2012 Michigan Organic Soybean Variety Trials

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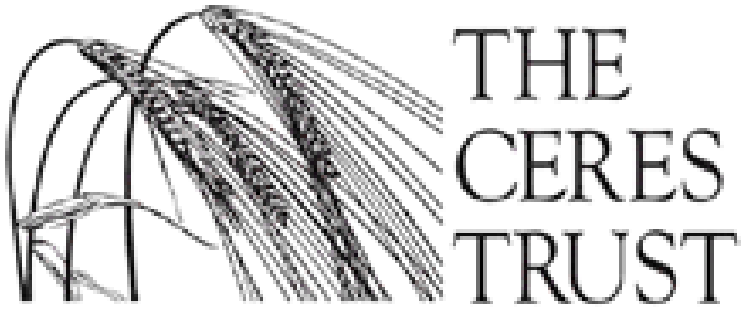
Organic Soybean Challenges

- Non GMO Variety Availability
- Seed Contamination
- Older Varieties
- Few Breeding Programs
- Selection Criteria
- Awareness & Communication

First Attempt

- 2010
- 4 sites of non GMO trials on organic fields
- Compared 40 varieties
- No funding
- Strong interest

Grant Funding Approved!!



TRIAL SITES

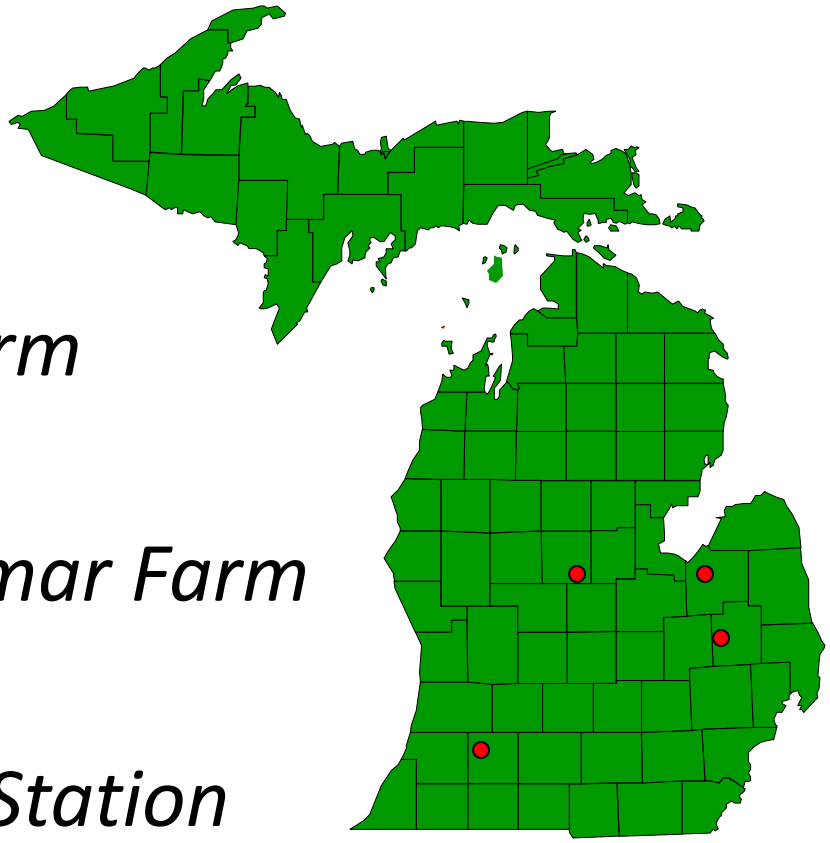
- Isabella County

  Tom Nelson Farm
- Lapeer County

  Don Brockriede Farm
- Tuscola County

  Mark & Steve Vollmar Farm
- Kalamazoo County

  Kellogg Biological Station



Seed Sources

Private

- **DKB Farm & Services**
- **D.F. Seeds Inc.**
- **Organic Bean & Grain**
- **SunOpta**
- **Schillinger Genetics, Inc.**
  Iowa
- **Albert Lea Seed**
  Minnesota
- **Blue Rive Hybrids**
  Iowa

University

- **University of Minnesota/ MN Crop Improvement**
  Roger Wippler
- **Iowa State University**
  Dr. Walter Fehr/Kevin Scholbroch
- **MSU**
  DeChen Wang

2012 Trials

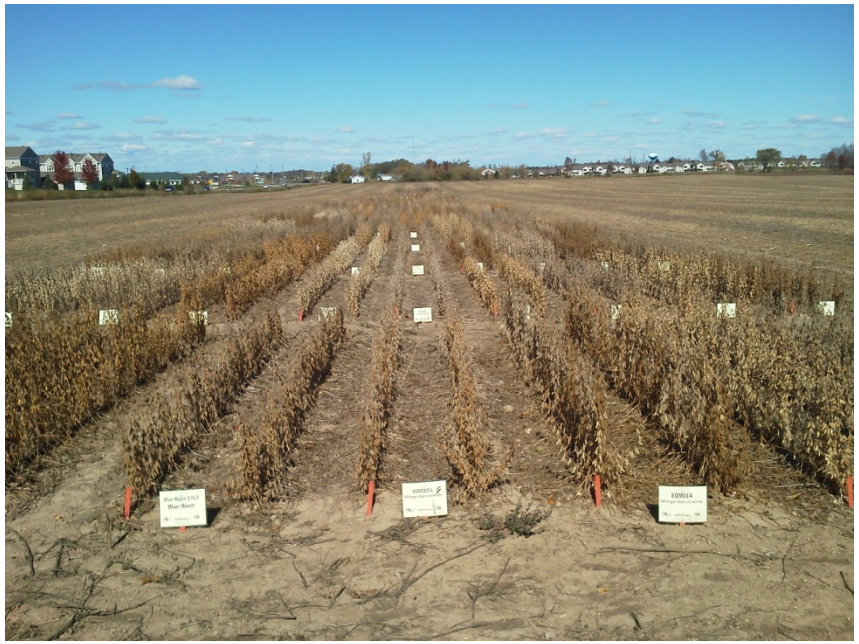
- 51 varieties
- 2 row plots
- 30“ rows
- 26’ long
- 4 replications
- 190 seeds/acre
- Trimmed to 20’

Field Days

OFM Field Day (August 28)
MSU Extension Organic Tour (Sept 6)
KBS Farm Tour (Sept 18)

75 Organic Farmers

Isabella & Tuscola Prior to Harvest



Harvest

- Plant Height
- Yield
- Protein
- Oil
- Seed Count

Results Shared

- Mid Michigan Crop Report
- MSU Variety Trial Website
- Organic Marketing Update Meeting
- Seed Suppliers

2012 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 Michigan in 2012. This research is funded by The CERES Trust and the North Central Region Sustainable Agriculture Research Education (NCR SARE).

Testing procedures

Four trial locations are reported in this publication. A total of 51 soybean varieties were entered by seven seed companies and three 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 190,000 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 2012.

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 reps 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 13 percent moisture basis.

Test site information

Isabella County

Nearest city:	Mt. Pleasant
Cooperator:	Tom Nelson
Soil type:	Guelph clay loam
Previous crop:	Double crop of peas followed by green beans
Tillage:	Spring moldboard, disked, soil finisher
Planting date:	05/15/2012
Harvest date:	10/12/2012

Kalamazoo County

Nearest city:	Hickory Corners
Cooperator:	W.K. Kellogg Biological Station
Soil type:	Kalamazoo sandy loam
Previous crop:	Mustard
Tillage:	Chisel plow, field cultivator
Planting date:	05/22/2012
Harvest date:	10/09/2012

Continued on next page.

Farmers, breeders and project team review soybean varieties during the Sept. 6, MSU Extension Summer Organic Tour.

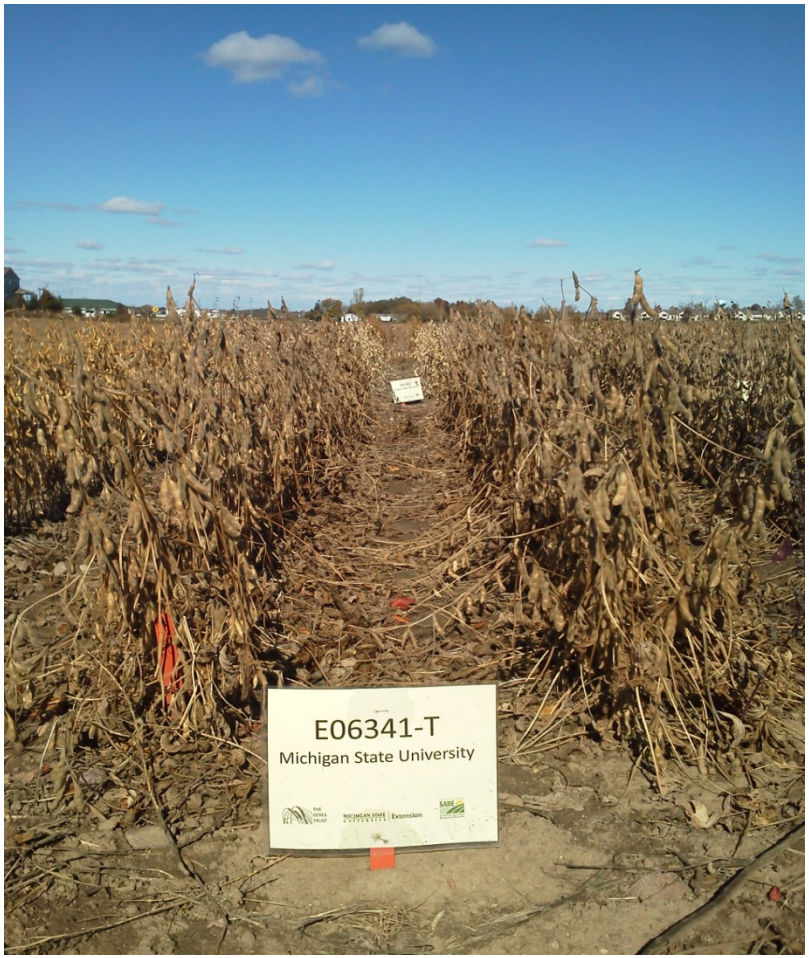
Outstanding Performance

			Yield – Bu/A								
Source	Variety	Maturity group	Tuscola	Isabella	Lapeer	KBS	Average Bu/A	Average Ht. In.[1]	Average Protein	Average Oil	Average Seeds/lb
Albert Lea (Viking)	1955 AT	1.9	58.5	35.2	54.5	16.3	41.1	34	36.4	18.6	2769
Albert Lea (Viking)	2022	2.0	60.4	40.7	56.8	29.5	46.9	35	36.2	18.3	2425
Albert Lea (Viking)	2054N	2.0	60.8	46.6	66.3	38.1	53.0	37	37.3	17.7	2141
Albert Lea (Viking)	IA 2053	2.0	56.1	41.6	53.8	35.1	46.7	41	39.5	16.9	2005
Albert Lea (Viking)	2265	2.2	64.8	51.8	62.0	34.7	53.3	40	36.5	18.1	2768
Blue River	Blue River 17C2	Mid 1	59.3	55.5	47.9	36.9	49.9	37	35.5	18.3	2996
Blue River	Blue River 2A12	Mid 2	62.2	40.2	53.9	32.6	47.2	39	37.1	17.8	2780
Blue River	Blue River 23C2	Mid 2	59.5	61.5	57.4	29.8	52.1	41	35.7	18.1	2462
DF Seeds	DF 155F	2.5	49.5	48.2	51.3	38.7	46.9	29	38.4	17.5	2183
DF Seeds	DF 242 N/S	2.4	67.1	57.5	63.2	54.0	60.5	37	36.8	17.8	2586
DF Seeds	DF 161N STS	1.6	67.6	49.8	63.0	33.8	53.6	37	36.2	18.0	3067
DKB Farms	VINTON 81	1.9	50.2	36.0	47.9	33.4	41.9	46	40.1	16.6	1890
Iowa State University	A 09-754003	–	62.0	52.3	55.3	27.8	49.4	32	38.3	17.7	2623
Iowa State University	IA 2102	–	71.2	61.2	62.6	29.6	56.2	37	36.2	18.1	2701
Iowa State University	IA 2103	–	56.5	41.0	51.0	34.2	45.7	36	38.9	16.9	1898
Iowa State University	IA 2104	–	66.5	39.9	59.3	25.2	47.7	37	39.4	17.0	2061
Iowa State University	IA 3051	–	71.0	48.1	62.3	33.3	53.7	41	39.7	16.4	2093
Organic Bean & Grain	DH 410	1.6	57.4	51.4	63.6	39.1	52.9	38	39.1	17.5	2551
Organic Bean & Grain	S 20-20	2.0	63.1	42.0	71.3	31.5	52.0	38	36.8	17.9	2378
Organic Bean & Grain	IA 2041	2.0	57.9	37.6	53.1	36.0	46.2	43	40.8	16.9	2170
Organic Bean & Grain	DH 530	1.5	55.7	38.5	61.2	25.0	45.1	38	35.4	18.7	2626
Organic Bean & Grain	TITAN	1.4	54.7	41.8	45.6	27.7	42.5	31	37.5	17.6	2514
Organic Bean & Grain	MK 1016 (Natto)	1.0	39.6	28.1	40.3	29.0	34.3	38	37.4	17.6	4469
Michigan State Univ.	E05181-T	2.0	59.6	60.1	64.2	33.6	54.4	35	37.6	17.8	2020
Michigan State Univ.	E06331-T	2.4	59.2	38.6	54.9	30.0	45.7	33	40.4	16.4	1923
Michigan State Univ.	E06341-T	–	60.1	39.4	53.7	31.6	46.2	40	40.1	16.8	2152
Michigan State Univ.	E07051	2.2	66.5	61.6	64.3	35.8	57.1	36	37.0	18.1	2284
Michigan State Univ.	E07130-T	–	53.4	36.8	55.8	38.6	46.2	45	40.8	16.6	1776
Michigan State Univ.	E07158-T	–	58.0	37.2	58.0	23.6	44.2	45	41.9	16.5	1790
Michigan State Univ.	E08210LL	2.3	63.3	41.9	52.8	36.5	48.6	36	36.9	17.3	2493
Michigan State Univ.	E08313-T	–	61.0	44.8	55.9	34.1	49.0	41	38.5	17.7	2177
Michigan State Univ.	E09014	–	58.1	60.2	54.5	45.4	54.6	45	36.9	17.7	2634
Michigan State Univ.	E09090	–	52.1	62.6	63.9	29.3	52.0	30	35.1	18.1	2622
Michigan State Univ.	E09222LL	2.4	57.9	51.5	56.5	27.2	48.3	31	37.3	17.2	2857
Michigan State Univ.	E10149	–	65.5	54.8	60.7	41.2	55.6	41	33.9	18.5	2736
Michigan State Univ.	E10169	–	61.6	40.3	58.4	29.9	47.6	41	34.8	19.0	2861
Michigan State Univ.	E10173	–	54.4	64.8	61.4	39.5	55.0	36	35.9	17.7	2277
Michigan State Univ.	E10174	–	66.2	66.2	63.3	44.7	60.1	43	34.7	18.2	2215
Michigan State Univ.	E10254LL	–	65.1	43.4	59.3	30.9	49.7	37	36.5	18.5	2781
Michigan State Univ.	E10265LL	–	64.8	43.1	61.7	39.2	52.2	40	36.8	18.0	2463
Schillinger Genetics	e2062	2.0	59.6	53.1	56.1	39.2	52.0	31	38.6	18.2	2384
Schillinger Genetics	e2162	–	62.5	53.6	50.6	36.6	50.8	36	38.1	17.5	2515
Schillinger Genetics	XP 2272	2.2	60.8	53.1	50.4	37.7	50.5	36	41.8	16.7	2750
Schillinger Genetics	XC 2282	2.2	68.8	58.3	63.1	39.5	57.4	37	37.9	17.7	2555
SunOpta	SR 67	–	54.0	46.0	48.1	35.8	46.0	45	40.3	16.8	1955
SunOpta	S20G7	–	60.4	44.1	64.2	28.8	49.4	39	38.3	17.3	2099
SunOpta	IA 3027	–	59.6	44.9	52.5	42.1	49.8	41	39.0	16.3	2126

Table continued on next page.

- Yields over 70 Bushels/A
- Tuscola site 59.5 Bu/A ave
- Lapeer site 56.6 Bu/A ave
- 7 varieties protein and yield higher than Vinton 81
- Several MSU varieties selected “of interest” by producers, seed companies & processors.

MSU Promising Lines



Thank You