

2019 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 2019. This research is funded by Organic Farmers of Michigan.

Testing Procedures

Two trial locations are reported in this publication. A total of 43 soybean varieties were entered by seven 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 2019.

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 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 used 13 percent basis prior to 2017).

Test site information

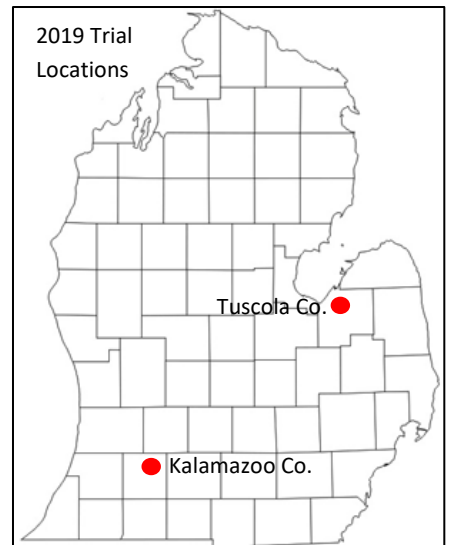
Tuscola County

Nearest city: Unionville Cooperator: Dave Sting
Soil type: Tappan-Londo Loam Previous crop: Corn
Tillage: Fall plowed, spring field cultivate
Planting Date: May 17 Harvest Date: October 18

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 12 Harvest Date: November 5

2019 Trial Locations



Planting soybean plots in Tuscola Co, May 17.



Planting soybean plots in Kalamazoo Co, June 12.

Growing conditions/comments

Tuscola: Spring and fall were wet while July and August were dry.

Kalamazoo: Cool wet conditions delayed planting in the spring, then conditions were dry July and August.

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.



Field day at Tuscola County site, September 17.



Harvesting the Kalamazoo site, November 5.

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 Rd. P.O. Box 159
Dansville, MI 48819
517-623-6161

Pioneer

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

Pipeline Foods

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

MSU

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

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

LG Seeds

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

University of Minnesota/ MN Crop Improvement

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



Organic Farmers of Michigan

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2019 Michigan Organic Soybean Variety Trial Results

Brand / Source	Variety	Maturity	Hilum	Bushels per Acre			%	%	Height		
			Color	Kalamazoo	Tuscola	Average	Oil	Protein	Inches	DAP*	
Albert Lea Seed	Viking 0.1518N	1.5	Black	17.7	53.0	36.3	20.0	41.7	22	106	
Albert Lea Seed	Viking 0.1202N	1.2	Brown	13.2	51.1	33.9	20.3	41.4	21	103	
Albert Lea Seed	Viking 0.2155N	2.1	Black	24.6	58.5	41.9	19.8	38.9	26	117	
Albert Lea Seed	Viking 0.2518N	2.5	Black	25.0	63.7	42.7	20.2	41.4	25	115	
Albert Lea Seed	Viking 0.2188AT12N	2.5	Yellow	22.6	66.3	44.7	19.5	40.2	26	115	
Blue River Organic Seed	1F44	1.4	Yellow	20.4	45.5	31.4	19.9	44.7	24	103	
Blue River Organic Seed	20FC6	2.0	Yellow	23.4	52.9	39.2	20.6	38.1	24	107	
Blue River Organic Seed	22DC6	2.2	Buff	26.3	51.0	40.3	19.4	39.1	26	117	
DF Seeds	DF 187 N	1.8	Clear	26.2	58.2	43.8	19.4	40.7	25	118	
DF Seeds	DF 210 N	2.1	Buff	28.5	63.6	44.8	21.2	38.8	23	118	
DF Seeds	DF 227 N	2.2	Brown	31.9	56.1	41.7	19.4	39.5	27	117	
DF Seeds	DF 155 N	2.5	Clear	27.9	48.9	39.3	19.6	43.0	25	118	
DF Seeds	DF 260 N	2.6	Buff	35.7	60.8	46.7	22.3	36.4	25	120	
LG Seeds	C2300	2.3	Brown	28.9	59.3	43.2	19.3	39.8	28	115	
LG Seeds	LGS2010	2.0	Brown	24.3	62.9	40.6	20.9	37.3	25	111	
Michigan State University	E07130-T	2.3	Yellow	26.9	48.0	35.1	19.3	45.9	26	114	
Michigan State University	E07158-T	2.3	Yellow	25.7	45.5	35.9	19.0	47.5	27	109	
Michigan State University	E10174	2.7	Yellow	35.4	61.9	47.0	21.0	38.5	29	119	
Michigan State University	E11128T	2.6	Yellow	28.7	56.9	41.2	18.7	44.4	25	118	
Michigan State University	E13036T	2.4	Yellow	24.6	51.2	37.0	19.8	41.1	24	117	
Michigan State University	E13268	1.5	Black	21.6	58.3	40.3	20.6	39.3	23	109	
Michigan State University	E13902-20	2.5	Dark Buff	29.9	57.7	43.3	19.7	40.3	24	126	
Michigan State University	E14077	2.4	Dark Imperfect Black	27.8	60.8	46.3	20.7	39.5	27	117	
Michigan State University	E15079T	2.2	Yellow	26.6	61.5	41.8	19.1	44.5	27	115	
Michigan State University	E15165T	1.9	Yellow	28.7	55.6	41.8	19.4	45.7	23	111	
Michigan State University	E15338	1.5	Dark Buff	18.2	46.4	36.6	20.0	39.3	23	107	
Michigan State University	E15346T	1.6	Yellow	26.9	57.7	41.6	20.5	38.5	25	116	
Michigan State University	E17506T	2.1	Yellow	24.0	62.6	44.2	20.3	39.8	26	115	
Michigan State University	E17181	1.9	Yellow	24.9	59.1	43.1	20.0	42.2	24	111	
Michigan State University	E17205	2.7	Buff & Yellow Mix	26.2	63.8	46.7	21.4	39.1	28	119	
Michigan State University	E17275	2.2	Buff	32.7	55.6	43.3	19.2	39.1	24	116	
Michigan State University	E17333	2.1	Brown	18.4	52.5	36.7	21.0	39.3	23	116	
Pioneer	21A20	2.1	Yellow	26.6	55.5	39.9	19.9	42.3	23	112	
Pipeline Foods	SR20	2.0	Yellow	22.0	54.1	34.1	20.2	43.0	25	109	
Pipeline Foods	SR354	2.2	Yellow	20.8	57.9	38.1	18.3	44.7	23	118	
Pipeline Foods	SR129	1.8	Yellow	26.2	43.6	36.7	19.9	44.1	23	107	
University of Minnesota	M09-285149	1.5	Buff	15.4	51.2	34.3	20.6	38.3	22	107	
University of Minnesota	M08-365100	1.5	Gray	21.0	55.2	40.4	21.2	41.0	22	108	
University of Minnesota	MN1806CN	1.8	Yellow	6.8	31.1	21.4	20.8	40.4	23	112	
University of Minnesota	M07-209037	1.6	Yellow	17.8	48.2	33.5	20.9	38.4	22	106	
University of Minnesota	M10-254090	1.6	Yellow	16.7	54.8	36.0	21.4	41.2	25	105	
University of Minnesota	M07-297007	1.7	Black	25.0	56.2	41.4	20.4	41.5	25	108	
DKB Farms	VINTON 81	1.9	Clear	20.6	39.1	30.4	19.4	44.6	28	110	
* Days after planting. Kalamazoo				GRAND MEAN	24.3	54.7	39.5	20.1	41.0		
** Seed size unavailable. See past reports for varieties with multiple years.				Max. Mean	35.7	66.3	47.0	22.3	47.5		
				Min. Mean	6.8	31.1	21.4	18.3	36.4		
				LSD	7.9	8.0	6.8	0.6	1.1		
				CV	19.7	8.8	14.7	1.6	1.6		

Multiple Year Michigan Organic Soybean Variety Trial Results

Multiple Year Averages (2 yr = 2018-2019, 3 yr = 2017-2019, 4 yr = 2016-2019, 5 yr = 2015-2019, 6 yr = 2014-2019, 7 yr = 2013-2019, 8 yr = 2012-2019)

Source	Variety	Kalamazoo Bu/A								Tuscola Bu/A								Average Bu/A							
		2 yr	3 yr	4 yr	5 yr	6 yr	7 yr	8 yr	2 yr	3 yr	4 yr	5 yr	6 yr	7 yr	8 yr	2 yr	3 yr	4 yr	5 yr	6 yr	7 yr	8 yr			
Albert Lea Seed	Viking 0.1518N	28.8	-	-	-	-	-	-	53.5	-	-	-	-	-	-	40.9	-	-	-	-	-	-			
Albert Lea Seed	Viking 0.2518N	412	-	-	-	-	-	-	64.8	-	-	-	-	-	-	511	-	-	-	-	-	-			
Albert Lea	Viking 0.2188AT12N	36.7	42.4	48.9	-	-	-	-	68.9	65.6	67.0	-	-	-	-	516	52.2	57.9	-	-	-	-			
Blue River	20FC6	33.8	37.4	40.8	-	-	-	-	54.2	53	55.6	-	-	-	-	44.6	44.9	48.2	-	-	-	-			
Blue River	22DC6	39.4	44.2	49.2	51.0	-	-	-	57.6	56.7	60.2	63.0	-	-	-	49.7	49.6	54.7	57.0	-	-	-			
DF Seeds	DF 187 N	35.1	37.9	-	-	-	-	-	59.8	55.6	-	-	-	-	-	47.8	46.1	-	-	-	-	-			
DF Seeds	DF 155 F	39.8	510	47.8	48.9	49.1	512	49.6	59.3	55.8	56.8	58.9	58.2	54.4	53.7	47.8	48.0	52.3	53.9	53.6	52.8	517			
MSU	E07130-T	32.6	36.2	41.1	41.6	41.6	43.5	42.9	49.1	47.6	49.4	50.7	49.7	47.4	48.2	38.8	40.8	45.2	46.2	45.6	45.5	45.5			
MSU	E07158-T	32.8	36.0	40.0	41.1	41.3	42.2	39.9	49.8	47.6	48.3	49.9	49.3	46.2	47.7	40.3	41.1	44.2	45.5	45.3	44.2	43.8			
MSU	E10174	45.6	47.0	52.4	52.3	51.9	54.1	53.0	66.9	62.5	66.0	65.5	63.7	60.8	615	53.1	51.6	59.2	58.9	57.8	57.5	57.2			
MSU	E11128T	37.8	414	45.5	46.3	45.6	-	-	62	58.3	616	60.6	59.5	-	-	47.4	47.4	53.6	53.4	52.6	-	-			
MSU	E13036T	36.7	415	46.9	46.3	-	-	-	56.9	54.1	57.2	57.2	-	-	-	43.9	44.4	52.0	51.7	-	-	-			
MSU	E13268	33.8	36.9	43.8	-	-	-	-	59.9	58.3	59.2	-	-	-	-	46.5	46.0	515	-	-	-	-			
MSU	E14077	40.7	44.3	-	-	-	-	-	63.7	60.5	-	-	-	-	-	52.9	514	-	-	-	-	-			
MSU	E15079T	35.5	38.4	-	-	-	-	-	62.4	58.8	-	-	-	-	-	44.9	45.4	-	-	-	-	-			
MSU	E15165T	38.9	417	-	-	-	-	-	60	57.1	-	-	-	-	-	47.2	47.0	-	-	-	-	-			
MSU	E15346T	38.1	25.4	-	-	-	-	-	62.6	417	-	-	-	-	-	45.7	30.5	-	-	-	-	-			
Pioneer	21A20	36.5	-	-	-	-	-	-	58.2	-	-	-	-	-	-	46.4	-	-	-	-	-	-			
Pipeline Foods	SR20	317	-	-	-	-	-	-	52.1	-	-	-	-	-	-	39.8	-	-	-	-	-	-			
Pipeline Foods	SR354	34.6	37.6	43.2	-	-	-	-	59.2	56.8	57.0	-	-	-	-	46.8	46.2	50.1	-	-	-	-			
Pipeline Foods	SR129	32.9	37.3	42.5	-	-	-	-	51.5	50.4	51.1	-	-	-	-	42.6	42.7	46.8	-	-	-	-			
U of MN	M08-365100	33.9	36.7	-	-	-	-	-	55.5	53.6	-	-	-	-	-	44.9	43.9	-	-	-	-	-			
U of MN	M07-297007	34.5	38.6	42.6	-	-	-	-	58.4	54.7	57.1	-	-	-	-	43.9	44.3	49.8	-	-	-	-			
DKB Farms	Vinton 81	28	32.1	36.3	37.2	37.5	39.5	38.7	49.7	46.8	47.3	47.8	48.0	45.5	46.1	37.3	38.1	418	42.5	42.7	42.5	42.4			

Source	Variety	% Oil*								% Protein*							
		2 yr	3 yr	4 yr	5 yr	6 yr	7 yr	8 yr	2 yr	3 yr	4 yr	5 yr	6 yr	7 yr	8 yr		
Albert Lea Seed	Viking 0.1518N	20.3	-	-	-	-	-	-	413	-	-	-	-	-	-		
Albert Lea Seed	Viking 0.2518N	20.6	-	-	-	-	-	-	417	-	-	-	-	-	-		
Albert Lea	Viking 0.2188AT12N	19.8	19.9	20.0	-	-	-	-	41	40.6	413	-	-	-	-		
Blue River	20FC6	21	20.8	20.8	-	-	-	-	39	38.1	39.1	-	-	-	-		
Blue River	22DC6	19.7	19.7	19.8	19.8	-	-	-	40.3	39.7	40.5	40.8	-	-	-		
DF Seeds	DF 187 N	19.9	19.8	-	-	-	-	-	416	411	-	-	-	-	-		
DF Seeds	DF 155 F	20	19.9	20.0	20.0	19.9	19.9	19.9	43	42.3	43.0	43.2	43.5	43.6	43.7		
MSU	E07130-T	19.2	19.1	19.0	19.1	18.9	18.9	18.9	46.6	45.6	46.2	46.4	46.4	46.5	46.6		
MSU	E07158-T	19.2	19.1	19.1	19.1	18.9	18.9	18.9	47.6	46.8	47.4	47.4	47.4	47.5	47.6		
MSU	E10174	212	20.8	20.8	20.8	20.6	20.7	20.6	39.1	38.8	39.5	39.8	39.9	40.0	39.9		
MSU	E11128T	19.1	19.1	19.2	19.2	19.1	-	-	44.7	44.1	44.6	44.8	44.9	-	-		
MSU	E13036T	19.9	19.8	19.9	19.9	-	-	-	413	40.9	415	418	-	-	-		
MSU	E13268	20.8	20.7	20.7	-	-	-	-	39.7	39.2	39.8	-	-	-	-		
MSU	E14077	20.9	20.8	-	-	-	-	-	39.4	39.1	-	-	-	-	-		
MSU	E15079T	19.5	19.3	-	-	-	-	-	44.3	44.0	-	-	-	-	-		
MSU	E15165T	19.9	19.6	-	-	-	-	-	43.5	43.8	-	-	-	-	-		
MSU	E15346T	20.8	20.8	-	-	-	-	-	39.7	39.1	-	-	-	-	-		
Pioneer	21A20	20	-	-	-	-	-	-	42.7	-	-	-	-	-	-		
Pipeline Foods	SR20	20.3	-	-	-	-	-	-	43.4	-	-	-	-	-	-		
Pipeline Foods	SR354	19	18.8	19.0	-	-	-	-	44.7	44.0	44.7	-	-	-	-		
Pipeline Foods	SR129	20.2	19.8	19.8	-	-	-	-	43.7	43.3	43.7	-	-	-	-		
U of MN	M08-365100	217	216	-	-	-	-	-	40.4	39.5	-	-	-	-	-		
U of MN	M07-297007	20.6	20.6	20.4	-	-	-	-	42.7	416	42.6	-	-	-	-		
DKB Farms	Vinton 81	19.5	19.4	19.2	19.2	19.0	19.0	19.0	45.5	44.4	45.0	45.3	45.6	45.7	45.8		

*Average of Tuscola