

2004 Evaluation of Corn Hybrids in Massachusetts

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Corn hybrids submitted by contributing companies in 2004 were tested by the Department of Plant, Soil, and Insects Sciences, University of Massachusetts. Hybrids were evaluated for yield of silage and ears, percentage ears, and moisture content. The trials were planted in the Connecticut River Valley at the UMass Agronomy Research Farm in South Deerfield, Massachusetts. Results of these trials are made available to farmers, extension agents, seed distributors, seed salesmen and others upon request. The table should not be reproduced if any portion is omitted or if order of data is changed.

The trials were planted May 19, 2004 using a cone type distributor mounted on a double disc opening corn planter into 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 25 feet long and 3 rows wide. Each hybrid was replicated 4 times. 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 at the rate of 100 lbs N/acre. Plants were side-dressed in July with ammonium nitrate at the rate of 85 lb/acre of nitrogen.

In early stages of growth during the months of May and June and early July weather conditions were much cooler and drier in 2004 than 2003 and the normal conditions at this locations (Table 1). For example, during the months of May and June, corn plants had 86 and 177 fewer growing degree days compared to 2003 and normal conditions, respectively. Also, May and June the total rainfall was 7.07 inches and 2.93 inches less than 2003 and normal. July and August were collectively similar as 2003 and normal. September had 72 growing degree days above the norm and received 4.91 inches more rainfall compared to the norm. Overall, silage and ear yield in 2004 were lower compared to previous years. This could be attributed mostly to the slow growth of plants during early stages and very wet conditions during kernel set and kernel growth during the month of September.

Corn plots were harvested October 1 in 2004, when all entries were beyond the full dent stage (Table 2). Ten feet of 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 1: Climate Data for 2004, 2003, and Norm in South Deerfield

	GDD ¹			Rainfall (inches)		
	2004	2003	Norm	2004	2003	Norm
May	140	214	282	2.10	5.43	3.89
Jun	498	510	533	2.61	6.35	3.75
Jul	682	733	697	4.11	2.41	3.91
Aug	694	730	638	4.28	5.70	4.10
Sep	453	423	381	8.70	9.24	3.79
Total	2467	2610	2531	21.80	29.13	19.44

¹ Growing Degree Days calculated as: $GDD = \mathbf{E}(T_{\max} + T_{\min})/2 - 50$

Table 2: Silage and ear yields, moisture, and %ear for all hybrids - Harvested Oct. 1, 2004

BRAND	HYBRID	Silage ¹ T/ac	Silage moisture%	Earcorn ² T/ac	Earcorn moisture%	Ear %
ASGROW	RX664RR/YG	19.2	59	4.9	43	63
ASGROW	RX940RR2	25.2	68	4.8	48	47
BLUE SEAL	1051L	21.2	63	4.3	49	51
BLUE SEAL	1041L	22.3	60	4.6	49	52
BLUE SEAL	1190DP	20.9	63	4.5	48	54
BLUE SEAL	952DP	20.7	59	5.0	43	60
BLUE SEAL	972L	22.5	55	5.1	45	58
BLUE SEAL	985GS	23.4	59	5.6	44	60
DEKALB	DKC50-20	20.1	57	5.2	42	64
DEKALB	DKC52-21	21.5	53	5.6	41	65
DEKALB	DKC53-34	23.2	55	6.0	43	65
DEKALB	DKC54-51	21.9	59	5.5	41	63
DEKALB	DKC57-84	21.6	60	5.2	43	60
DEKALB	DKC61-45	24.6	63	5.3	48	54
DOEBLER'S	528XW	20.7	61	5.0	44	60
DOEBLER'S	583XYG	25.1	56	5.9	40	59
DOEBLER'S	648RYG	23.4	63	5.6	47	60
DOEBLER'S	S707Q	24.0	63	4.6	49	47
SEEDWAY	E390L	20.6	55	4.9	45	60
SEEDWAY	E409L	22.0	58	4.5	46	51
SEEDWAY	SW6601L	22.0	60	4.7	46	54
SEEDWAY	SW6800	23.1	62	5.0	45	54
SEEDWAY	SW6804RR	22.8	62	5.4	47	60
SEEDWAY	SW6901L	21.7	63	4.4	48	51
SEEDWAY	SW6833YG	23.7	64	5.1	45	54
SEEDWAY	SW7183YG	22.9	65	5.0	46	55
SEEDWAY	SW7513YG	20.0	61	4.5	49	56
TA SEEDS	TA 6880F	21.4	63	4.3	50	50
TA SEEDS	TA 6901	22.4	61	5.5	46	61
TA SEEDS	TA 6953	27.7	64	5.4	46	52
Mean		22.3	60	5.0	45	57
LSD		4.2	5.8	0.9	2.4	13.7
CV (%)		13.5	5.9	12.3	3.8	17.0

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