AG626	6	32.8	7.5
	AG773	3	29.9	6.5
	AG795	3	32.7	7.1
<u>DEKALB</u>	DK443	3	27.8	6.7
	DK446	4	29.9	6.8
	DK527	4	29.8	7.4
	DK546	4	31.1	7.3
	DK567	3	28.4	6.7
	DK595	3	32.1	7.7
	DK642	3	31.6	7.1
	DK658	3	32.8	7.2
<u>SEEDWAY</u>	E390L	5	28.9	6.4
	E624	4	32.4	7.5
	E774	4	33.6	6.7
<u>HOFFMAN</u>	G4286	4	30.0	6.8
	G4394	6	30.9	7.3
	N3030BT	3	25.8	6.4

<sup>1</sup>Silage @ 70% moisture      <sup>2</sup>Earcorn @ 25% moisture

\*Averages based on the number of years

Early and Medium Hybrids - Harvested September 27, 2000

Brand	Hybrid	Silage <sup>1</sup> T/ac	Silage % Moist.	Earcorn <sup>2</sup> T/ac	Earcorn % Moist.	Ears %
HOFFMAN	NX4529	29.9	54	7.0	41	59
SEEDWAY	E409L	29.6	56	5.4	45	45
AGWAY	AG5496	29.3	54	6.9	41	59
SEEDWAY	E390L	28.8	45	5.6	41	49
DEKALB	DK537	28.5	57	6.6	42	58
AGWAY	AG5206	27.5	47	6.5	40	59
DOEBLER	495XYG	26.2	60	6.3	40	60
HOFFMAN	N3030BT	26.1	52	6.7	39	64
HOFFMAN	NX4528	26.1	54	5.9	41	57
DEKALB	DK507	23.5	50	5.7	39	62
AGWAY	AG5202	22.8	56	5.2	39	57
DOEBLER	586XYG	22.2	49	5.1	41	58
MEAN		26.7	52.9	6.1	40.7	57.2
LSD 5%		5.8	5.9	1.3	2.0	6.2

Late Hybrids - Harvested September 29, 2000

DOEBLER	S707Q	33.6	61	6.5	48	49
DEKALB	DK668	31.4	63	5.9	47	47
DEKALB	DKC61-24	31.1	60	6.8	45	55
HOFFMAN	N58-D1	30.7	59	6.9	43	57
SEEDWAY	E774	30.3	63	6.1	47	50
AGWAY	AG6191	30.2	60	6.2	48	52
ASGROW	RX637	29.6	54	6.6	44	57
DOEBLER	638XYG	29.5	58	6.2	46	54
DEKALB	DK585	29.2	56	6.7	43	58
DEKALB	DK647	28.1	55	6.0	45	54
AGWAY	AG773	27.4	61	5.5	49	51
DEKALB	DK567	26.1	56	6.2	41	60
SEEDWAY	E624	25.9	50	5.7	44	55
DEKALB	DK647BTY	24.7	50	5.3	45	53
ASGROW	RX730	24.4	48	5.2	44	54
SEEDWAY	E670L	23.7	51	4.1	42	43
SEEDWAY	E618HOC	22.1	61	5.0	45	56
MEAN		28.1	56.9	5.9	45.1	53.0
LSD 5%		5.6	5.8	1.1	1.8	5.7

<sup>1</sup> Silage @ 70% moisture <sup>2</sup> Earcorn @ 25% moisture

Early and Medium Hybrids - Harvested September 19, 2001

Brand	Hybrid	Silage <sup>1</sup> T/ac	Silage % Moist.	Earcorn <sup>2</sup> T/ac	Earcorn % Moist.	Ears %
SEEDWAY	E409L	29.4	58	5.9	42	50
MONSANTO	DKC53-32(YG)	25.1	57	5.9	40	59
HOFFMAN	N45-T5	24.5	57	5.3	39	53
SEEDWAY	E538	24.4	62	4.9	43	49
DOEBLER	495XYG	24.0	59	5.4	39	56
DOEBLER	509	23.8	58	5.4	40	57
AGWAY	AG 5519	23.8	63	4.9	44	51
MONSANTO	DKC51-88(YG)	23.7	56	5.6	39	59
HOFFMAN	N35-R7	22.9	55	5.0	39	55
SEEDWAY	E390L	22.9	59	4.6	42	51
HOFFMAN	N48-K2	22.5	58	5.0	39	56
AGWAY	AG 5206	22.2	58	4.6	42	52
HOFFMAN	N3030BT	20.4	54	4.8	39	59
MEAN		23.8	57.9	5.2	40.4	54.2
LSD 0.05%		4.7	2.2	1.3	2.1	4.0

Late Hybrids - Harvested September 24, 2001

BRAND	HYBRID	SILAGE <sup>1</sup> T/A	SILAGE % MOIST.	EARCORN <sup>2</sup> T/A	EARCORN % MOIST.	EARS %
DOEBLER	5707Q	29.8	63	5.8	43	49
MONSANTO	DK647BTY	29.2	63	6.1	42	52
AGWAY	AG 6191	28.9	63	5.5	44	47
MONSANTO	DK567	27.5	58	6.1	39	55
HOFFMAN	N58-D1	26.7	60	5.9	40	55
MONSANTO	DKC61-24	26.6	62	5.1	41	48
SEEDWAY	E670L	26.2	61	5.2	44	50
MONSANTO	DKC60-08(YG)	25.7	62	5.7	39	56
MONSANTO	RX708	25.2	61	5.4	41	53
DOEBLER	638XYG BT	24.3	62	5.5	44	53
MONSANTO	DKC58-52(YG)	24.1	61	5.1	40	53
AGWAY	AG 6001	23.5	63	5.1	42	54
SEEDWAY	E731	23.5	62	4.9	44	51
SEEDWAY	E622	23.1	61	4.7	42	51
AGWAY	AG 6515	22.9	60	4.8	44	53
MONSANTO	RX730RR/YG	22.4	62	4.4	44	49
MEAN		25.6	61.5	5.3	42.0	51.7
LSD 0.05%		5.6	2.0	1.3	1.7	3.0

<sup>1</sup> Silage @ 70% moisture <sup>2</sup> Earcorn @ 25% moisture