

2017 Michigan Organic Soybean Variety Trials

D.G. Baas
R.D. Battel
T.E. Martin
J.F. Dykstra
Michigan State University Extension

D. Wang
R.G. Laurenz
Dept. of Plant, Soil, & Microbial Sciences
Michigan State University

This report provides information on performance of non-GMO soybean varieties grown under certified organic management in 2017. This research is funded by The Ceres Trust and the North Central Region Sustainable Agriculture Research Education (NCR SARE) Program.

Testing Procedures

Three trial locations are reported in this publication. A total of 54 soybean varieties were entered by six seed companies and two universities. The cooperators, planting dates, harvest dates and other site details for each location are listed below.

Seed was planted in 2-row plots, 26 feet long with 30-inch row spacing at a depth of 1.5 inches. The planting rate was 180,000 seeds/Acre. At each location, varieties were replicated four times in a lattice design. The plots were trimmed to a length of 20 feet and both rows were harvested. Experimental design, data management and data analysis were conducted with AGROBASE Generation II software (Agronomix Software, Inc., Winnipeg, Canada).

Using the data

Yield: Expressed as bushels per acre (Bu/A) at 13 percent moisture and is reported as single and across site means for 2017.

Height: Plant height, reported in inches, was measured at maturity from the soil surface to the tip of the main stem. The reported values are means of all replications at the Tuscola and Isabella, and Kalamazoo sites.

Protein and oil content: Protein and oil content of the seed was determined using near-infrared reflectance and is expressed on a **dry** basis. (This report in previous years used 13 percent basis).

Test site information

Isabella County

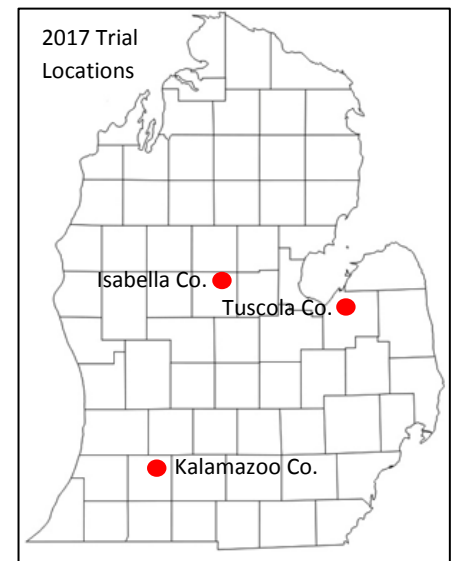
Nearest city: Rosebush Cooperator: Matt Graham
Soil type: Ithaca Loam
Planting Date: May 30 Harvest Date: October 18

Tuscola County

Nearest city: Unionville Cooperator: Dave Sting
Soil type: Tappan-Londo Loam Previous crop: Corn
Tillage: Fall plowed, spring field cultivate
Planting Date: May 31 Harvest Date: October 19

Kalamazoo County

Nearest city: Hickory Corners Cooperator: W.K. Kellogg Bio Station
Soil type: Sandy loam Previous crop: Corn
Tillage: Chisel plow, field cultivate
Planting Date: June 1 Harvest Date: October 20



Rotary hoed soybean plots in Kalamazoo Co, June 14.



Isabella County organic soybean variety trial, August 7.

Growing conditions/comments

Isabella: Extremely wet in the early season. Wet soils and standing water delayed cultivation.

Tuscola: Wet spring prior to planting. Drought July and August, with a warm and late fall.

Kalamazoo: Dry at planting, wet in June then very dry mid-July until early September. These plots were irrigated.

Selecting a variety

Least Significant Difference (LSD) values are useful when comparing two varieties in the same table. If the difference between two varieties is less than the LSD value, this difference is probably due to chance or minor environmental differences. However, if the difference between two varieties is greater than the LSD, there is a 95 percent or greater probability that the difference in performance is due to the greater yield potential of one variety. Valid comparisons can only be made between averages in the same column. The C.V. is indicative of the trial precision. Lower C.V. values indicate more precise trials.

The primary consideration in selecting a variety is yield. When evaluating a variety, consider yield performance over locations and across several years, if available. Considerations other than yield are also important in selecting a variety. It is especially important to select a variety that will mature before the first frost in the fall.

Growers should note seed size when selecting planting rates. Planting rates should be based on number of seeds per acre and not on pounds per acre. It often benefits growers to select a few good varieties for planting each year. Yield determination and careful field evaluation during the growing season will add to the grower's knowledge of variety performance and allow for better selection.



Mature soybeans at the Tuscola County site, October 19.



Harvesting the Kalamazoo site, October 20.

Seed sources

DKB Farm & Services

Charlie Brockriede
4945 Marathon Road
Columbiaville, MI 48421
810-627-8477

D.F. Seeds Inc.

Chris Varner/John Diehl
905 S. Jackson Road P.O. Box 159
Dansville, MI 48819
517-623-6161

Cooperative Elevator Company

Gary Fritz
1075 S. Colling Rd.
Caro, MI 48723
989-673-6402

SunOpta

Emily Shettler
10407 Scribner Rd
Bancroft MI 48414
989-721-7857

MSU

Dechen Wang
A384-E Plant and Soil Sciences Bldg.
1066 Bogue Street
East Lansing, MI 48824-1325
517-355-0271 Ext. 188

Schillinger Genetics, Inc.

Corey Nikkel
4401 Westown Parkway, Suite 225
West Des Moines, IA 50266
515-225-6164

Albert Lea Seed

Ben Hinueber
1414 W. Main, PO Box 127
Albert Lea, MN 56007
800-352-5247

Blue Rive Hybrids

Stuart Grim
2326 230th St.
Ames, IA 50014
800-370-7979

University of Minnesota/ MN Crop Improvement

Roger Wippler
1900 Hendon Ave.
St. Paul, MN 55108
612-625-7766



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2017 Michigan Organic Soybean Variety Trial Results

Brand / Source	Variety	Maturity	Hilum Color	Bushels per Acre				% Oil#	% Protein#	Height Inches ⁺	Seeds DAP** per Lb.	
				Average	Isabella	Kalamazoo	Tuscola					
Albert Lea Seed	Viking 0.1572N	1.5	yellow	37.1	31.8	33.9	45.6	20.5	40.9	22	112	2577
Albert Lea Seed	Viking 0.2072N	2.0	yellow	44.3	32.5	45.9	51.2	20.5	37.6	27	116	2800
Albert Lea Seed	Viking 0.2188AT12N	2.4	yellow	53.4	46.3	54.0	59.0	20.1	39.9	28	117	2732
Albert Lea Seed	Viking 0.2399AT12N	2.6	yellow	53.6	50.9	57.6	52.9	20.1	39.5	30	120	2732
Albert Lea Seed	Viking 0.2446	2.4	black	44.7	34.7	48.2	50.0	19.4	40.7	29	118	2506
Blue River Hybrids	17C2	1.7	dark	45.2	37.0	48.1	49.8	20.3	38.6	26	112	3217
Blue River Hybrids	18C7	1.8	dark	44.9	36.7	47.6	49.6	21.0	37.6	26	119	2338
Blue River Hybrids	20FC6	2.0	yellow	45.4	40.8	44.7	50.7	20.6	36.3	26	113	2732
Blue River Hybrids	21C6	2.1	buff	47.3	42.4	48.9	50.5	21.8	36.3	29	114	2817
Blue River Hybrids	21F3	2.6	yellow	43.1	36.8	46.0	46.1	19.5	41.5	24	115	2668
Blue River Hybrids	22DC6	2.2	buff	49.6	38.5	53.7	55.1	19.7	38.6	29	120	2945
Blue River Hybrids	26F0	2.6	yellow	45.0	29.7	50.2	49.8	19.5	41.5	30	120	2268
Blue River Hybrids	27C5	2.7	yellow	50.0	42.8	49.6	57.0	20.3	39.7	28	118	2871
Cooperative Elevator Co.	DH 410	1.6	clear	42.4	35.1	40.7	50.9	20.7	40.7	26	111	2700
Cooperative Elevator Co.	DH 530	1.6	clear	39.9	27.7	45.2	45.0	21.0	37.8	26	112	2592
DF Seeds Inc.	DF 155 F	2.5	clear	48.1	45.9	50.4	48.9	19.8	41.1	30	119	2326
DF Seeds Inc.	DF 187 N	1.8	clear	42.6	36.6	43.7	47.2	19.5	40.2	26	118	2520
DF Seeds Inc.	DF 227 N	2.2	brown	49.7	41.4	51.0	55.8	19.4	39.1	29	119	2908
DF Seeds Inc.	DF 232 N	2.3	clear	49.3	46.9	46.5	55.2	20.8	37.4	29	115	2413
DKB Farms	Vinton 81	1.9	clear	39.9	39.1	40.4	41.2	19.2	42.2	31	115	2150
Michigan State University	E05181T	2.0	yellow	44.4	42.1	42.7	49.1	20.6	40.1	26	117	2246
Michigan State University	E07051	2.2	dark brown	48.2	43.7	52.0	49.1	20.5	38.4	26	115	2439
Michigan State University	E07130T	2.3	yellow	44.8	46.9	43.4	44.7	18.9	43.7	33	118	1906
Michigan State University	E07158T	2.3	yellow	42.8	44.2	42.4	43.3	19.1	45.3	31	117	1772
Michigan State University	E10174	2.7	yellow	48.5	41.2	49.9	53.9	20.1	38.4	32	120	2246
Michigan State University	E11128T	2.6	yellow	47.4	42.9	48.7	50.9	19.3	43.1	28	118	2191
Michigan State University	E12076T	2.9	yellow	51.6	47.5	53.4	54.4	20.0	38.6	31	122	2749
Michigan State University	E13036T	2.4	yellow	45.6	36.1	51.2	48.5	19.8	40.2	27	121	2257
Michigan State University	E13100	2.5	yellow	48.3	42.5	48.4	53.7	20.2	37.9	29	117	2350
Michigan State University	E13268	1.7	black	45.1	35.8	43.2	55.3	20.6	38.2	25	113	2817
Michigan State University	E13364	2.2	dark brown	43.6	30.9	46.9	51.0	20.3	38.7	26	117	2800
Michigan State University	E13367	2.2	brown	46.9	34.1	52.7	50.1	19.5	37.1	26	115	2853
Michigan State University	E13369	1.6	brown	45.4	35.6	48.6	50.8	19.9	38.2	28	116	3044
Michigan State University	E13370	2.2	black	47.3	38.1	52.1	50.6	19.9	38.4	26	121	3086
Michigan State University	E13902	2.5	dark buff	46.4	45.2	44.9	49.6	19.9	39.3	26	121	2452
Michigan State University	E14044T	2.5	yellow	41.6	30.6	45.9	46.7	19.2	42.2	25	118	2338
Michigan State University	E14077	2.4	imp. black	48.4	38.1	51.6	54.3	20.6	38.4	28	121	2637
Michigan State University	E15079T	2.2	yellow	46.5	44.6	44.2	51.6	19.1	43.3	29	118	2257
Michigan State University	E15165T	1.9	yellow	46.7	41.1	47.3	51.4	19.2	44.4	25	115	1989
Michigan State University	E15346T	2.5	yellow	48.2	36.4	51.3	53.6	20.8	37.8	29	116	2479
Michigan State University	E16602	1.8	yellow	32.0	15.0	42.0	36.0	18.0	41.7	30	123	6389
Michigan State University	E16603	1.8	yellow	38.0	34.7	38.8	41.0	18.7	38.0	28	118	6574
Michigan State University	E16606	2.2	yellow	35.8	29.7	37.3	40.3	18.6	39.8	32	120	6670
Michigan State University	E16608	2.4	yellow	34.2	23.4	40.4	37.5	18.4	42.1	35	124	6670
SunOpta	SR 129	1.8	yellow	43.0	33.7	46.0	48.3	19.2	42.4	26	116	2291
SunOpta	SR 204	2.4	yellow	42.1	30.4	46.4	45.4	19.2	42.4	26	117	2234
SunOpta	SR 354	2.2	yellow	45.0	39.1	43.5	52.0	18.4	42.6	25	119	2213
University of Minnesota	M04-295008	1.5	yellow	43.4	35.9	44.9	48.9	19.8	42.3	28	114	2110
University of Minnesota	M07-297007	1.7	black	45.1	41.2	47.0	47.3	20.6	39.3	28	113	3107
University of Minnesota	M08-332003	1.3	buff	31.2	24.5	30.1	38.2	17.9	48.6	25	110	3044
University of Minnesota	M08-365100	1.5	grey	42.1	32.9	42.5	49.9	21.5	37.8	24	116	2716
University of Minnesota	MN1613CN	1.6	yellow	39.3	32.1	38.0	47.4	20.3	38.3	25	111	2835
University of Minnesota	MN1701CN	1.7	yellow	42.1	40.2	41.0	45.8	20.3	38.9	28	113	3065
University of Minnesota	MN1806CN	1.8	yellow	40.8	29.1	42.3	49.3	21.0	39.5	26	116	2653
# Dry Basis			GRAND MEAN	44.4	37.3	46.0	49.1	19.9	40.0			
* Maturity: Days After Planting			Max. Mean	53.6	50.9	57.6	59.0	21.8	48.6			
* Average across locations			Min. Mean	31.2	15.0	30.1	36.0	17.9	36.3			
			LSD	5.8	14.1	8.3	5.6	0.3	0.9			
			CV	13.8	19.5	10.9	6.9	1.4	1.6			

Multiple Year Michigan Organic Soybean Variety Trial Results

Multiple Year Averages (2 yr = 2016-2017, 3 yr = 2015-2017, 4 yr =2014-2017, 5 yr =2013-2017, 6 yr = 2012-2017)

Brand/Source	Variety	Tuscola Bu/A					Kalamazoo Bu/A					Average Bu/A					Plant Height (inches)*				
		2 yr	3 yr	4 yr	5 yr	6 yr	2 yr	3 yr	4 yr	5 yr	6 yr	2 yr	3 yr	4 yr	5 yr	6 yr	2 yr	3 yr	4 yr	5 yr	6 yr
BR Hybrids	17C2	50.1	53.1	-	-	-	53.3	51.3	-	-	-	51.7	52.2	-	-	-	27.5	28.1	-	-	-
BR Hybrids	18C7	61.3	-	-	-	-	50.5	-	-	-	-	55.9	-	-	-	-	28.3	-	-	-	-
BR Hybrids	20FC6	57.1	-	-	-	-	47.8	-	-	-	-	52.4	-	-	-	-	27.8	-	-	-	-
BR Hybrids	21C6	61.2	-	-	-	-	54.6	-	-	-	-	57.9	-	-	-	-	31.1	-	-	-	-
BR Hybrids	21F3	53.0	57.3	56.3	52.3	-	52.7	51.6	50.2	51.6	-	52.8	54.5	53.2	51.9	-	28.7	29.4	29.7	29.9	-
BR Hybrids	22DC6	62.8	66.7	-	-	-	59.0	58.8	-	-	-	60.9	62.8	-	-	-	30.3	30.6	-	-	-
DF Seeds Inc.	DF 155 F	54.4	58.7	57.7	52.4	51.9	55.8	55.0	53.7	55.8	52.9	55.1	56.8	55.7	54.1	52.4	30.9	31.1	30.1	29.9	29.7
DF Seeds Inc.	DF 227 N	62.5	-	-	-	-	58.4	-	-	-	-	60.5	-	-	-	-	30.8	-	-	-	-
CoElevator Co.	DH 410	50.8	54.6	53.6	49.4	50.8	49.1	46.3	43.1	46.0	44.8	49.9	50.4	48.4	47.7	47.8	29.1	29.3	28.6	28.7	30.3
CoElevator Co.	DH 530	42.1	48.2	49.2	44.2	46.1	51.2	48.0	46.4	49.1	45.1	46.7	48.1	47.8	46.7	45.6	28.8	28.2	27.7	27.7	29.5
MSU	E05181T	55.3	57.4	54.7	51.1	52.5	48.1	48.3	42.6	45.5	43.6	51.7	52.8	48.6	48.3	48.0	27.4	27.5	27.5	27.6	28.8
MSU	E07051	58.6	60.7	-	-	-	57.7	55.5	-	-	-	58.1	58.1	-	-	-	28.6	28.9	-	-	-
MSU	E07130T	49.7	51.7	50.0	46.7	47.9	49.6	47.7	46.1	47.9	46.3	49.7	49.7	48.0	47.3	47.1	33.8	33.5	32.5	32.6	34.6
MSU	E07158T	46.8	50.0	49.0	44.8	47.0	47.3	46.7	45.5	46.0	42.3	47.0	48.3	47.2	45.4	44.6	31.8	32.1	31.5	31.4	33.7
MSU	E10174	65.2	64.6	62.1	58.4	59.7	59.2	56.7	55.0	57.5	55.4	62.2	60.7	58.5	58.0	57.5	34.5	34.6	34.0	33.8	35.3
MSU	E11128T	61.2	59.6	58.3	-	-	53.2	51.9	49.5	-	-	57.2	55.8	53.9	-	-	28.8	29.4	28.9	-	-
MSU	E12076T	51.2	-	-	-	-	62.1	-	-	-	-	56.7	-	-	-	-	31.0	-	-	-	-
MSU	E13036T	57.5	57.4	-	-	-	57.1	52.7	-	-	-	57.3	55.1	-	-	-	28.8	29.1	-	-	-
MSU	E13268	58.6	-	-	-	-	53.9	-	-	-	-	56.2	-	-	-	-	27.5	-	-	-	-
MSU	E13364	59.8	57.7	-	-	-	53.1	51.8	-	-	-	56.4	54.7	-	-	-	29.2	29.0	-	-	-
MSU	E13367	57.6	58.4	-	-	-	58.5	55.8	-	-	-	58.0	57.1	-	-	-	27.5	27.3	-	-	-
MSU	E13369	56.2	56.4	-	-	-	57.2	53.6	-	-	-	56.7	55.0	-	-	-	29.3	29.5	-	-	-
MSU	E14044T	48.7	-	-	-	-	51.4	-	-	-	-	50.0	-	-	-	-	27.6	-	-	-	-
U of Minnesota	M04-295008	49.3	51.3	50.9	-	-	49.7	50.1	48.5	-	-	49.5	50.7	49.7	-	-	30.3	30.3	29.2	-	-
U of Minnesota	M07-297007	55.7	-	-	-	-	50.8	-	-	-	-	53.2	-	-	-	-	30.4	-	-	-	-
U of Minnesota	MN1701CN	52.9	52.1	-	-	-	47.5	47.9	-	-	-	50.2	50.0	-	-	-	30.6	30.7	-	-	-
U of Minnesota	MN1806CN	52.3	53.4	-	-	-	47.2	47.3	-	-	-	49.8	50.4	-	-	-	28.6	29.4	-	-	-
SunOpta	SR 129	50.7	-	-	-	-	52.0	-	-	-	-	51.3	-	-	-	-	28.1	-	-	-	-
SunOpta	SR 204	50.3	-	-	-	-	55.2	-	-	-	-	52.8	-	-	-	-	28.6	-	-	-	-
SunOpta	SR 354	54.8	-	-	-	-	51.7	-	-	-	-	53.2	-	-	-	-	28.1	-	-	-	-
DKB Farms	Vinton 81	44.9	46.6	47.1	43.8	44.9	44.5	43.3	42.2	44.1	42.3	44.7	44.9	44.6	43.9	43.6	33.7	33.9	33.8	34.0	36.0

Brand/Source	Variety	DAP**			% Oil*#					% Protein*#					Seeds per Pound*				
		2 yr	3 yr	4 yr	2 yr	3 yr	4 yr	5 yr	6 yr	2 yr	3 yr	4 yr	5 yr	6 yr	2 yr	3 yr	4 yr	5 yr	6 yr
BR Hybrids	17C2	113	115	-	20.6	20.7	-	-	-	40.6	40.9	-	-	-	2945	3014	-	-	-
BR Hybrids	18C7	119	-	-	21.3	-	-	-	-	39.5	-	-	-	-	2258	-	-	-	-
BR Hybrids	20FC6	114	-	-	20.7	-	-	-	-	39.2	-	-	-	-	2635	-	-	-	-
BR Hybrids	21C6	117	-	-	21.8	-	-	-	-	38.5	-	-	-	-	2597	-	-	-	-
BR Hybrids	21F3	119	122	124	19.5	18.9	18.6	18.7	-	43.7	42.9	43.4	43.8	-	2195	2163	2181	2167	-
BR Hybrids	22DC6	121	124	-	19.9	19.9	-	-	-	40.8	41.1	-	-	-	2732	2699	-	-	-
DF Seeds Inc.	DF 155 F	121	124	125	20.0	20.1	19.9	19.9	19.9	43.1	43.3	43.8	43.9	43.9	2145	2130	2180	2209	2204
DF Seeds Inc.	DF 227 N	120	-	-	19.8	-	-	-	-	41.0	-	-	-	-	2685	-	-	-	-
CoElevator Co.	DH 410	113	115	116	20.7	20.6	20.3	20.3	20.3	43.3	44.1	44.5	44.6	44.6	2510	2455	2512	2547	2548
CoElevator Co.	DH 530	112	114	114	21.4	21.5	21.3	21.1	21.3	39.8	40.2	40.8	40.9	40.9	2509	2532	2522	2541	2555
MSU	E05181T	117	119	119	20.6	20.6	20.2	20.2	20.3	41.8	42.4	42.6	42.9	42.9	2140	2119	2223	2236	2200
MSU	E07051	118	121	-	20.7	20.8	-	-	-	40.5	41.0	-	-	-	2274	2242	-	-	-
MSU	E07130T	120	122	124	18.9	19.0	18.7	18.7	18.9	45.9	46.2	46.3	46.4	46.6	1774	1777	1842	1874	1857
MSU	E07158T	118	121	123	19.0	19.1	18.7	18.9	18.9	47.1	47.2	47.4	47.5	47.6	1717	1702	1780	1810	1807
MSU	E10174	124	127	127	20.3	20.6	20.3	20.5	20.5	40.0	40.2	40.3	40.3	40.2	2112	2111	2178	2224	2222
MSU	E11128T	121	124	125	19.3	19.3	19.1	-	-	44.5	44.9	45.1	-	-	2074	2061	2134	-	-
MSU	E12076T	125	-	-	20.3	-	-	-	-	39.9	-	-	-	-	2517	-	-	-	-
MSU	E13036T	122	124	-	19.9	19.9	-	-	-	41.7	42.1	-	-	-	2060	2059	-	-	-
MSU	E13268	115	-	-	20.6	-	-	-	-	39.9	-	-	-	-	2678	-	-	-	-
MSU	E13364	120	123	-	20.5	20.6	-	-	-	41.0	41.4	-	-	-	2708	2673	-	-	-
MSU	E13367	119	121	-	20.0	20.2	-	-	-	39.2	39.8	-	-	-	2673	2647	-	-	-
MSU	E13369	117	119	-	20.2	20.3	-	-	-	40.3	40.7	-	-	-	2826	2834	-	-	-
MSU	E14044T	119	-	-	19.2	-	-	-	-	44.0	-	-	-	-	2195	-	-	-	-
U of Minnesota	M04-295008	114	117	117	19.7	19.9	19.7	-	-	44.0	44.1	44.5	-	-	1971	1952	1994	-	-
U of Minnesota	M07-297007	114	-	-	20.2	-	-	-	-	42.4	-	-	-	-	2896	-	-	-	-
U of Minnesota	MN1701CN	115	116	-	20.3	20.3	-	-	-	41.1	41.6	-	-	-	2878	2881	-	-	-
U of Minnesota	MN1806CN	116	118	-	20.9	20.9	-	-	-	41.4	41.7	-	-	-	2509	2519	-	-	-
SunOpta	SR 129	116	-	-	19.5	-	-	-	-	43.7	-	-	-	-	2173	-	-	-	-
SunOpta	SR 204	121	-	-	19.1	-	-	-	-	44.0	-	-	-	-	2032	-	-	-	-
SunOpta	SR 354	121	-	-	18.6	-	-	-	-	44.7	-	-	-	-	2101	-	-	-	-
DKB Farms	Vinton 81	116	118	119	19.0	19.1	18.7	18.9	18.9	44.6	45.2	45.6	45.7	45.9	1960	1942	2017	2047	2021

* Average across all locations

* Maturity: Days After Planting

Dry Basis