2004 Ohio State Organic Corn Performance Test

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Interest in growing corn in organic cropping systems has been on the rise in recent years. In 2004, we conducted an evaluation of corn hybrids marketed for organic producers at the Hirzel Sustainable Systems site, a certified organic farm located near Bowling Green in Wood county. The test was planted after alfalfa on May 28, 2004, with no fertilizers or pesticides applied to the site. Weed control was provided by mechanical cultivation. Table 1 includes test plot information and cultural practices used at the site. Growing conditions were generally favorable for corn production in 2004 (Table 2), however, excessive rainfall in May delayed planting.

Grain yields ranged from 74.6 to 123.6 bu/A; stalk lodging from 9-56%; and grain moisture at harvest from 18.8-28.5% (Table 3). Five seed companies participated in the 2004 test (Table 4). The relative maturity ratings of the hybrid entries varied from 81 to 116 days.

Table 1. Test plot location, cultural practices and soil types for the 2004 Organic Corn Performance Test at the John Hirzel Sustainable Agriculture Research and Education Site, near Bowling Green, OH.

Location	Planting Date	Tillage	Seeding Rate	Harvest Date	Previous Crop	Plot Size	Soil Type
John Hirzel Sustainable Agriculture Research and Education Site Near Bowling Green Wood County	5/28/04	Conv	23000	11/22/04	Alfalfa	10' x 25'	Hoytville Clay Loam

Table 2. Weather data for the 2004 Organic Corn Performance Test at the John Hirzel Sustainable Agriculture Research and Education Site, near Bowling Green, OH.

Month	Precipitation	Air Temperature
	-----inches-----	----degrees F----
April	0.8 (3.3)	50.7 (48.9)
May	5.5 (3.4)	63.0 (59.8)
June	4.7 (3.6)	67.4 (69.5)
July	4.0 (3.8)	70.6 (72.8)
Aug	7.9 (3.0)	67.3 (70.6)
Sept	0.8 (2.7)	63.1 (64.0)
Oct	1.6 (2.3)	52.9 (52.5)
Nov	3.3 (2.8)	43.0 (40.7)
Total	28.6 (24.9)	59.8 (59.9)

* long term averages in parentheses

Table 3. Performance data for the 2004 Organic Corn Performance Test at the John Hirzel Sustainable Agriculture Research and Education Site, near Bowling Green, OH

Brand	Hybrid	Yield	Harv Moist	Stk Ldg	Final Stand	Emerg	Test Wt	Silk
		-Bu/A-	----------%----------		Plants/A	--%--	lbs/bu	day
Breyleys	4920	93.0	21.7	16	20200	89	53.7	218
Breyleys	4930	105.3	21.4	32	24500	90	54.3	220
Breyleys	5720	104.8	22.7	30	22300	85	53.6	220
Breyleys	5740	102.3	21.7	40	23000	96	53.8	221
Doebler	75X2	101.5	28.5	18	26400	92	49.0	230
Doebler	N509	115.6	21.9	9	19100	93	54.8	219
Doebler	N640	103.5	24.1	15	24700	84	53.7	223
Great Harvest	41X2	116.1	21.8	15	22800	83	54.8	220
Great Harvest	43V6	104.3	21.6	43	23100	80	51.2	219
Great Harvest	44X2	118.0	23.4	13	24600	86	52.9	220
Great Harvest	56V6	118.3	22.4	18	21900	88	52.1	218
Great Harvest	60V6	110.5	25.3	48	26500	92	49.5	222
Merit Seeds	335	87.7	19.3	55	26100	88	56.2	218
Merit Seeds	535	114.2	22.6	23	20900	75	53.6	219
Merit Seeds	635	121.8	24.4	30	24700	83	53.4	223
NC+	081A2ORG	74.6	19.6	26	26300	90	58.6	213
NC+	0850ORG	86.2	19.7	22	26200	89	56.8	217
NC+	100A2ORG	99.6	20.4	38	27200	92	55.2	221
NC+	102A2ORG	100.7	22.0	14	25000	84	54.7	221
NC+	112E1ORG	109.6	25.8	19	24700	85	51.5	222
NC+	17A21ORG	90.4	19.6	15	25600	83	56.9	217
NC+	30A12ORG	91.4	19.8	35	28500	95	56.7	217
NC+	31F10ORG	88.6	19.8	56	27700	92	55.6	218
NC+	3448ORG	123.6	22.5	21	25800	89	53.8	217
NC+	34C17ORG	103.0	18.8	19	25900	93	55.6	217
NC+	40M21ORG	105.7	19.3	24	25900	86	56.0	217
NC+	42A32ORG	118.9	19.4	32	24300	86	54.5	217
NC+	4771ORG	108.0	21.5	40	24400	85	52.2	224
NC+	4822ORG	114.4	24.7	23	22200	76	50.3	223
NC+	48F37ORG	115.5	21.6	22	24900	83	53.6	218
NC+	49M37ORG	122.4	21.3	14	26000	88	53.6	219
NC+	50K32ORG	116.8	22.0	20	25900	93	54.3	218
NC+	51A30ORG	114.7	20.5	35	26000	92	54.4	220
NC+	54M52ORG	117.6	22.3	26	26800	96	53.4	220
NC+	57F00ORG	109.2	24.6	16	22600	80	52.6	223
NC+	57K36ORG	113.9	23.9	46	25100	91	51.1	223
NC+	58T36ORG	122.6	22.7	44	26200	91	51.3	222
NC+	68F32ORG	114.5	24.3	31	26200	86	53.8	221
NC+	68T57ORG	118.5	24.7	52	26000	92	50.2	225
NC+	72H54ORG	116.1	25.5	19	24800	93	48.8	223
HIGH		123.6	28.5	56	28500	96	58.6	230
AVERAGE		107.8	22.2	28	24800	88	53.5	220
LOW		74.6	18.8	9	19100	75	48.8	213
LSD (0.05)		14.8	0.8	23	3000	12	0.9	2
CV		9.6	2.6	58	8	9	1.2	1

Table 4. Seed sources and hybrid relative maturities at the John Hirzel Sustainable Agriculture Research and Education Site, near Bowling Green, OH

Brand	Address	Hybrid	Relative Maturity*
Doeblers	8999 E. Lincoln Way	75X2	116
	Orrville, OH 44667	N509	101
	330-683-3220	N460	111
Breyleys	7007 New London Eastern Rd	4920	93
	Spencer, OH 44275	4930	100
	330-667-2472	5720	105
		5740	108
Great Harvest	6803 East 276th St	41X2	101
	Atlanta, IN 46031	43V6	103
	317-984-6685	44X2	104
		56V6	105
		60V6	110
Merit Seeds	PO Box 205	335	91
	Berlin, OH 44610	535	105
	800-553-4713	635	108
NC+ Organics	PO Box 4739	081A2ORG	81
	3820 N 56th St	0850ORG	87
	Lincoln, NE 68504	100A2ORG	100
	800-279-7999	102A2ORG	102
		112E1ORG	112
		17A21ORG	84
		30A12ORG	90
		31F10ORG	91
		3448ORG	106
		34C17ORG	93
		40M21ORG	98
		42A32ORG	97
		7441ORG	110
		4822ORG	112
		48F37ORG	102
		49M37ORG	102
		50K32ORG	103
		51A30ORG	103
		54M52ORG	105
		57F00ORG	107
		57K36ORG	107
		58T36ORG	108
		68F32ORG	112
		68T57ORG	113
		72H54ORG	114

* Relative maturity ratings provided by companies.