

2006 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 2006, we continued evaluations of corn hybrids marketed for organic producers at the Hirzel Sustainable Systems site, a certified organic farm located near Bowling Green in Wood county and on certified organic land at OARDC Badger Farm, near Apple Creek in Wayne county. The plots were planted in a randomized complete block design with six replications. No fertilizers or pesticides were applied to the Bowling Green site. One ton of Daylay was applied to the Apple Creek site. Weed control was provided by mechanical cultivation. Table 1 includes test plot information and cultural practices used at the sites.

2006 was a challenging year for the organic tests. Wet conditions shortly after planting resulted in erratic emergence and stands throughout the tests (Table 2). The plots at Bowling Green were severely damaged by animals (deer and raccoon) prior to harvest, which together with the erratic stands resulted in low yields at that site.

2006 results for Bowling Green are shown in Table 3. Two and three year averages are presented in Tables 4 and 5. 2006 results for Apple Creek are shown in Table 6, with two-year performance results in Table 7.

Four seed companies participated in the 2006 test (Table 8). The relative maturity ratings of the hybrid entries varied from 87 to 113 days.

Table 1. Test plot locations, cultural practices and soil types for the 2006 Organic Corn Performance Test.

Location	Planting Date	Tillage	Harvest Date	Previous Crop	Plot Size	Soil Type
John Hirzel Sustainable Agriculture Research and Education Site Near Bowling Green Wood County	5/10/06	Conv	11/3/06	Alfalfa	10' x 25'	Hoytville Clay Loam
Badger Farm Near Apple Creek Wayne County	5/30/06	Conv	12/8/06	Red Clover	10' x 25'	Canfield Silt Loam

Table 2. Weather data for the 2006 Organic Corn Performance Test.

Month	Bowling Green		Apple Creek	
	Precipitation ----inches----	Air	Precipitation ----inches----	Air
		Temperature --degrees F--		Temperature --degrees F--
April	1.7 (3.2)	52.7 (48.9)	3.5 (3.3)	52.8 (48.1)
May	5.8 (3.5)	59.9 (59.8)	7.2 (3.9)	58.3 (58.5)
June	4.6 (3.7)	68.0 (69.5)	5.2 (3.9)	66.2 (67.6)
July	5.1 (3.8)	74.0 (72.8)	7.4 (4.1)	73.2 (71.5)
Aug	1.9 (3.6)	71.6 (70.6)	1.1 (3.6)	71.9 (69.9)
Sept	3.0 (2.6)	61.3 (64.0)	3.2 (3.1)	61.0 (63.4)
Total	22.1 (20.4)	64.6 (64.3)	27.6 (21.9)	63.9 (63.2)

* long term averages in parentheses

Table 3. Performance data for the 2006 Organic Corn Performance Test, Bowling Green, OH.

Brand	Hybrid	Yield -bu/A-	Harv Moist -----%-----	Stk Ldg	Final Stand ---plants/A---	Test Wt -lbs/bu-
Doebler's	N509	41.4	18.8	0	8433	54.9
Doebler's	N531	71.8	18.4	0	18038	57.6
Doebler's	N659	31.3	20.0	0	12315	55.8
Doebler's	N640	52.1	20.6	0	12342	57.8
Doebler's	N676	67.6	22.2	0	15450	57.5
Merit Seed	O-345	63.0	16.9	0	14576	59.2
Merit Seed	O-535	57.6	19.0	0	15158	57.5
Merit Seed	O-3135	47.0	16.9	0	12733	57.3
Merit Seed	O-645	63.1	22.6	0	11478	57.2
Prairie Seed Hybrids	1671	51.7	18.9	0	12733	58.7
Prairie Seed Hybrids	2431	53.0	19.0	0	14108	57.4
Prairie Seed Hybrids	3081	67.9	19.6	0	14353	59.6
Prairie Seed Hybrids	7861	75.3	22.0	0	17424	57.2
Blue River Hybrids	49M37	60.7	18.5	0	16307	58.0
Blue River Hybrids	3448	83.0	18.9	0	16279	57.3
Blue River Hybrids	55R32	77.4	18.9	0	18116	57.4
Blue River Hybrids	63H07	79.1	19.5	0	19846	55.4
Blue River Hybrids	66P32	64.8	20.5	0	19564	57.2
Blue River Hybrids	67M07	62.7	21.9	0	14886	57.5
Blue River Hybrids	68F32	61.0	20.6	0	17592	58.5
Blue River Hybrids	69K34	53.3	21.7	0	17592	57.0
HIGH		83.0	22.2	0	19846	59.6
AVERAGE		61.2	19.8	0	15206	57.4
LOW		31.3	16.9	0	8433	54.9
LSD (0.05)		21.3	1.0	NS	2811	1.3
CV		30.44	4.60	0	16.14	2.00

Table 4. Two year performance data, Organic Corn Performance Test, Bowling Green, OH 2005-2006.

Brand	Hybrid	Yield	Harv Moist	Stk Ldg	Final Stand	Test Wt
		--Bu/A--	-----%-----		-Plants/A-	-lbs/bu-
Doebler's	N509	96.3	18.0	0.5	15017	56.4
Doebler's	N640	104.1	19.5	1.0	17121	58.5
Doebler's	N659	101.2	19.0	2.0	17108	56.5
Doebler's	N676	99.6	20.7	0.5	18675	58.2
Merit Seed	O-535	106.0	18.0	1.5	17929	57.3
Merit Seed	O-345	97.1	17.0	1.0	17988	58.5
Merit Seed	O-645	107.4	20.8	0.0	16589	58.1
Blue River Hybrids	49M37	112.3	17.7	0.0	19104	57.7
Blue River Hybrids	3448	118.6	18.1	1.0	19040	57.1
Blue River Hybrids	67M07	113.5	20.5	1.0	18393	58.2
Blue River Hybrids	68F32	104.0	19.7	2.5	19596	58.8

Table 5. Three year performance data, Organic Corn Performance Test, Bowling Green, OH 2004-2006.

Brand	Hybrid	Yield	Harv Moist	Stk Ldg	Final Stand	Test Wt
		--Bu/A--	-----%-----		-Plants/A-	-lbs/bu-
Doebler's	N509	102.7	19.3	3.3	16378	55.8
Doebler's	N640	103.9	21.0	5.7	19647	56.9
Merit Seed	O-535	108.7	19.5	8.7	18919	56.0
Blue River Hybrids	49M37	115.7	18.9	4.7	21402	56.3
Blue River Hybrids	3448	120.3	19.6	7.7	21293	56.0
Blue River Hybrids	68F32	107.5	21.2	12.0	21797	57.1

Table 6. Performance data for the 2006 Organic Corn Performance Test, Apple Creek, OH.

Brand	Hybrid	Yield	Harv Moist	Stk Ldg	Final Stand	Test Wt
		--Bu/A--	-----%-----		--Plants/A--	-lbs/bu-
Doebler's	N509	95.7	22.8	3	20957	53.5
Doebler's	N531	106.0	26.5	5	24335	52.7
Doebler's	N659	106.7	29.4	5	20775	51.4
Doebler's	N640	114.1	29.4	1	19714	52.1
Doebler's	N676	108.1	26.2	4	21668	53.2
Merit Seed	O-345	97.5	19.9	4	19723	56.2
Merit Seed	O-535	84.5	20.7	2	17786	54.9
Merit Seed	O-3135	84.6	20.5	23	20775	55.7
Merit Seed	O-645	79.5	28.2	5	20328	54.8
Prairie Seed Hybrids	1671	117.9	23.3	3	23190	56.0
Prairie Seed Hybrids	2431	117.6	25.2	9	21300	54.9
Prairie Seed Hybrids	3081	145.0	24.4	4	21948	55.6
Prairie Seed Hybrids	7861	97.6	25.6	23	22692	54.2
Blue River Hybrids	49M37	112.1	25.4	3	21978	53.9
Blue River Hybrids	3448	97.5	24.4	3	20719	54.4
Blue River Hybrids	55R32	88.8	22.3	3	20862	53.4
Blue River Hybrids	63H07	83.7	26.7	26	20345	51.8
Blue River Hybrids	66P32	97.4	29.1	7	21847	52.1
Blue River Hybrids	67M07	127.2	27.1	7	22227	53.0
Blue River Hybrids	68F32	117.2	27.0	3	21668	54.4
Blue River Hybrids	69K34	95.5	30.4	13	22115	51.7
HIGH		145.0	30.4	26	24334	56.2
AVERAGE		103.5	25.5	7	21283	53.8
LOW		79.5	19.9	1	17786	51.4
LSD (0.05)		NS	3.6	13	1974	1.4
CV		37.41	12.34	148.65	8.10	2.29

Table 7. Two year performance data, Organic Corn Performance Test, Apple Creek, OH 2005-2006.

Brand	Hybrid	Yield	Harv Moist	Stk Ldg	Final Stand	Test Wt
		--Bu/A--	-----%-----		--Plants/A--	-lbs/bu-
Doebler's	N509	127.2	21.2	2.0	20129	54.9
Doebler's	N640	146.2	26.0	1.0	20757	53.9
Doebler's	N659	159.5	26.3	5.5	21488	51.8
Doebler's	N676	148.8	25.2	3.5	22184	54.4
Merit Seed	O-535	123.3	21.2	2.5	19393	56.8
Merit Seed	O-345	124.0	18.9	4.0	21212	54.7
Merit Seed	O-645	126.7	25.6	3.5	21114	55.4
Blue River Hybrids	49M37	140.4	22.8	4.0	22389	55.2
Blue River Hybrids	3448	139.8	22.8	2.0	21660	54.5
Blue River Hybrids	67M07	157.4	25.1	3.5	22414	54.3
Blue River Hybrids	68F32	151.3	24.5	3.5	21884	54.8

Table 8. Seed sources and hybrid relative maturities, 2006 Organic Corn Performance Test.

Brand	Address	Hybrid	Relative Maturity*
Blue River Hybrids	27087 Timber Rd Kelley, IA 50134 800-370-7979 www.blueriverorgseed.com	49M37	102
		3448	106
		55R32	105
		63H07	110
		66P32	112
		67M07	112
		68F32	113
		69K34	113
Doebblers	202 Tiadaghton Ave Jersey Shore, PA 17740 570-753-3210 www.doebblers.com	N509	103
		N531	105
		N659	111
		N640	111
		N676	113
Merit Seed Company	PO Box 205 Berlin, OH 44610 330-893-3996	O-345	88
		O-3135	94
		O-535	104
		O-645	109
Prairie Hybrid Seeds	27445 Hurd Rd Deer Grove, IL 61243 800-368-0124	1671	102
		2431	103
		3081	104
		7861	112

* Relative maturity ratings provided by companies.