Massachusetts 1990 Hybrid Corn Evaluation

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Corn hybrids submitted by contributing companies in 1990 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 1, 1990. A cone type distributer mounted on a double disc opening corn planter was used in a conventionally prepared seedbed at each site. Each plot was planted at the rate of 27,000 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 1.6 quarts cyanazine (Bladex 4L) plus 2 quarts alachlor (Lasso 4E) per acre. Preplant fertilization was at the rate of 600 lbs 15-8-12 per acre. In addition, the corn was side-dressed on June 28 with 90 lbs per acre of nitrogen in the form of ammonium nitrate.

Total growing degree days for the season were nearly normal, but May was cooler than normal. The first half of May was quite wet which, coupled with the cool temperatures, caused the corn to get off to a slow start. June and July received less than normal rainfall. Heavy rains which fell in early August brought total rainfall for the summer up to normal, and in September we experienced quite dry weather which provided good corn drying conditions.

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 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. Lodged plants were any plants broken below the ear or leaning across the neighboring row.

Climate Data for 1990 in South Deerfield, MA

	Growing Degree Days			Rainfall (inches)		
	1990		Norm	1990		Norm
May	183		281	7.53		3.90
June	555		519	1.54		3.81
July	744		698	2.01		3.73
Aug.	685		636	9.44		4.05
Sept.	313*	(372)	369	1.39*	(1.53)	3.50
	2480*	2539	2503	21.91*	22.05	18.94

* To harvest date for medium-late maturity hybrids.

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

Brand	Hybrid	No. of Years	Silage[1] T/ac	Earcorn[2] T/ac
AGWAY	AG777S	5	32.0	6.9
	AG673	3	31.1	7.0
	AG650X	9	30.7	6.8
	AG588	5	29.1	6.6
	AG370	4	28.7	6.6
	AG596	4	28.7	6.2
	AG473	8	28.0	6.0
	AG310	9	27.7	6.2
	AG261	4	26.9	6.5
ASGROW	RX498	3	27.0	6.3
EASTLAND/TODD	782	5	31.5	6.4
	652	4	30.6	7.0
	591	3	29.6	6.6
	478	4	28.8	6.7
	5400	4	28.4	6.2
	325	5	26.7	6.2
FUNK	G-4299	3	28.6	6.4
	G-4446	5	28.3	6.4
	G-4309	4	27.7	6.5
	G-4106	3	27.7	6.6
	G-4027	3	27.1	6.6
HYTEST	HT712	4	31.8	6.5
	HT650A	8	30.3	6.2
	HT492	7	29.8	6.7
	HT190	5	29.0	6.3
	HT252	4	28.5	6.2
MUNCY CHIEF	SX777	14	28.5	6.0
	SX662	15	28.0	6.0
	SX660	8	27.5	6.0
	XA804	3	27.4	5.5
	SX560	11	27.4	5.8
	XA560	3	27.3	6.0
NORTHRUP KING	N4545	3	29.4	6.8
	N3624	3	28.9	6.8
	PX9151	4	26.4	6.2
PIONEER	3540	6	31.5	6.9
	3790	4	26.8	6.5
	3901	11	26.6	6.4
	3902	3	26.5	6.4
	3704	4	26.2	6.3
	3751	3	25.7	6.6
	3737	6	25.7	6.4
	3925	6	24.7	5.9
	3949	3	24.4	5.6

[1]Silage - 70% moisture [2]Earcorn - 25% moisture

EARLY HYBRIDS - HARVESTED SEPT. 14, 1990

BRAND	HYBRID	SILAGE T/A	SILAGE % MOISTURE	EARCORN T/A	EARCORN % MOISTURE	PERCENT EARS	PERCENT NONLODGED PLANTS
FUNK	4106	31.1	80	6.9	44	56	100
PIONEER	3295	29.0	83	6.0	54	52	100
AGWAY	AG310	28.2	80	6.5	43	58	100
NORTHRUP KING	N3624	27.9	79	6.4	44	57	100
HYTEST	HT190	27.6	78	6.2	41	56	100
EASTLAND	325	27.1	80	6.2	46	57	100
NORTHRUP KING	N4545	25.8	80	5.7	47	55	100
AGWAY	AG261	25.7	79	6.0	42	59	100
HYTEST	HT183	25.3	78	5.8	41	58	100
HYTEST	HTX7128	24.8	79	5.8	46	59	100
HYTEST	HT178	24.6	78	5.8	44	59	100
HALSEY	H3393	24.3	83	5.6	48	57	100
HYTEST	HT276	23.4	80	5.7	42	61	100
HALSEY	H185	20.1	80	4.5	43	56	100
MEAN		26.0	80	5.9	44	57	100
LSD 5%		3.6	2	.8	2	4	-

MEDIUM-LATE HYBRIDS - HARVESTED SEPT. 26, 1990

BRAND	HYBRID	SILAGE T/A	SILAGE % MOISTURE	EARCORN T/A	EARCORN % MOISTURE	PERCENT EARS	PERCENT NONLODGED PLANTS
AGWAY	AG777	34.3	81	7.4	47	53	99
CARGILL	7877	33.9	79	7.3	46	54	100
FUNK	EXP4133X	31.8	80	6.9	51	53	98
CARGILL	6227	31.4	81	6.9	47	55	99
AGWAY	AG658	30.9	81	6.9	48	56	100
NORTHRUP KING	7705	30.5	81	6.3	48	52	100
AGWAY	AG673	30.5	80	6.6	47	53	100
PIONEER	3343	30.0	80	6.8	47	56	100
EASTLAND	652	30.0	80	6.8	44	57	99
PIONEER	3241	29.8	79	6.4	47	54	100
NORTHRUP KING	S7838WX	29.2	80	6.2	50	53	98
MUNCY CHIEF	XA777	29.2	80	6.1	48	52	100
EASTLAND	782	28.9	81	5.8	50	51	99
MUNCY CHIEF	SX662	28.6	80	6.1	47	53	98
MUNCY CHIEF	XA804	28.4	81	5.6	50	50	100
HYTEST	HTX7809	27.8	82	5.7	48	51	100
HYTEST	HT712	27.1	79	5.1	50	48	99
MUNCY CHIEF	XA490	26.0	72	5.9	39	57	97
HYTEST	HT650A	24.7	82	4.9	50	51	100
MEAN		29.6	80	6.3	48	53	99
LSD 5%		3.4	2	.8	3	4	3

EARLY-MEDIUM HYBRIDS - HARVESTED SEPT. 19, 1990

BRAND	HYBRID	SILAGE T/A	SILAGE % MOISTURE	EARCORN T/A	EARCORN % MOISTURE	PERCENT EARS	PERCENT NONLODGED PLANTS
EASTLAND	565	31.0	82	6.8	48	56	100
HYTEST	HTX7405	31.0	79	6.3	50	51	100
PIONEER	3429	29.4	80	6.2	51	53	100
AGWAY	AG596	29.0	79	6.6	44	56	100
PIONEER	3540	28.7	82	6.5	45	57	100
NORTHRUP KING	S5987WX	28.6	81	6.3	46	55	100
FUNK	G4290	28.6	78	6.4	45	56	100
EASTLAND	591	28.4	80	6.2	45	55	100
MUNCY CHIEF	XA560	28.3	79	6.2	47	55	100
HYTEST	HT492	28.0	81	6.1	47	54	100
PIONEER	3527	28.0	79	6.1	48	55	100
FUNK	G4309	27.5	80	6.3	45	57	97
PIONEER	3733	27.5	76	6.6	43	59	99
PIONEER	3573	27.0	79	6.5	45	60	98
HYTEST	HT512	26.9	79	5.5	52	51	100
EASTLAND	478	26.9	81	6.0	47	56	100
HALSEY	H1107	26.5	80	5.9	49	56	100
HALSEY	H3593	26.4	80	5.9	47	56	100
MUNCY CHIEF	SX560	26.4	77	6.3	45	60	100
HALSEY	H1105A	26.4	80	6.2	46	59	100
PIONEER	3751	25.8	76	6.6	41	63	98
CARGILL	4327	25.7	80	5.8	46	57	100
FUNK	G4446	25.6	81	5.5	46	54	100
PIONEER	3790	25.1	75	6.0	38	61	100
PIONEER	3592	25.0	81	5.7	45	56	100
HYTEST	HT424	24.9	79	5.3	49	53	100
HYTEST	HT318	24.7	77	5.2	49	53	100
MUNCY CHIEF	SX390	24.4	78	5.6	43	57	100
AGWAY	EXP401	24.3	79	5.4	42	55	100
AGWAY	AG473	22.7	78	5.0	49	54	100
MEAN		27.0	79	6.0	46	56	100
LSD 5%		4.1	2	1.0	3	4	2

Silage yield adjusted to 70% moisture Earcorn yield adjusted to 25% moisture