

2018 Michigan Organic Soybean Variety Trials

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This report provides information on performance of non-GMO soybean varieties grown under certified organic management in 2018. This research is funded by Organic Farmers of Michigan.

Testing Procedures

Three trial locations are reported in this publication. A total of 41 soybean varieties were entered by eight 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 2018.

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 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. (These reports prior to 2017 used 13 percent basis).

Test site information

Isabella County

Nearest city: Rosebush	Cooperator: Matt Graham
Soil type: Ithaca Loam	Previous crop: Corn
Planting Date: June 13	Harvest Date: November 21

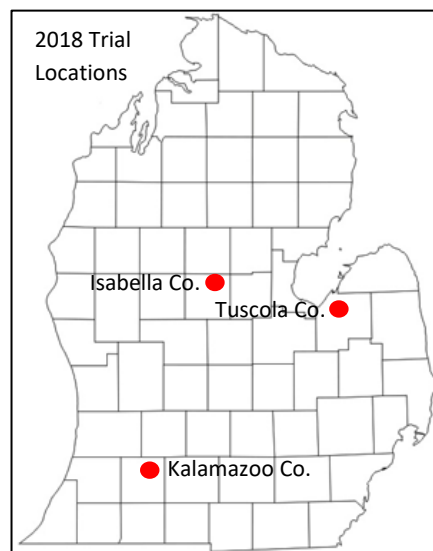
Tuscola County

Nearest city: Unionville	Cooperator: Dave Sting
Soil type: Tappan-Londo Loam	Previous crop: Corn
Tillage: Fall plowed, spring field cultivate	
Planting Date: May 28	Harvest Date: October 22

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 7	Harvest Date: October 19

2018 Trial Locations



Planting soybean plots in Kalamazoo Co, June 7.



Tuscola County organic soybean variety trial, September 8.

Growing conditions/comments

Isabella: Wet conditions delayed planting a little and, to a greater degree, harvest.

Tuscola: Conditions were near average.

Kalamazoo: Conditions were near average.

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.



Harvesting the Kalamazoo site, October 19.

Seed Sources

Albert Lea Seed

Bun Hinueber
1414 W. Main P.O. Box 127
Albert Lea, MN 56007
800-352-5247

Blue River Hybrids

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

Cooperative Elevator Company

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

D.F. Seeds Inc.

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

Michigan State University

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

DKB Farm & Services

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

LG Seeds

Dennis Steinbauer
9915 W M-21
Ovid, MI 48866
800-544-6310

Pioneer

Chris Creguer
2549 W Ackerman Rd
Unionville, MI 48767
989 670-1485

SunOpta

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

University of Minnesota/ MN Crop Improvement

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



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2018 Michigan Organic Soybean Variety Trial Results

Brand / Source	Variety	Maturity	Hilum Color	Bushels per Acre				% Oil	% Protein	Height Inches*	DAP*	Seeds per lb.
				Isabella	Kalamazoo	Tuscola	Average					
Albert Lea	Viking 0.1518N	15	Black	42.9	39.8	53.9	45.5	20.5	40.9	32	110	3004
Albert Lea	Viking 0.1955 AT	19	Yellow	46.0	49.7	67.2	54.3	21.3	41.5	34	117	2362
Albert Lea	Viking 0.2188AT12N	2.4	Yellow	53.4	50.7	71.4	58.5	20.1	41.8	33	118	2362
Albert Lea	Viking 0.2299N	2.3	Yellow	45.9	54.9	73.9	58.2	20.7	40.8	34	115	2362
Albert Lea	Viking 0.2518N	2.5	Black	55.2	57.3	65.8	59.4	21	42	35	117	2465
Blue River Organic Seed	18C7	1.8	Dark	53.4	48.3	66.7	56.1	22	39.7	34	112	2100
Blue River Organic Seed	20FC6	2.0	Yellow	50.5	44.1	55.4	50.0	21.3	39.9	30	115	2326
Blue River Organic Seed	21F3	2.6	Yellow	37.7	42.7	60.7	47.0	19.8	44.2	33	117	2400
Blue River Organic Seed	22DC6	2.2	Dark	60.4	52.5	64.1	59.0	20	41.4	35	120	2622
Blue River Organic Seed	26FO	2.6	Yellow	45.0	53.6	72.0	56.9	20.3	42.8	37	121	1955
Cooperative Elevator Co.	DH 410	1.6	Clear	39.3	36.1	48.9	41.4	21.2	44.3	33	110	2592
Cooperative Elevator Co.	DH 530	1.6	Clear	40.4	38.4	48.6	42.4	22.4	39.1	34	113	2492
DF Seeds, LLC	DF 155 F	2.5	Clear	47.4	51.6	69.6	56.2	20.3	42.9	35	121	1930
DF Seeds, LLC	DF 187 N	1.8	Clear	50.2	43.9	61.3	51.8	20.4	42.4	33	121	2302
DKB Farms	Vinton 81	1.9	Clear	36.7	35.4	60.2	44.1	19.5	46.3	40	111	1718
LG Seeds	C2300	2.3	Brown	59.9	54.8	71.3	62.0	19.9	41.1	36	119	2800
Michigan State University	E07051	2.2	Dark Brown	53.2	49.0	66.3	56.1	21.1	41.2	33	118	2034
Michigan State University	E07130-T	2.3	Yellow	38.8	38.2	50.2	42.4	19.1	47.3	38	116	1705
Michigan State University	E07158-T	2.3	Yellow	40.3	39.8	54.1	44.7	19.3	47.7	36	114	1655
Michigan State University	E10174	2.7	Yellow	50.2	55.8	71.8	59.2	21.4	39.6	38	122	1981
Michigan State University	E11128T	2.6	Yellow	46.7	46.9	67.1	53.5	19.4	44.9	33	121	1914
Michigan State University	E12076T	2.9	Yellow	46.6	53.2	72.6	57.4	20.6	40.1	38	128	2439
Michigan State University	E13036T	2.4	Yellow	41.0	48.7	62.5	50.7	19.9	41.5	33	120	2043
Michigan State University	E13100	2.5	Yellow	54.0	46.0	68.1	56.0	21	40.7	38	119	1998
Michigan State University	E13268	1.7	Black	50.7	45.9	61.4	52.7	20.9	40	32	112	2577
Michigan State University	E13367	2.2	Brown	54.2	50.9	69.8	58.3	20.6	39.5	33	117	2548
Michigan State University	E13369	1.6	Brown	52.3	45.9	59.7	52.6	20.6	41.2	36	113	2800
Michigan State University	E13370	2.2	Black	48.6	50.5	64.3	54.4	20.3	40.9	33	121	2607
Michigan State University	E13902	2.5	Dark Buff	58.0	56.2	67.3	60.5	20.2	40.6	34	121	2279
Michigan State University	E14077	2.4	Imp. Black	58.4	53.5	66.5	59.4	21	39.3	36	119	2452
Michigan State University	E15079T	2.2	Yellow	36.2	44.4	63.3	48.0	19.8	44.1	37	116	1955
Michigan State University	E15165T	1.9	Yellow	44.1	49.1	64.4	52.5	20.3	41.3	35	119	1822
Michigan State University	E15346T	2.5	Yellow	32.7	49.2	67.4	49.8	21	40.9	33	118	2279
Pioneer	P21A20	2.1	Clear	51.4	46.4	60.8	52.9	20.1	43	32	115	2302
SunOpta	SR129	1.8	Yellow	46.2	39.6	59.3	48.4	20.4	43.3	33	110	2062
SunOpta	SR20	2.0	Yellow	44.8	41.3	50.1	45.4	20.3	43.7	36	112	1989
SunOpta	SR354	2.2	Yellow	57.4	48.4	60.5	55.4	19.7	44.7	33	120	2130
U of Minnesota	M07-297007	1.7	Black	34.9	43.9	60.6	46.4	20.7	43.9	35	112	2766
U of Minnesota	M08-365100	1.5	Grey	45.7	46.7	55.7	49.3	22.1	39.7	31	112	2350
U of Minnesota	M08-369100W	1.7	Yellow	38.4	44.4	56.5	46.4	21.1	40.5	34	119	4124
U of Minnesota	M10-237102	1.8	Imp. Black	34.1	39.5	48.4	40.7	22.6	44	34	112	3385
*Maturity: Days After Planting, Kalamazoo		GRAND MEAN		46.9	47.0	62.4	52.1	20.6	42.1			
*Average of Isabella and Tuscola		Max. Mean		60.4	57.3	73.9	62.0	22.6	47.7			
		Min. Mean		32.7	35.4	48.4	40.7	19.1	39.1			
		LSD		8.4	8.1	11.1	5.3	0.5	10			
		CV		10.7	10.3	10.7	10.7	1.3	14			

Multiple year Michigan Organic Soybean Variety Trial Results – Revised 4/12/19

Multiple Year Averages (2 yr = 2017-2018, 3 yr = 2016-2018, 4 yr = 2015-2018, 5 yr = 2014-2018, 6 yr = 2013-2018, 7 yr = 2012-2018)

Source	Variety	Kalamazoo Bu/A						Tuscola Bu/A						Average Bu/A					
		2 yr	3 yr	4 yr	5 yr	6 yr	7 yr	2 yr	3 yr	4 yr	5 yr	6 yr	7 yr	2 yr	3 yr	4 yr	5 yr	6 yr	7 yr
Albert Lea	Viking 0.2188AT12N	52.4	57.7	-	-	-	-	65.2	67.2	-	-	-	-	58.8	62.4	-	-	-	-
Blue River	18C7	48.0	49.8	-	-	-	-	58.2	63.1	-	-	-	-	53.1	56.4	-	-	-	-
Blue River	20FC6	44.4	46.6	-	-	-	-	53.1	56.5	-	-	-	-	48.7	51.6	-	-	-	-
Blue River	21F3	44.4	49.4	49.4	48.7	50.1	-	53.4	55.6	58.2	57.2	53.7	-	48.9	52.5	53.8	52.9	51.9	-
Blue River	22DC6	53.1	56.8	57.2	-	-	-	59.6	63.2	66.1	-	-	-	56.4	60.0	61.6	-	-	-
Blue River	26FO	51.9	-	-	-	-	-	60.9	-	-	-	-	-	56.4	-	-	-	-	-
CoElevator Co.	DH 410	38.4	44.8	43.8	41.7	44.4	43.6	49.9	50.2	53.2	52.7	49.3	50.5	44.2	47.5	48.5	47.2	46.8	47.0
CoElevator Co.	DH 530	41.8	46.9	45.6	44.8	47.3	44.1	46.8	44.3	48.3	49.1	44.9	46.5	44.3	45.6	47.0	46.9	46.1	45.3
DF Seeds, LLC	DF 155 F	51.0	54.4	54.2	53.3	55.1	52.7	59.3	59.5	61.4	60.1	55.3	54.4	55.1	56.9	57.8	56.7	55.2	53.6
DF Seeds, LLC	DF 187 N	43.8	-	-	-	-	-	54.3	-	-	-	-	-	49.0	-	-	-	-	-
DKB Farms	Vinton 81	37.9	41.5	41.3	40.8	42.7	41.3	50.7	50.0	50.0	49.7	46.5	47.1	44.3	45.7	45.7	45.3	44.6	44.2
MSU	E07051	50.5	54.8	53.9	-	-	-	57.7	61.2	62.1	-	-	-	54.1	58.0	58.0	-	-	-
MSU	E07130-T	40.8	45.8	45.3	44.5	46.3	45.1	47.5	49.9	51.3	50.0	47.3	48.2	44.1	47.8	48.3	47.3	46.8	46.7
MSU	E07158-T	41.1	44.8	45.0	44.4	45.0	41.9	48.7	49.2	51.0	50.0	46.4	48.0	44.9	47.0	48.0	47.2	45.7	45.0
MSU	E10174	52.9	58.1	56.5	55.2	57.2	55.5	62.9	67.4	66.4	64.0	60.6	61.4	57.9	62.7	61.4	59.6	58.9	58.4
MSU	E11128T	47.8	51.1	50.7	49.0	-	-	59.0	63.2	61.5	60.1	-	-	53.4	57.1	56.1	54.5	-	-
MSU	E12076T	53.3	59.1	-	-	-	-	63.5	58.3	-	-	-	-	58.4	58.7	-	-	-	-
MSU	E13036T	50.0	54.3	51.7	-	-	-	55.5	59.2	58.7	-	-	-	52.7	56.7	55.2	-	-	-
MSU	E13100	47.2	-	-	-	-	-	60.9	-	-	-	-	-	54.1	-	-	-	-	-
MSU	E13268	44.6	51.2	-	-	-	-	58.4	59.5	-	-	-	-	51.5	55.4	-	-	-	-
MSU	E13367	51.8	56.0	54.6	-	-	-	60.0	63.1	60.7	-	-	-	55.9	59.6	57.7	-	-	-
MSU	E13369	47.3	53.4	51.7	-	-	-	55.3	57.4	57.2	-	-	-	51.3	55.4	54.5	-	-	-
MSU	E13370	51.3	-	-	-	-	-	57.5	-	-	-	-	-	54.4	-	-	-	-	-
MSU	E13902	50.6	-	-	-	-	-	58.5	-	-	-	-	-	54.5	-	-	-	-	-
MSU	E14077	52.6	-	-	-	-	-	60.4	-	-	-	-	-	56.5	-	-	-	-	-
MSU	E15079T	44.3	-	-	-	-	-	57.5	-	-	-	-	-	50.9	-	-	-	-	-
MSU	E15165T	48.2	-	-	-	-	-	57.9	-	-	-	-	-	53.1	-	-	-	-	-
MSU	E15346T	50.3	-	-	-	-	-	60.5	-	-	-	-	-	55.4	-	-	-	-	-
SunOpta	SR129	42.8	47.9	-	-	-	-	53.8	53.6	-	-	-	-	48.3	50.7	-	-	-	-
SunOpta	SR354	46.0	50.6	-	-	-	-	56.3	56.7	-	-	-	-	51.1	53.7	-	-	-	-
U of MN	M07-297007	45.5	48.5	-	-	-	-	54.0	57.3	-	-	-	-	49.7	52.9	-	-	-	-
U of MN	M08-365100	44.6	-	-	-	-	-	52.8	-	-	-	-	-	48.7	-	-	-	-	-

Source	Variety	% Oil*						% Protein*						Seeds per Pound*					
		2 yr	3 yr	4 yr	5 yr	6 yr	7 yr	2 yr	3 yr	4 yr	5 yr	6 yr	7 yr	2 yr	3 yr	4 yr	5 yr	6 yr	7 yr
Albert Lea	Viking 0.2188AT12N	20.1	20.2	-	-	-	-	40.8	41.7	-	-	-	-	2547	2484	-	-	-	-
Blue River	18C7	21.5	21.5	-	-	-	-	38.6	39.6	-	-	-	-	2219	2205	-	-	-	-
Blue River	20FC6	20.9	20.9	-	-	-	-	38.1	39.4	-	-	-	-	2529	2532	-	-	-	-
Blue River	21F3	19.7	19.6	19.1	18.9	18.9	-	42.8	43.9	43.2	43.6	43.9	-	2534	2263	2222	2225	2206	-
Blue River	22DC6	19.8	19.9	19.9	-	-	-	40.0	41.0	41.2	-	-	-	2783	2695	2680	-	-	-
Blue River	26FO	19.9	-	-	-	-	-	42.1	-	-	-	-	-	2112	-	-	-	-	-
CoElevator Co.	DH 410	20.9	20.9	20.7	20.5	20.5	20.5	42.5	43.7	44.2	44.4	44.5	44.6	2646	2537	2489	2528	2554	2554
CoElevator Co.	DH 530	21.7	21.7	21.7	21.5	21.4	21.4	38.5	39.5	39.9	40.5	40.6	40.7	2542	2503	2522	2516	2533	2546
DF Seeds, LLC	DF 155 F	20.0	20.1	20.2	20.0	20.0	19.9	42.0	43.0	43.2	43.6	43.7	43.8	2128	2073	2080	2130	2163	2165
DF Seeds, LLC	DF 187 N	20.0	-	-	-	-	-	41.3	-	-	-	-	-	2411	-	-	-	-	-
DKB Farms	Vinton 81	19.3	19.1	19.2	18.9	19.0	18.9	44.2	45.2	45.5	45.8	45.8	45.9	1934	1879	1886	1957	1992	1978
MSU	E07051	20.8	20.8	20.9	-	-	-	39.8	40.7	41.1	-	-	-	2237	2194	2190	-	-	-
MSU	E07130-T	19.0	18.9	19.0	18.8	18.8	18.9	45.5	46.3	46.5	46.5	46.6	46.7	1806	1751	1759	1815	1846	1835
MSU	E07158-T	19.2	19.1	19.1	18.8	18.9	18.9	46.5	47.3	47.4	47.4	47.5	47.6	1714	1696	1690	1755	1784	1785
MSU	E10174	20.8	20.7	20.8	20.6	20.6	20.6	39.0	39.9	40.1	40.2	40.2	40.1	2113	2068	2078	2139	2183	2188
MSU	E11128T	19.4	19.3	19.3	19.1	-	-	44.0	44.6	44.9	45.0	-	-	2052	2021	2024	2090	-	-
MSU	E12076T	20.3	20.4	-	-	-	-	39.4	40.0	-	-	-	-	2594	2491	-	-	-	-
MSU	E13036T	19.8	19.9	19.9	-	-	-	40.9	41.6	41.9	-	-	-	2150	2054	2055	-	-	-
MSU	E13100	20.6	-	-	-	-	-	39.3	-	-	-	-	-	2174	-	-	-	-	-
MSU	E13268	20.7	20.7	-	-	-	-	39.1	39.9	-	-	-	-	2697	2644	-	-	-	-
MSU	E13367	20.1	20.2	20.3	-	-	-	38.3	39.3	39.7	-	-	-	2701	2631	2622	-	-	-
MSU	E13369	20.2	20.4	20.4	-	-	-	39.7	40.6	40.8	-	-	-	2922	2817	2825	-	-	-
MSU	E13370	20.1	-	-	-	-	-	39.6	-	-	-	-	-	2846	-	-	-	-	-
MSU	E13902	20.0	-	-	-	-	-	40.0	-	-	-	-	-	2366	-	-	-	-	-
MSU	E14077	20.8	-	-	-	-	-	38.8	-	-	-	-	-	2544	-	-	-	-	-
MSU	E15079T	19.4	-	-	-	-	-	43.7	-	-	-	-	-	2106	-	-	-	-	-
MSU	E15165T	19.7	-	-	-	-	-	42.8	-	-	-	-	-	1905	-	-	-	-	-
MSU	E15346T	20.9	-	-	-	-	-	39.4	-	-	-	-	-	2379	-	-	-	-	-
SunOpta	SR129	19.8	19.8	-	-	-	-	42.9	43.6	-	-	-	-	2176	2136	-	-	-	-
SunOpta	SR354	19.0	19.3	-	-	-	-	43.7	44.7	-	-	-	-	2171	2111	-	-	-	-
U of Minnesota	M07-297007	20.6	20.4	-	-	-	-	41.6	42.9	-	-	-	-	2936	2853	-	-	-	-
U of Minnesota	M08-365100	21.8	-	-	-	-	-	38.8	-	-	-	-	-	2533	-	-	-	-	-

* Average of Tuscola