2003 Evaluation of Corn Hybrids in Massachusetts

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Corn hybrids submitted by contributing companies in 2003 were tested by the Department of Plant & Soil 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. 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 5, 2003. A cone type distributor mounted on a double disc opening corn planter was used in a conventionally prepared seed bed at the 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. Plots of each hybrid were randomly assigned to 4 replicates. Weeds were controlled with a pre-emergence application of 1 quart Atrazine (AAtrex 4L) plus 1 quart Metolachlor (Dual 8E) per acre. Pre-plant fertilization was 100 lbs N/acre, with a side dress on June 30 with ammonium nitrate at the rate of 85 lb/acre of nitrogen.

In early stages of growth during the months of May and June weather conditions were cooler and much wetter than normal conditions (Table 1). For example, May had 68 growing degree days below normal and 1.54 inches of rain above the norm. In June, the condition was even wetter where precipitation was 2.6 inches more than norm for this location. On the other hand, July and August had warmer than normal temperatures, and collectively received almost the same amount of rainfall as normal for this two months. The month of September had 42 growing degree days above the norm and received 5.45 inches more rainfall compared to the norm of the location. Overall, silage and ear yields in 2003 were higher than previous years. This could be attributed mostly to the more suitable weather conditions. For the growing season of 2003, there were 79 growing degree days and 9.7 inches of rain above the norm including an above average of 5.55 inches during the months of July, August, and September which are important in terms of dry matter productions.

Table 1: Climate Data for 2003 in Sth Deerfield

	GDD[1]		Rainfall (inches)	
	2003	Norm	2003	Norm
May	214	282	5.43	3.89
Jun	510	533	6.35	3.75
Jul	733	697	2.41	3.91
Aug	730	638	5.70	4.10
Sep	423	381	9.24	3.79
Total	**2610**	**2531**	**29.13**	**19.44**

[1] Growing Degree Days were calculated as:
GDD = **E**$(T_{max} + T_{min})/2 - 50$

Corn plots were harvested October 10, when all entries were beyond the full dent stage (Table 3). Ten feet of the 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 2: Average Corn Yield from Univ. of Massachusetts South Deerfield Trials*

Brand	Hybrid	No. of Years	Silage[1] T/ac	Earcorn[2] T/ac
MONSANTO	DKC 61-24	4	28.8	6.0
	DKC 53-32	3	26.8	6.5
	RX730RR	3	25.4	5.6
SEEDWAY	E774	4	33.6	6.7
	E624	4	32.4	7.5
	E390L	7	28.6	6.2
	E409L	4	28.1	5.5
SYNGENTA	N58-D1	4	30.4	6.7
	N3030BT	5	27.3	6.4

*Averages are based on the number of years
[1]Silage yield @ 70% moisture, [2]Earcorn yield @ 25% moisture

Table 3: Yield, Moisture %, and Ear Percentage for all Hybrids - Harvested Oct. 10, 2003

BRAND	HYBRID	Silage[1] T/ac	Silage %Moist.	Earcorn[2] T/ac	Earcorn %Moist.	Ears %
SEEDWAY	E705	34.5	65	7.6	42	55
SYNGENTA	N58-D1	34.4	60	8.5	40	62
DEKALB	DKC 53-34	33.2	59	8.5	40	64
SEEDWAY	EX107 LEAFY	32.4	62	7.2	44	55
AGWAY	AG6191	32.4	63	7.5	43	58
SYNGENTA	N51-Z7	32.1	60	8.0	40	63
DEKALB	DKC 57-84	31.9	63	7.8	41	61
SEEDWAY	E621RR	31.6	60	7.4	42	59
TA SEEDS	TA 7650	31.3	62	7.4	44	59
SYNGENTA	N45-T5	31.2	61	6.9	40	56
ASGROW	RX664RR/YG	30.9	62	7.5	40	61
DEKALB	DKC 61-24	30.8	67	7.3	45	59
TA SEEDS	TA 6850F	30.6	65	6.3	45	51
SEEDWAY	EX112L	30.5	66	6.0	46	49
DEKALB	DKC 53-32	30.3	58	7.8	41	64
SYNGENTA	N3030Bt	29.9	57	7.8	39	65
SYNGENTA	NX3511	29.8	58	7.3	38	61
SEEDWAY	E695	29.6	64	6.8	43	58
DEKALB	DKC 52-45	29.4	60	7.8	40	66
ASGROW	RX664	29.4	61	7.1	40	61
TA SEEDS	EX 11109	29.4	60	6.2	44	52
ASGROW	RX730RR/YG	29.3	63	7.2	45	62
SEEDWAY	E409L	29.3	62	6.8	44	58
DEKALB	DKC 51-43	27.9	61	7.0	40	63
DEKALB	DKC 58-78	27.7	61	6.9	42	62
SEEDWAY	E390L	27.7	60	6.0	44	54
SEEDWAY	E538	25.0	64	5.6	44	55
SEEDWAY	E525LRR	24.9	68	5.0	45	50
Mean		**30.3**	**62**	**7.1**	**42**	**59**
$LSD_{.05}$		4.5	3	1.2	1	5
CV (%)		10.6	3.2	12.3	2.3	5.8

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