

2005 Ohio State Organic Corn Performance Test

A. Sundermeier, Extension Agent, Wood County
 D.H. Stinner, Research Scientist, Dept. of Entomology
 R.J. Minyo, Research Associate, Dept. of Horticulture & Crop Science
 A.B. Geyer, Research Associate, Dept. of Horticulture & Crop Science
 P.R. Thomison, Professor, Dept. of Horticulture & Crop Science

Interest in growing corn in organic cropping systems has been on the rise in recent years. In 2005, 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 initiated an evaluation on certified organic land at OARDC Badger Farm, near Apple Creek in Wayne county. 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.

Each entry was planted at two different seeding rates per site. Plots were seeded at 23,000 and 28,000 seeds per acre. The data for both seeding rates are shown in tables 3 and 5. Table 4 shows two-year data for the Bowling Green site.

Four seed companies participated in the 2005 test (Table 6). 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 2005 Organic Corn Performance Test.

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	5/12/05	Conv	23000 28000	10/26/05	Alfalfa	10' x 25'	Hoytville Clay Loam
Badger Farm Near Apple Creek Wayne County	5/26/05	Conv	23000 28000	11/5/05	Red Clover	10' x 25'	Canfield Silt Loam

Table 2. Weather data for the 2005 Organic Corn Performance Test.

Month	Bowling Green		Apple Creek	
	Precipitation ----inches----	Air Temperature --degrees F--	Precipitation ----inches----	Air Temperature --degrees F--
April	3.2 (3.3) *	49.5 (48.9)	4.5	50.6 (48.1)
May	1.7 (3.4)	56.3 (59.8)	2.5	56.0 (58.5)
June	0.8 (3.6)	73.7 (69.5)	1.3	71.9 (68.6)
July	7.1 (3.8)	74.1 (72.8)	9.3	74.0 (71.5)
Aug	1.0 (3.0)	72.8 (70.6)	6.6	72.4 (69.9)
Sept	4.9 (2.7)	67.1 (64.0)	3.0	66.1 (63.4)
Oct	1.0 (2.3)	53.9 (52.5)	3.6	52.4 (52.1)
Total	19.7 (22.1)	64.0 (62.6)	30.8	63.3 (61.7)

* long term averages in parentheses

Table 3. Performance data for the 2005 Organic Corn Performance Test, Bowling Green, OH.

Brand	Hybrid	Yield	Harv Moist	Stk Ldg	Final Stand	Emerg	Test Wt	Silk
<u>LOW SEEDING RATE</u>		-bu/A-	-----%-----		---plants/A---	---%---	-lbs/bu-	day
Blue River Hybrids	102A2	141.4	17.5	0	21600	91	58.1	199
Blue River Hybrids	3448	154.2	17.3	2	21800	87	56.8	203
Blue River Hybrids	34C17	155.9	17.1	1	21900	93	58.1	203
Blue River Hybrids	42A32	139.1	15.9	10	21300	92	55.7	206
Blue River Hybrids	4771	149.1	17.9	1	21700	94	58.1	201
Blue River Hybrids	48F37	155.9	16.7	0	21800	91	57.5	203
Blue River Hybrids	49M37	163.9	16.8	0	21900	94	57.3	203
Blue River Hybrids	50K32	150.3	17.3	0	21600	93	57.7	204
Blue River Hybrids	58T36	165.6	16.4	2	21600	92	56.3	205
Blue River Hybrids	67M07	164.2	19.1	2	21900	94	58.9	199
Blue River Hybrids	68F32	147.0	18.8	5	21600	93	59.1	200
Doebler's	N509	151.2	17.1	1	21600	95	57.8	204
Doebler's	N640	156.0	18.3	2	21900	96	59.2	198
Doebler's	N659	171.1	18.0	4	21900	95	57.2	201
Doebler's	N676	131.6	19.1	1	21900	95	58.9	201
Great Harvest Organics	56V6	144.0	17.2	1	20400	91	56.9	200
Great Harvest Organics	60V6	134.7	18.3	0	18600	80	56.8	200
Great Harvest Organics	61K9	156.9	17.9	1	21200	90	57.0	201
Great Harvest Organics	61K7	135.2	18.5	1	20500	90	57.3	202
Great Harvest Organics	61F3	123.5	19.0	1	16800	72	58.6	206
Merit	O-345	131.2	17.0	2	21400	90	57.8	204
Merit	O-535	154.3	16.9	3	20700	88	57.0	203
Merit	O-645	151.6	18.9	0	21700	93	58.9	199
<u>HIGH SEEDING RATE</u>								
Blue River Hybrids	102A2	151.1	17.3	1	26100	96	57.9	200
Blue River Hybrids	3448	164.2	17.1	2	26100	97	56.9	204
Blue River Hybrids	34C17	138.5	16.6	2	25500	88	57.7	202
Blue River Hybrids	42A32	163.4	16.7	1	26500	95	56.6	205
Blue River Hybrids	4771	170.3	17.2	4	26400	91	57.9	200
Blue River Hybrids	48F37	165.7	17.0	0	25800	90	57.1	204
Blue River Hybrids	49M37	159.6	17.1	0	26800	95	57.4	204
Blue River Hybrids	50K32	152.7	16.9	0	26100	95	57.7	204
Blue River Hybrids	58T36	169.0	16.4	0	25200	90	56.0	203
Blue River Hybrids	67M07	172.5	18.1	0	26000	95	58.9	199
Blue River Hybrids	68F32	164.9	18.2	3	26600	96	59.7	201
Doebler's	N509	153.4	16.9	1	23800	89	58.0	205
Doebler's	N640	151.3	18.3	3	25900	91	59.3	200
Doebler's	N659	172.9	17.6	1	25200	92	57.7	202
Doebler's	N676	164.2	18.4	0	26800	97	58.9	201
Great Harvest Organics	56V6	168.0	16.7	0	24700	88	57.0	201
Great Harvest Organics	60V6	121.2	18.6	0	19500	67	56.3	200
Great Harvest Organics	61K9	159.8	18.0	1	25200	87	56.9	201
Great Harvest Organics	61K7	173.9	17.6	0	24600	90	57.3	203
Great Harvest Organics	61F3	144.1	18.7	6	20300	72	58.8	205
Merit	O-345	144.1	16.9	1	26600	87	57.8	203
Merit	O-535	159.7	16.9	1	25800	93	57.0	203
Merit	O-645	155.4	18.5	6	26700	95	58.7	199
HIGH		173.9	19.1	10	26800	97	59.7	206
AVERAGE		153.6	17.6	2	23300	91	57.7	202
LOW		121.2	15.9	0	16800	67	55.7	198
LSD (0.05)		18.2	0.7	1	2000	9	0.8	2
CV		7.3	2.4	128	5	6	0.8	0.6

Table 4. Two year performance data, Organic Corn Performance Test, Bowling Green, OH 2004-2005.

Brand	Hybrid	Yield	Harv Moist	Stk Ldg	Final Stand	Emerg	Test Wt
		--Bu/A--	-----%-----		-Plants/A-	---%---	-lbs/bu-
Blue River Hybrids	102A2	121.1	19.8	7	23300	88	56.4
Blue River Hybrids	3448	138.9	19.9	12	23800	88	55.3
Blue River Hybrids	34C17	129.5	18.0	10	23900	93	56.9
Blue River Hybrids	42A32	129.0	17.7	21	22800	89	55.1
Blue River Hybrids	4771	128.6	19.7	21	23050	90	55.2
Blue River Hybrids	48F37	135.7	19.2	11	23350	87	55.6
Blue River Hybrids	49M37	143.2	19.1	7	23950	91	55.5
Blue River Hybrids	50K32	133.6	19.7	10	23750	93	56.0
Blue River Hybrids	58T36	144.1	19.6	23	23900	92	53.8
Blue River Hybrids	68F32	130.8	21.6	18	23900	90	56.5
Doebler's	N509	133.4	19.5	5	20350	94	56.3
Doebler's	N640	129.8	21.2	9	23300	90	56.5
Great Harvest Organics	56V6	131.2	19.8	10	21150	90	54.5
Great Harvest Organics	60V6	122.6	21.8	24	22550	86	53.2

Table 5. Performance data for the 2005 Organic Corn Performance Test, Apple Creek, OH.

Brand	Hybrid	Yield	Harv Moist	Stk Ldg	Final Stand	Emerg	Test Wt
		--Bu/A--	-----%-----		--Plants/A--	----%----	-lbs/bu-
<u>LOW SEEDING RATE</u>							
Blue River Hybrids	102A2	169.0	20.9	2	21400	96	56.0
Blue River Hybrids	3448	182.1	21.2	1	22600	92	54.5
Blue River Hybrids	34C17	147.5	18.5	1	22600	97	57.1
Blue River Hybrids	42A32	145.9	18.2	0	22200	99	55.9
Blue River Hybrids	4771	185.8	21.9	2	22500	98	55.5
Blue River Hybrids	48F37	167.4	20.1	1	21000	88	56.1
Blue River Hybrids	49M37	168.7	20.1	5	22800	98	56.4
Blue River Hybrids	50K32	166.7	20.0	1	22200	95	56.6
Blue River Hybrids	58T36	182.2	20.1	7	22100	95	54.0
Blue River Hybrids	67M07	187.6	23.0	0	22600	97	55.5
Blue River Hybrids	68F32	185.3	22.0	4	22100	94	55.1
Doebler's	N509	158.6	19.6	1	19300	89	56.2
Doebler's	N640	178.3	22.5	1	21800	93	55.7
Doebler's	N659	212.2	23.1	6	22200	97	52.2
Doebler's	N676	189.5	24.2	3	22700	97	55.6
Great Harvest Organics	56V6	182.9	20.8	4	21100	91	54.0
Great Harvest Organics	60V6	167.3	24.3	3	21000	90	52.0
Great Harvest Organics	61K9	191.9	24.0	6	21900	94	52.5
Great Harvest Organics	61K7	196.5	23.2	5	19700	89	52.1
Great Harvest Organics	61F3	171.5	23.3	3	18300	78	54.7
Merit	O-345	150.4	17.9	4	22700	98	57.3
Merit	O-535	162.1	21.7	3	21000	93	54.4
Merit	O-645	173.9	22.9	2	21900	94	56.0
<u>HIGH SEEDING RATE</u>							
Blue River Hybrids	102A2	167.7	20.6	1	27700	94	56.2
Blue River Hybrids	3448	130.4	21.3	5	27600	92	53.4
Blue River Hybrids	34C17	133.4	17.2	2	26800	93	56.3
Blue River Hybrids	42A32	135.6	16.9	2	27600	94	55.4
Blue River Hybrids	4771	181.8	20.8	4	27600	95	56.5
Blue River Hybrids	48F37	169.0	19.8	3	27800	97	56.4
Blue River Hybrids	49M37	150.0	19.8	6	27800	95	57.0
Blue River Hybrids	50K32	161.4	20.1	7	27300	96	56.3
Blue River Hybrids	58T36	173.3	19.8	3	27600	97	55.8
Blue River Hybrids	67M07	175.6	23.1	4	27800	97	56.0
Blue River Hybrids	68F32	176.1	22.4	6	27600	93	56.5
Doebler's	N509	153.6	19.1	3	26800	94	56.1
Doebler's	N640	185.9	22.0	8	27300	93	56.4
Doebler's	N659	186.2	23.3	5	27600	98	52.7
Doebler's	N676	180.1	22.8	3	26900	97	55.8
Great Harvest Organics	56V6	173.9	20.1	13	26000	89	54.9
Great Harvest Organics	60V6	190.9	22.2	8	26500	90	52.6
Great Harvest Organics	61K9	172.6	24.6	9	26900	93	52.5
Great Harvest Organics	61K7	188.1	23.3	13	24800	86	53.0
Great Harvest Organics	61F3	167.8	21.6	7	23900	83	55.4
Merit	O-345	139.5	17.7	2	27800	96	56.9
Merit	O-535	183.2	21.8	5	27000	92	54.5
Merit	O-645	184.0	22.5	10	27700	97	56.6
HIGH		212.2	24.6	13	27800	99	57.3
AVERAGE		171.4	21.2	4	24300	94	55.2
LOW		130.4	16.9	0	18300	78	52.0
LSD (0.05)		16.3	1.2	1	1300	7	0.9
CV		5.9	3.5	59	3	4	0.9

Table 6. Seed sources and hybrid relative maturities, 2005 Organic Corn Performance Test.

Brand	Address	Hybrid	Relative Maturity*
Blue River Hybrids (Formerly NC+ Organics)	PO Box 327 Seward, NE 68434 800-370-7979 www.blueriverorgseed.com	42V32	98
		102A2	102
		48F37	102
		49M37	103
		50K32	104
		3448	106
		58T36	108
		4771	111
		68F32	113
		67M07	112
	34C17	94	
Doebblers	202 Tiadaghton Ave Jersey Shore, PA 17740 570-753-3210 www.doebblers.com	N509	103
		N640	111
		N659	111
		N676	113
Great Harvest Organics	6803 East 276 th St Atlanta, IN 46031 317-984-6685 www.greatharvestorganics.com	56V6	105
		60V6	110
		61F3	110
		61K7	111
		61K9	111
Merit Seed Company	PO Box 205 Berlin, OH 44610 800-553-4713	O-345	87
		O-535	103
		O-645	108

* Relative maturity ratings provided by companies.