

1979 MASSACHUSETTS HYBRID CORN EVALUATION

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In 1979, the University of Massachusetts tested corn hybrids for silage yield, ear corn yield, moisture content and standability. The evaluation in Sunderland, Massachusetts was on a Hadley fine sandy loam, land owned by Roman R. Skibiski. The study evaluated 94 hybrids supplied to the principle investigator by Cornell University and DeKalb - R. Skibiski. Many seed companies with hybrids in the 1979 trials supported this program with research funds. Results of this trial and the compilation of results of previous trials are made available to farmers, extension agents, seed distributors, seed salesmen and others upon request. The purpose of the testing program is to aid farmers in identifying and obtaining improved and adapted hybrids. Corn acreage in Massachusetts in 1979 at 39,000 acres was slightly lower compared with 1978 at 40,000 acres. The State average silage yield in 1979 was estimated at 17.0 tons per acre compared with an estimated 16.5 tons per acre in 1978.

Weather conditions during the 1979 growing season had most significant effects on planting, emergence and condition of the crop at harvest. April started out hot and dry until the middle of May. The weather then became wet and cold which delayed planting and emergence for many growers. Total growing degree days were down mostly because of delayed planting, and as a result considerable corn may have been harvested for silage immaturity.

The yield trial was planted May 16, 1979 using a cone type distributor mounted on a double disc opening corn planter in a conventionally prepared seedbed. Each plot was planted at the rate of 27,000 seeds per acre in 36 inch rows. Hybrids were planted in three row plots, 21.5 feet long. Four replicates were planted but only three replicates were harvested because water ponding reduced plant establishment in the fourth replicate.

Soil tests were used as a guide to fertilizer applications. Plow down fertilizer supplied by Greenfield Farmers Exchange and Agway was 170 lb N, 90 lb P₂O₅ and 140 lb K₂O per acre. Because of heavy rains early in June, the corn field was sidedressed with a further 65 lb N per acre on June 19, 1979. Weeds were controlled with a preemergence application of 1.25 lb atrazine and 2 lb alachor (Lasso) per acre. Some grassy weeds were present in all plots but were not of sufficient stand and vigor to reduce yields. Broadleaf weeds were insignificant.

Corn silage plots were harvested when most entries were at the full dent stage. Ten feet from the center row of each plot was cut by hand and the green weights were recorded for dehusked ears and stover. Five random ears from each plot were taken for moisture determination. Four to five random stalks were also taken from each plot and chopped with a leaf mulcher to obtain a sample for moisture determination. The weighed sample of ears and the weighed sample of chopped material were dried to a constant weight at 150°F, and the percent dry

matter was calculated. Silage yields were adjusted to 70% moisture and ear corn yields to 25% moisture. Moisture content is reported as a percentage for corn harvested as silage. The numbers of standing and lodged plants were counted for each plot. Any plant broken below the ear or leaning across the neighboring row was considered lodged. Percent erect plants was calculated and reported. A severe storm late in the season accentuated these lodging figures.

Average Corn Yield from Univ. of Mass. (Amherst) Trials

Hybrid	No. of Years	Silage ¹ t/ac	Earcorn ² t/ac
<u>Agway</u>			
724	8	26.6	5.8
590X	11	25.1	5.9
725X	3	26.3	5.3
595S	10	23.7	5.7
393S	7	21.6	5.1
<u>Asgrow</u>			
RX58	4	22.4	5.4
RX60	3	21.1	5.4
RX35	3	18.2	4.5
RX30	3	17.0	4.5
<u>Cornell</u>			
M-3	3	21.4	5.5
<u>Dekalb</u>			
XL66	4	26.6	6.3
XL342	3	24.7	6.1
XL43	3	24.6	6.3
XL367	4	24.2	5.7
XL22	3	23.7	6.4
XL16	3	23.5	5.4
XL22B	3	21.7	5.6
XL12	10	21.5	5.5
XL21	3	20.7	6.0
XL15	3	20.0	5.0
<u>Funk</u>			
G-4195	6	25.7	5.7
G-4444	9	25.6	6.3
G-4604	5	26.8	6.1
G-4343	6	24.5	6.1
G-10A	3	22.8	5.5
G-4252	10	20.9	4.9
G-11A	4	19.3	4.3
G-4180	3	18.7	4.7
G-5048	3	18.1	6.3

Average Corn Yield from Univ. of Mass. (Amherst) Trials

Hybrid	No. of Years	Silage ¹ t/ac	Earcorn ² t/ac
<u>Muncy Chief</u>			
SX662	5	28.9	6.9
SX777	4	28.6	6.5
SX440	3	21.1	5.4
SX220	3	15.1	3.7
<u>Northrup King</u>			
PX32	4	25.0	5.8
PX525	4	25.1	6.2
PX420	4	19.3	4.9
PX446	5	18.9	5.0
PX20	5	18.5	4.9
PX448	3	15.7	4.1
<u>Penn. State</u>			
Pa6203	4	24.6	6.0
<u>Pioneer</u>			
3368	3	26.9	6.0
3780	5	25.6	6.6
3431	3	25.2	6.2
3373	4	25.0	5.8
3663	5	23.1	5.8
3658	3	23.0	5.7
3909	3	21.6	5.7
3784	3	20.6	5.7
3956A	4	20.0	5.1
<u>Pride</u>			
R450	3	25.4	6.5
R290	5	24.6	6.0
R501	3	22.1	5.9
R200A	4	18.9	5.2
<u>Seneca</u>			
285	5	22.9	5.4
149	3	22.8	5.0
324	3	22.8	4.6
300	3	22.5	4.4
PC35	3	21.8	5.1
155	4	18.0	4.5
<u>Todd</u>			
645	3	26.8	6.0
M30	3	23.1	5.8
<u>Wisconsin</u>			
335A	7	18.4	4.3

1. Silage - 70% moisture

2. Earcorn - 25% moisture

Early Maturity Hybrids 1979

Hybrid	Silage ¹ t/ac	Earcorn ² t/ac	Non-lodged Plants %	Moisture Content %
Cornell 281	27.3	5.7	68	66
Funk G-5048	27.0	5.8	77	64
Pioneer 3950	26.9	6.6	77	65
Northrup King PX11	26.2	6.1	61	62
Pioneer 3965A	25.9	5.7	76	67
Northrup King PX419	25.7	5.6	65	67
Asgrow RX29	25.4	5.9	64	62
Stewart 244	25.3	5.8	84	63
Funk G-4040	25.0	5.7	56	65
Northrup King PX7	24.4	5.8	53	65
Dekalb EX13	23.9	5.4	88	67
Stewart 2660	23.7	5.2	82	68
Asgrow RX255	23.5	5.6	73	63
Funk G-4065	23.2	5.3	91	60
Pride 1128	23.1	4.6	70	68
Agway 292S	23.1	4.7	76	68
Dekalb XL11	22.9	4.9	69	68
Pride R108	22.8	5.3	87	63
Jacques JX32	22.5	5.4	81	64
Northrup King PX414	22.3	5.4	72	58
Jacques JX21	22.3	5.3	73	65
Seedway Eastland 3X15	22.3	5.2	89	67
Seneca 149	22.1	5.2	62	64
Seneca PC14	22.0	4.9	81	65
Seneca 140	21.0	4.7	59	59
Stewart 255	20.3	4.8	86	65
Agway 132X	20.2	4.8	77	64
Jacques JX30	20.2	4.1	79	66
Pride 1169	19.2	4.5	77	66
Trojan TXS85	18.6	4.0	90	67
Pride 1108	17.8	4.2	91	57
Muncy Chief SX220	17.1	4.1	77	62

1. Silage 70% moisture
2. Earcorn - 25% moisture

<u>Planting Date</u>	<u>Growing Degree Days</u>	<u>Rainfall (inches)</u>
May 16, 1979		
	May 152	4.04
	June 470	0.77
	July 691	6.67
<u>Harvest Date</u>	August *	5.14
September 12, 1979	September 177	1.06
	Total 2132	17.68

* to harvest date

Early Medium Maturity Hybrids 1979

Hybrid	Silage ¹ t/ac	Earcorn ² t/ac	Non-lodged Plants %	Moisture Content %
Agway 425X	31.6	6.5	86	66
Pride R319	30.1	6.4	67	63
Agway 370X	29.4	6.1	55	67
Asgrow RX40	29.2	6.1	79	66
Pioneer 3901	28.5	6.8	74	63
Pride 2206	28.1	5.5	66	59
Agway 453X	27.2	5.7	49	66
Seneca T1850	27.0	5.9	73	67
Northrup King PX22	26.2	6.0	50	64
Seneca T1776	25.4	5.7	56	63
Asgrow RX42	25.4	5.7	59	63
Funk G-4195	25.1	5.8	55	62
Cornell 410	24.5	5.0	80	67
Jacques JX42	24.5	5.8	60	60
Pride 2264	24.4	5.7	81	61
Northrup King PX32	24.4	5.6	59	65
Stewart 280	24.4	5.7	69	63
Seneca 321	24.2	5.1	50	67
Pride 2259	23.9	5.4	90	66
Northrup King PX485	23.7	5.3	74	66
Dekalb XL25a	23.6	5.3	44	65
Asgrow RX37	22.5	5.0	64	63
Funk G-4252	22.2	5.1	69	61
Pioneer 3958	21.8	4.8	69	62
Dekalb XL15	21.3	5.0	65	63
Stewart 290	21.1	4.3	73	65
Funk G-4224	21.1	4.6	92	64
Funk G-4141A	20.7	4.7	86	65
Jacques JX52	20.1	4.6	88	66
Agway 393S	19.6	4.3	75	66
Muncy Chief H304	17.9	4.0	66	63

1. Silage - 70% moisture

2. Earcorn - 25% moisture

<u>Planting Date</u>	<u>Growing Degree Days</u>	<u>Rainfall (inches)</u>
May 16, 1979		
	May	152
	June	470
	July	691
	August *	642
	September	221
	Total	2176
		17.69

* to harvest date

Medium Maturity Hybrids 1979

Hybrid	Silage ¹ t/ac	Earcorn ² t/ac	Non-lodged Plants %	Moisture Content %
Dekalb XL72aa	34.0	7.1	90	68
Trojan TX100	30.3	6.9	60	65
Pioneer 3780	30.2	6.8	79	62
Dekalb XL309	29.7	5.5	78	69
Stewart 325	29.7	6.6	62	66
Funk G-4321A	29.1	6.4	79	69
Northrup King PX37	29.0	6.0	71	67
Agway 590X	28.8	6.2	65	67
Seneca S2361	28.5	6.1	67	66
Muncy Chief SX662	28.3	6.1	63	65
Pride R549	28.3	5.3	47	68
Jacques JX122A	27.7	6.3	74	65
Todd M53	27.3	5.7	70	66
Pride R328	26.8	6.2	58	64
Agway 615S	26.8	5.6	80	67
Pa 6203	26.7	6.1	87	66
Todd M49	26.3	5.6	81	67
Agway 595S	25.3	5.6	76	65
Funk G-4315	25.3	5.5	68	77
Jacques JX107	25.2	5.3	56	65
Pride 4488	25.1	5.3	90	69
Trojan T1008	25.1	5.1	55	68
Asgrow RX544	23.8	4.8	73	71
Muncy Chief 3X553	23.5	4.6	72	68
Funk G-4444	23.3	5.1	61	68
Northrup King PX49	22.9	4.5	56	68
Agway 584S	22.4	4.7	52	66
Seneca S1341	22.1	4.7	32	65
Jacques JX90	21.5	4.8	78	63
Asgrow RX58	21.3	4.5	50	68
Jacques JX162	19.0	4.4	89	65

1. Silage - 70% moisture

2. Earcorn - 25% moisture

<u>Planting Date</u>	<u>Growing Degree Days</u>	<u>Rainfall (inches)</u>
May 16, 1979		
	May	151
	June	470
	July	691
	August *	642
	September	227
	Total	2181
		17.69

* to harvest date