

Evaluation of Corn Hybrids in Massachusetts

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Corn hybrids submitted by contributing companies in 1992 were tested by the Department of Plant & Soil Sciences, University of Massachusetts. Hybrids were evaluated for yield of silage and earcorn, percentage ears, standability, and moisture content. The trials were planted in the Connecticut River Valley at the Massachusetts Agricultural Experiment Station 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 12, 1992. A cone type distributor mounted on a double disc opening corn planter was used in a conventionally prepared seedbed. Each plot was planted at the rate of 29,000 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 preemergence application of 1 lb. metolachlor (Dual 8E) plus 2 lbs. atrazine (AAtrex 4L) per acre. Preplant fertilization was at the rate of 500 lbs 15-8-12 per acre. In addition, the corn was side-dressed on June 18, with 100 lbs per acre of nitrogen in the form of ammonium nitrate.

The 1992 growing season was both cooler and drier than normal. Growing Degree Days were below normal for all the summer months, especially May, June and July. The months of May and June were also much drier than normal with a total of 4.33 inches of rain compared to the normal 7.68 inch total for these two months. These two factors combined to cause the corn crop to grow quite slowly early in the summer and resulted in delayed maturity. Thus harvesting was later than usual for the South Deerfield Farm.

Corn plots were harvested when most entries were at the full dent stage. Harvested dates are shown on each table of results. Ten feet of the center row from each plot was taken for yield estimation. Silage yields were adjusted to 70% moisture and earcorn yields to 25% moisture. Percent ears is calculated on a dry matter basis. Lodged plants were any plants broken below the ear or leaning across the neighboring row.

Climate Data for 1992 in South Deerfield, MA

	<u>Growing Degree Days</u>		<u>Rainfall (inches)</u>	
	<u>1992</u>	<u>Norm</u>	<u>1992</u>	<u>Norm</u>
May	202	266	1.81	3.95
June	489	522	2.52	3.73
July	580	694	4.37	3.69
Aug.	570	636	5.58	4.24
Sept.	<u>351*</u>	<u>369</u>	<u>2.55</u>	<u>3.53</u>
	2192*	2487	16.83	19.14

* From sowing date to harvest date for medium-late maturity hybrids.

AVERAGE CORN YIELD FROM UNIV. OF MASS. SOUTH DEERFIELD TRIALS

<u>Brand</u>	<u>Hybrid</u>	<u>No. of Years</u>	<u>Silage¹ T/ac</u>	<u>Earcorn² T/ac</u>
<u>AGWAY</u>	AG777	7	32.2	7.0
	AG673	5	31.6	7.0
	AG658	4	31.5	7.3
	AG596	6	29.7	6.4
	AG473	10	28.4	6.0
	AG310	10	27.7	6.3
	AG261	4	26.9	6.5
<u>CARGILL</u>	7877	4	33.3	7.4
	4327	3	29.3	6.4
<u>EASTLAND/TODD</u>	E782	5	31.5	6.4
	E565	3	31.1	7.2
	E652	4	30.6	7.0
	E591	3	29.6	6.6
	E478	4	28.8	6.7
	E325	5	26.7	6.2
<u>FUNK</u>	G-4446	6	28.2	6.4
	G-4309	5	28.2	6.7
	G-4106	4	27.6	6.6
	G-4027	4	27.1	6.6
<u>HALSEY</u>	H1105A	4	28.9	6.8
	HT1107	3	27.7	6.3
	H3593	3	27.5	6.1
<u>HYTEST</u>	HT712	4	31.8	6.5
	HT474	6	31.7	7.1
	HT512	4	31.1	6.7
	HT650A	10	30.5	6.3
	HT492	7	29.8	6.7
	HT190	6	29.4	6.5
<u>MUNCY CHIEF</u>	XA777	4	29.4	6.6
	XA804	4	28.4	5.9
	SX662	16	28.3	6.1
	XA560	5	27.8	6.0
	SX560	12	27.3	5.8
<u>NORTHROP KING</u>	N7705	4	30.5	6.8
	N3624	5	30.4	6.9
	N4545	5	29.9	6.9
<u>PIONEER</u>	3540	6	31.5	6.9
	3790	4	26.8	6.5

¹Silage @ 70% moisture

²Earcorn @ 25% moisture

EARLY HYBRIDS HARVESTED SEPT. 15, 1992

BRAND	HYBRID	SILAGE ¹ T/A	SILAGE % MOISTURE	EARCORN ² T/A	EARCORN % MOISTURE	PERCENT EARS	PERCENT NONLODGED PLANTS
EASTLAND	E340	33.0	69	6.5	49	49	100
CARGILL	4327	32.4	71	5.9	55	45	100
FUNK	G4160	30.6	65	6.5	48	53	100
DEKALB	DK451	30.5	68	6.2	51	52	100
HYTEST	HT7224	30.3	68	5.7	49	47	100
AGWAY	AG473	30.3	70	5.7	53	46	100
AGWAY	AG427	30.2	70	6.0	50	49	97
FUNK	G4018	30.0	66	6.0	44	51	96
HALSEY	H295	29.7	70	5.3	55	45	99
FUNK	G4106	29.7	68	6.2	50	52	99
FUNK	G4260	29.5	69	5.7	53	48	100
HALSEY	H188	26.9	66	5.3	48	50	96
DAIRYLAND	DX1184	26.3	67	5.3	50	50	100
FUNK	G4070	26.0	66	6.0	50	57	100
MEAN		29.7	68	5.9	50	49	99
LSD 5%		3.4	1.8	.8	2.7	3.4	4.9

EARLY-MEDIUM HYBRIDS - HARVESTED SEPT. 23, 1992

BRAND	HYBRID	SILAGE ¹ T/A	SILAGE % MOISTURE	EARCORN ² T/A	EARCORN % MOISTURE	PERCENT EARS	PERCENT NONLODGED PLANTS
NORTHROP-KING	N3624	34.0	63	7.0	47	52	100
DEKALB	DK582	33.6	72	5.8	53	43	100
HYTEST	HT424	33.5	67	6.8	48	51	100
EASTLAND	E495	33.1	69	6.8	46	51	100
EASTLAND	E599	33.0	69	6.1	55	47	99
FUNK	G4446A	32.7	68	6.8	46	52	98
AGWAY	AG673	32.5	67	6.4	48	49	98
HALSEY	H1109	32.4	67	6.3	47	48	100
HYTEST	HT512	32.4	69	6.6	51	51	100
DAIRYLAND	DX1207	32.2	65	7.0	46	54	98
CARGILL	6197	32.2	69	6.6	48	51	100
AGWAY	AG658	32.0	71	6.6	52	51	100
HYTEST	HT474	31.8	68	6.3	50	49	100
HALSEY	H1105A	31.6	68	6.6	49	52	100
NORTHROP-KING	N6330	31.3	72	6.9	52	55	100
FUNK	G4385	30.9	69	6.7	48	54	100
MUNCY-CHIEF	XA560	30.7	67	5.6	51	45	100
DEKALB	DK522	30.6	64	6.3	49	52	100
FUNK	G4292	30.4	68	6.2	47	51	97
AGWAY	AG596	29.5	68	6.0	49	51	100
HALSEY	H296	28.9	65	6.2	45	54	100
HALSEY	H1107	28.8	69	6.3	50	55	98
MEAN		31.7	68	6.5	49	51	99
LSD 5%		3.3	2.2	.7	1.6	3.8	2.9

¹ Silage @ 70% moisture ² Earcorn @ 25% moisture

MEDIUM-LATE HYBRIDS - HARVESTED OCT. 1, 1992

BRAND	HYBRID	SILAGE ¹		EARCORN ²		PERCENT PERCENT	
		T/A	% MOISTURE	T/A	% MOISTURE	EARS	NONLODGED PLANTS
DEKALB	DK646	33.8	63	7.4	51	55	100
AGWAY	AG797	31.8	66	6.1	49	48	100
AGWAY	AG777	31.5	65	6.7	47	54	100
HYTEST	HT650A	31.3	65	6.7	47	54	99
CARGILL	7877	31.1	62	6.7	46	55	100
HALSEY	H1115	30.9	62	6.8	47	55	100
CARGILL	7697	30.8	61	6.5	48	53	100
HYTEST	HT7728	30.7	66	5.8	51	49	100
HALSEY	EX2116	30.4	63	6.5	48	54	99
FUNK	G4624	30.3	67	6.0	52	50	100
NORTHRUP-KING	N4545	30.1	57	6.9	43	57	100
NORTHRUP-KING	7705	30.0	63	6.4	47	53	100
AGWAY	AG824	29.9	66	6.1	51	50	100
HALSEY	EX2110	29.6	59	6.4	43	53	98
EASTLAND	EX649	29.2	65	6.4	52	54	100
MUNCY-CHIEF	XA7766	29.2	64	6.8	51	57	100
MUNCY-CHIEF	XA788	29.2	60	6.3	45	54	99
MUNCY-CHIEF	XA777	28.7	63	6.1	48	54	100
MUNCY-CHIEF	XA7790	28.7	64	5.5	52	48	100
AGWAY	AG710	27.2	66	6.1	51	56	100
DAIRYLAND	DX1217	25.0	68	4.8	54	48	100
MEAN		30.0	64	6.3	49	53	100
LSD 5%		3.8	2.4	1.1	3.0	4.2	1.9

¹ Silage @ 70% moisture ² Earcorn @ 25% moisture