

2007 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 2007, 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. We added a certified organic site near Troy in 2007. The plots were planted in a randomized complete block design with four replications. No fertilizers or pesticides were applied to the Bowling Green or Apple Creek sites. Four tons of poultry litter was applied to the Troy site. Weed control was provided by mechanical cultivation. Table 1 includes test plot information and cultural practices used at the sites. Growing season rainfall data is presented in Table 2.

2007 results for Bowling Green are shown in Table 3. Two and three year averages are presented in Tables 4 and 5. 2007 results for Apple Creek are shown in Table 6, with two and three year averages presented in Tables 7 and 8. 2007 results for Troy are shown in Table 9. A combined summary across the three test sites is shown in Table 10.

Seven seed companies participated in the 2007 test (Table 11). The relative maturity ratings of the hybrid entries varied from 88 to 114 days. In addition to the organically produced hybrid entries, five open pollinated (OP) varieties, a topcross, and a varietal hybrid were evaluated. Two conventionally produced, untreated hybrids were also included in the 2007 test.

Table 1. Test plot locations, cultural practices, soil test data and soil types for the 2007 Organic Corn Performance Test.

Location	Planting Date	Tillage	Weed Control	Soil Test	Harvest Date	Previous Crop	Plot Size	Soil Type
OARDC Badger Farm Near Apple Creek Wayne County Northeast Ohio	6/8/07	Plow Disc	Rotary Hoe 1X Cultivate 2X	pH: 5.4 P: 120 K: 103	11/19/07	Red Clover	10' X 25'	Canfield Silt Loam
John Hirzel Sustainable Agricultural Research and Education Site Near Bowling Green Wood County Northwest Ohio	5/23/07	Plow Disc	Cultivate 2X	pH: 6.5 P: 97 K: 307	11/5/07	Red Clover	10' x 25'	Hoytville Clay
Dave Demmit Farm Near Troy Miami County Southwest Ohio	5/21/07	Plow Disc	Cultivate 2X	pH: 7.1 P: 77 K: 218	11/7/07	Alfalfa	10' x 25'	Ross Silt Loam

Table 2. Precipitation data for the 2007 Organic Corn Performance Test.

Month	Bowling Green ----inches----	Wooster ----inches----	Troy ----inches----
April	2.6 (3.3)*	2.3 (3.3)	3.0 (4.0)
May	1.6 (3.4)	2.7 (3.9)	1.7 (4.6)
June	1.5 (3.6)	2.9 (3.9)	2.9 (4.2)
July	2.4 (3.8)	6.6 (4.1)	2.4 (4.1)
Aug	10.0 (3.0)	5.0 (3.6)	3.2 (3.5)
Sept	2.1 (2.7)	3.0 (3.1)	5.4 (3.0)
Total	20.2 (19.8)	22.5 (21.9)	18.6 (23.4)

* long term averages in parentheses

Table 3. Performance data for the 2007 Organic Corn Performance Test, Bowling Green, OH.

Brand	Hybrid/Variety	Yield -bu/A-	Harv Moist -----%-----	Stk Ldg	Final Stand -plants/A-	Test Wt -lbs/bu-
BLUE RIVER HYBRIDS	48B30	104.5	18.1	1	25885	57.8
BLUE RIVER HYBRIDS	49M37	113.8	18.0	0	27560	57.3
BLUE RIVER HYBRIDS	51B31	114.9	17.9	2	26639	57.8
BLUE RIVER HYBRIDS	52A20	102.2	17.2	1	28314	56.1
BLUE RIVER HYBRIDS	60T07	116.3	20.8	2	22534	55.8
BLUE RIVER HYBRIDS	66P32	91.4	19.4	2	24461	57.2
BLUE RIVER HYBRIDS	67M07	73.2	19.4	1	24209	57.2
BLUE RIVER HYBRIDS	71R52	90.4	20.9	1	24796	55.4
DOEBLER'S	N528	99.0	17.7	1	22031	58.4
DOEBLER'S	N659	84.3	20.0	1	24377	55.7
DOEBLER'S	N676	103.0	18.4	2	22115	57.2
GREAT HARVEST ORGANICS	44X2E	108.9	17.4	1	23372	58.6
GREAT HARVEST ORGANICS	56V6	80.8	18.2	1	23037	56.4
GREAT HARVEST ORGANICS	61K7	95.8	20.6	1	24796	55.1
MERIT SEED	O-345	100.9	16.0	1	27058	58.9
MERIT SEED	O-525	100.8	18.3	1	23958	57.5
MERIT SEED	O-645	84.2	19.4	0	22366	57.1
PIONEER	34K77	105.7	19.1	2	25466	58.2
PIONEER	36B08	88.5	17.9	1	24643	58.8
PIONEER HAND WEEDED	36B08	102.3	17.9	2	21780	58.9
PRAIRIE HYBRIDS	2431	84.3	18.7	1	23539	57.9
PRAIRIE HYBRIDS	3081	98.0	19.3	1	25633	58.4
PRAIRIE HYBRIDS	5121	103.7	20.6	2	24647	56.2
PRAIRIE HYBRIDS	EX6700	83.0	23.0	6	25561	56.7
PRAIRIE HYBRIDS	7861	96.2	18.9	0	23874	57.4
VIKING	O-5740	103.4	18.3	1	26220	57.6
NOKOMIS OP*	ORANGE	64.4	17.5	16	24210	60.3
TOPCROSS	F3/CH5M2	63.7	18.6	3	22283	59.8
VARIETAL HYBRID	AR35B/GQN2	71.1	19.5	10	25467	58.7
OP	AR16026	56.1	22.5	4	25215	57.4
OP	CASH	48.4	23.9	2	17759	53.8
OP	GREENFIELD	47.5	21.2	3	20356	54.9
OP	OH55	43.8	20.7	11	25215	57.4
HIGH		116.3	23.9	16	28314	60.3
AVERAGE		88.6	19.3	3	24224	57.3
LOW		43.8	17.2	0	17759	54.9
LSD (0.10)		16.9	1.2	3	3457	0.9

* OP – OPEN POLLINATED

Table 4. Two year performance data, Organic Corn Performance Test, Bowling Green, OH 2006-2007.

Brand	Hybrid/Variety	Yield	Harv			Final Stand	Test Wt
			-Bu/A-	-----%-----	Stk Ldg		
BLUE RIVER HYBRIDS	49M37	87.3	18.3	0	21933	57.7	
BLUE RIVER HYBRIDS	66P32	78.1	20.0	1	22012	57.2	
BLUE RIVER HYBRIDS	67M07	68.0	20.7	1	19547	55.1	
DOEBLER'S	N659	57.8	20.0	1	18346	55.8	
DOEBLER'S	N676	85.3	18.2	1	18782	55.4	
MERIT SEED	O-345	82.0	16.5	0	20817	57.8	
MERIT SEED	O-645	73.7	21.0	0	16922	57.2	
PRAIRIE HYBRIDS	2431	68.7	18.9	1	18823	57.7	
PRAIRIE HYBRIDS	3081	83.0	19.5	0	19993	58.2	
PRAIRIE HYBRIDS	7861	85.8	20.5	0	20649	57.3	

Table 5. Three year performance data, Organic Corn Performance Test, Bowling Green, OH 2005-2007.

Brand	Hybrid/Variety	Yield	Harv			Final Stand	Test Wt
			-Bu/A-	-----%-----	Stk Ldg		
BLUE RIVER HYBRIDS	49M37	136.9	17.6	0	23141	57.5	
BLUE RIVER HYBRIDS	67M07	134.9	19.6	1	21748	57.0	
DOEBLER'S	N659	133.9	18.9	2	20948	56.6	
DOEBLER'S	N676	127.0	18.5	1	21566	57.1	
MERIT SEED	O-345	119.1	16.7	1	22408	57.8	
MERIT SEED	O-645	113.6	19.9	2	20561	58.0	

Table 6. Performance data for the 2007 Organic Corn Performance Test, Apple Creek, OH.

Brand	Hybrid/Variety	Yield	Harv Moist	Stk Ldg	Final Stand	Test Wt
		--Bu/A--	-----%-----		-Plants/A-	-lbs/bu-
BLUE RIVER HYBRIDS	48B30	108.7	21.2	4	22534	53.5
BLUE RIVER HYBRIDS	49M37	85.8	21.5	3	24126	52.4
BLUE RIVER HYBRIDS	51B31	145.6	21.3	3	21462	52.9
BLUE RIVER HYBRIDS	52A20	73.7	20.9	3	19937	53.7
BLUE RIVER HYBRIDS	60T07	144.8	25.6	6	25382	53.1
BLUE RIVER HYBRIDS	66P32	120.0	25.2	2	22534	46.3
BLUE RIVER HYBRIDS	67M07	101.5	24.9	3	24880	53.0
BLUE RIVER HYBRIDS	71R52	134.4	25.8	3	24042	51.9
DOEBLER'S	N528	96.1	20.9	3	18262	55.8
DOEBLER'S	N659	113.4	27.0	20	22953	50.7
DOEBLER'S	N676	127.0	24.2	4	23641	54.0
GREAT HARVEST ORGANICS	44X2E	113.5	20.1	5	21445	54.2
GREAT HARVEST ORGANICS	56V6	114.6	21.5	5	20607	51.6
GREAT HARVEST ORGANICS	61K7	118.4	27.3	7	23196	50.9
MERIT SEED	O-345	109.4	18.3	7	24210	53.7
MERIT SEED	O-525	88.7	22.8	4	19770	54.0
MERIT SEED	O-645	106.1	23.1	4	23204	54.3
PIONEER	34K77	141.4	22.2	2	26052	53.9
PIONEER	36B08	127.9	21.9	5	20942	54.7
PIONEER HAND WEEDED	36B08	152.8	21.8	3	22976	54.8
PRAIRIE HYBRIDS	2431	112.1	22.3	4	20625	53.0
PRAIRIE HYBRIDS	3081	119.6	21.4	5	18597	55.1
PRAIRIE HYBRIDS	5121	101.9	25.3	6	24209	52.2
PRAIRIE HYBRIDS	EX6700	125.3	27.2	4	25801	54.3
PRAIRIE HYBRIDS	7861	116.7	24.0	5	23791	53.3
VIKING	O-5740	104.6	22.2	4	22283	52.8
NOKOMIS OP*	ORANGE	63.6	20.4	12	19016	56.5
TOPCROSS	F3/CH5M2	82.9	21.2	7	19545	53.3
VARIETAL HYBRID	AR35B/GQN2	80.4	23.0	14	23623	53.9
OP	AR16026	64.5	26.8	10	20607	52.2
OP	CASH	71.3	27.0	11	15414	50.8
OP	GREENFIELD	57.9	26.0	62	18346	50.7
OP	OH55	57.1	25.9	52	19351	51.8
HIGH		152.8	27.3	62	26052	55.8
AVERAGE		105.5	23.3	9	21920	53.0
LOW		57.1	18.3	2	15414	46.3
LSD (0.10)		36.0	2.7	14	2716	3.1

*OP – OPEN POLLINATED

Table 7. Two year performance data, Organic Corn Performance Test, Apple Creek, OH 2006-2007.

Brand	Hybrid/Variety	Yield	Harv		Final Stand	Test Wt
			-Bu/A-	-----%-----		
BLUE RIVER HYBRIDS	49M37	99.0	23.5	3	23052	53.2
BLUE RIVER HYBRIDS	66P32	108.7	27.2	5	22190	49.2
BLUE RIVER HYBRIDS	67M07	114.4	26.0	5	23553	53.0
DOEBLER'S	N659	110.1	28.2	13	21864	51.1
DOEBLER'S	N676	117.6	25.2	4	22654	53.6
MERIT SEED	O-345	103.5	19.1	5	21966	55.0
MERIT SEED	O-645	92.8	25.7	4	21766	54.6
PRAIRIE HYBRIDS	2431	114.9	23.8	7	20962	54.0
PRAIRIE HYBRIDS	3081	132.3	22.9	5	20272	55.4
PRAIRIE HYBRIDS	7861	107.2	24.8	14	23241	53.8

Table 8. Three year performance data, Organic Corn Performance Test, Apple Creek, OH 2005-2007.

Brand	Hybrid/Variety	Yield	Harv		Final Stand	Test Wt
			-Bu/A-	-----%-----		
BLUE RIVER HYBRIDS	49M37	129.2	21.7	4	24176	54.9
BLUE RIVER HYBRIDS	67M07	148.0	24.5	3	24376	54.4
DOEBLER'S	N659	154.6	25.7	9	23382	51.8
DOEBLER'S	N676	151.2	24.4	4	23727	54.7
MERIT SEED	O-345	131.1	18.5	4	23608	56.0
MERIT SEED	O-645	135.9	24.2	5	23283	55.4

Table 9. Performance data for the 2007 Organic Corn Performance Test, Troy, OH.

Brand	Hybrid/Variety	Yield	Harv Moist	Stk Ldg	Final Stand	Test Wt
		--Bu/A--	-----%-----		-Plants/A-	-lbs/bu-
BLUE RIVER HYBRIDS	48B30	148.0	15.5	1	29156	58.9
BLUE RIVER HYBRIDS	49M37	126.4	15.1	1	29481	57.8
BLUE RIVER HYBRIDS	51B31	139.7	15.6	2	30655	59.6
BLUE RIVER HYBRIDS	52A20	141.9	15.7	1	31665	59.0
BLUE RIVER HYBRIDS	60T07	149.2	16.4	2	27058	59.8
BLUE RIVER HYBRIDS	66P32	152.0	16.1	1	30744	60.9
BLUE RIVER HYBRIDS	67M07	138.8	16.9	3	29599	60.6
BLUE RIVER HYBRIDS	71R52	140.2	15.8	2	28482	59.7
DOEBLER'S	N528	135.8	15.7	2	26220	59.8
DOEBLER'S	N659	142.6	16.0	12	32238	59.0
DOEBLER'S	N676	138.6	16.4	3	29820	61.0
GREAT HARVEST ORGANICS	44X2E	130.8	15.5	2	30269	59.6
GREAT HARVEST ORGANICS	56V6	134.4	15.6	3	26359	59.0
GREAT HARVEST ORGANICS	61K7	151.5	15.9	1	32271	58.7
MERIT SEED	O-345	120.0	15.0	3	30911	58.0
MERIT SEED	O-525	135.8	16.0	2	27225	59.8
MERIT SEED	O-645	137.9	16.9	3	27260	60.7
PIONEER	34K77	135.7	16.2	2	30743	61.0
PIONEER	36B08	145.7	15.9	5	29236	60.0
PIONEER HAND WEEDED	36B08	145.3	16.0	3	29040	60.0
PRAIRIE HYBRIDS	2431	136.7	15.7	2	29997	60.0
PRAIRIE HYBRIDS	3081	144.1	15.6	3	28984	59.4
PRAIRIE HYBRIDS	5121	150.8	12.6	2	28258	56.9
PRAIRIE HYBRIDS	EX6700	142.3	18.0	3	29936	61.4
PRAIRIE HYBRIDS	7861	147.9	16.7	1	27815	60.7
VIKING	O-5740	144.9	15.6	2	29236	59.6
NOKOMIS OP*	ORANGE	72.0	16.2	17	26222	61.0
TOPCROSS	F3/CH5M2	79.1	15.8	18	24544	59.7
VARIETAL HYBRID	AR35B/GQN2	87.9	16.9	13	30995	61.1
OP	AR16026	87.4	17.6	4	29822	60.5
OP	CASH	71.4	18.7	12	18346	58.0
OP	GREENFIELD	46.5	16.5	13	24809	57.1
OP	OH55	45.6	18.4	20	20035	58.9
HIGH		152.0	18.7	20	32271	61.4
AVERAGE		125.7	16.1	5	28407	59.6
LOW		45.6	12.6	1	18346	57.1
LSD (0.10)		15.1	1.5	8	3242	0.7

* OP – OPEN POLLINATED

Table 10. Performance data for the 2007 Organic Corn Performance Test averaged across three Ohio locations.

Brand	Hybrid/Variety	Yield -bu/A-	Harv Moist -----%-----	Stk Ldg	Final Stand -plants/A-	Test Wt -lbs/bu-
BLUE RIVER HYBRIDS	48B30	120.4	18.3	2	25858	56.7
BLUE RIVER HYBRIDS	49M37	108.7	18.2	2	27055	55.8
BLUE RIVER HYBRIDS	51B31	133.4	18.3	2	26252	56.7
BLUE RIVER HYBRIDS	52A20	105.9	17.9	1	26639	56.2
BLUE RIVER HYBRIDS	60T07	136.7	20.9	3	24991	56.2
BLUE RIVER HYBRIDS	66P32	121.1	20.2	2	25913	54.8
BLUE RIVER HYBRIDS	67M07	104.6	20.4	2	26229	56.9
BLUE RIVER HYBRIDS	71R52	121.7	20.8	2	25773	55.7
DOEBLER'S	N528	110.3	18.1	2	22171	58.0
DOEBLER'S	N659	114.4	21.0	11	26522	55.1
DOEBLER'S	N676	122.9	19.7	3	25192	57.4
GREAT HARVEST ORGANICS	44X2E	117.7	17.7	2	25029	57.4
GREAT HARVEST ORGANICS	56V6	110.0	18.4	3	23334	55.7
GREAT HARVEST ORGANICS	61K7	121.9	21.3	3	26754	54.9
MERIT SEED	O-345	110.1	16.5	3	27393	56.8
MERIT SEED	O-525	108.4	19.0	2	23651	57.1
MERIT SEED	O-645	109.4	19.8	2	24277	57.3
PIONEER	34K77	127.6	19.2	2	27420	57.7
PIONEER	36B08	120.7	18.5	4	24940	57.8
PIONEER HAND WEEDED	36B08	133.5	18.6	2	24599	57.9
PRAIRIE HYBRIDS	2431	111.0	18.9	3	24720	56.9
PRAIRIE HYBRIDS	3081	120.6	18.8	3	24405	57.6
PRAIRIE HYBRIDS	5121	118.8	19.5	4	25705	56.1
PRAIRIE HYBRIDS	EX6700	116.9	22.7	4	27099	57.4
PRAIRIE HYBRIDS	7861	120.2	19.9	2	25160	57.1
VIKING	O-5740	117.6	18.7	2	25913	56.6
NOKOMIS OP*	ORANGE	66.7	18.0	15	23149	59.3
TOPCROSS	F3/CH5M2	75.2	18.5	10	22124	57.6
VARIETAL HYBRID	AR35B/GQN2	79.8	19.8	12	26695	57.9
OP	AR16026	69.3	22.3	6	25215	56.7
OP	CASH	63.7	23.2	8	17173	54.2
OP	GREENFIELD	50.6	21.2	26	21170	54.2
OP	OH55	48.8	21.7	26	21533	56.0
HIGH		136.7	23.2	26	27420	59.3
AVERAGE		106.6	19.6	5	24850	56.7
LOW		48.8	16.5	1	17173	54.1
LSD (0.10)		14.1	1.1	5	1809	1.1

* OP – OPEN POLLINATED

Table 11. Seed sources and hybrid relative maturities, 2007 Organic Corn Performance Test.

Brand/Source	Address	Hybrid/Variety	Relative Maturity*
Blue River Hybrids	27087 Timber Rd Kelley, IA 50134 800-370-7979 www.blueriverorgseed.com	48B30	101
		49M37	102
		51B31	103
		52A20	104
		60T07	109
		66P32	112
		67M07	112
		71R52	114
Doebblers	202 Tiadaghton Ave Jersey Shore, PA 17740 570-753-3210 www.doebblers.com	N528	103
		N659	111
		N676	113
Great Harvest Organics	6803 E. 276 th St Atlanta, IN 46031 317-984-6685 www.greatharvestorganics.com	44X2E	104
		56V6	106
		61K7	111
Merit Seed Company	PO Box 205 Berlin, OH 44610 330-893-3996	O-345	88
		O-525	104
		O-645	109
Pioneer	14171 Carole Drive Bloomington, IL 61704 800-950-3489 www.pioneer.com	34K77	107
		36B08	105
Prairie Hybrid Seeds	27445 Hurd Rd Deer Grove, IL 61243 800-368-0124	2431	103
		3081	104
		5121	108
		EX6700	111
		7861	112
Viking	Albert Lea Seed House 1414 W. Main St P.O. Box 127 Albert Lea, MN 56007 800-352-5247 www.alseed.com	O.5740	104
Iowa State	Dr. Linda Pollock Iowa State Research Foundation 310 Lab of Mechanics Ames, IA 50011 515-294-4740 www.techtransfer.iastate.edu	AR16026	NA
Michael Fields Agricultural Institute	Dr. Walter Goldstein W2493 County Rd ES PO Box 990 East Troy, WI 53120 262-642-3303 www.michaelfieldsaginst.org	NOKOMIS Orange	NA
		F3/CH5M2	NA
		AR35B/GQN2	NA
Ohio State	Dr. Richard Pratt 1680 Madison Ave Wooster, OH 44691 330-263-3701 www.oardc.ohio-state.edu	Cash	NA
		Greenfield	NA
		OH55	NA

* Relative maturity ratings provided by companies; NA – not available

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