2017 MICHIGAN SOYBEAN PERFORMANCE REPORT

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This report provides information on the performance of Conventional, Liberty Link, and Roundup Ready soybean varieties in Michigan in 2017. Data can be found on line at varietytrials.msu.edu/soybean.

The presentation of data for the entries tested does not suggest approval or endorsement of varieties by Michigan State University.

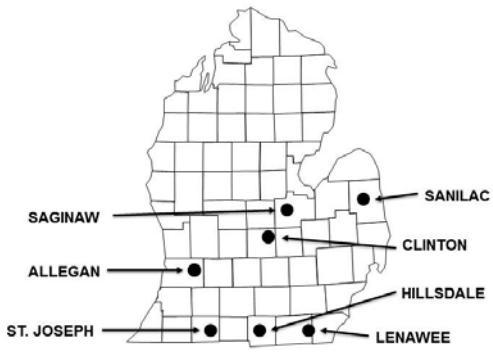
TESTING PROCEDURES

Eight trials are reported here. The Central locations for the Conventional, Roundup Ready and Liberty Link trials include test sites in Allegan, Clinton, Saginaw and Sanilac Counties. The Southern locations for the Conventional, Liberty Link and Roundup Ready trials include test sites in Clinton, Hillsdale, Lenawee, and St. Joseph (irrigated) Counties. The South Liberty Link trial at St. Joseph county was discarded due to a mechanical problem during harvest. The final report will also include protein and oil values for varieties.

Twenty-five seed companies entered a total of 225 commercial varieties. The cooperators, planting dates, harvest dates, and other site details for the locations are listed below.

Seed was planted in 6-row plots with 15-inch row spacing and a depth of 1.5-inches. The planting rate was 160,000 seeds/acre. At each location, varieties were replicated four times in a Randomized Complete Block Design (RCBD) design. The Clinton plots were trimmed to a length of 14 feet. All other locations were planted to 17 feet with 3 foot alleys that were not trimmed. Only the center four rows were harvested. Experimental design, data management, and data analysis were conducted with AGROBASE Generation II, (Agronomix Software, Inc., Winnipeg, Canada).

2017 TEST SITE COUNTY LOCATIONS



TEST SITE INFORMATION

Lenawee County
Nearest city: Britton
Cooperator: David & Jason Woods
Planting date: 6-2-17
Harvest date: Roundup 10-17-17
Conventional & Liberty Link 10-18-17
Previous crop: Corn
Soil type: Brookston Clay Loam
Fertilizer: 200# /A 0-0-60
Herbicides: Conventional & Liberty Link Trials – Preemerge 12 oz. Authority MTZ, 1.5 pt/Medal II
Conventional & Liberty Link Trials- 1 qt Basagran, 5 oz Raptor
Roundup Ready Trials – 32 oz./A Roundup Powermax

Hillsdale County
Nearest city: Reading
Cooperator: Robert Lennard
Planting date: 6-3-17
Harvest date: Roundup 10-19-17
Conventional & Liberty Link 10-20-17
Previous crop: Corn
Soil type: Medium Loam
Fertilizer: None
Herbicides: Conventional & Liberty Link Trials – Preemerge 12 oz. Authority MTZ, 1.5 pt/Medal II
Conventional & Liberty Link Trials- 1 qt Basagran, 5 oz Raptor
Roundup Ready Trials – 32 oz./A Roundup Powermax
All Trials- 5 oz Assure

St. Joseph County - Irrigated
Nearest city: Mendon
Cooperator: Roger and Anne Gentz and Family
Planting date: 5-16-17
Harvest date: Roundup 10-31-17
Conventional & Liberty Link 11-7-17
Previous crop: Seed Corn
Soil type: Elston Sandy Loam
Fertilizer: 200# /A 0-0-60
Herbicides: Conventional and Liberty Link Trials – Preemerge 12 oz. Authority MTZ, 1.5 pt/Medal II
Conventional & Liberty Link Trials- 1 qt Basagran, 5 oz Raptor
Roundup Ready Trials – 32 oz./A Roundup Powermax

Clinton County
Nearest city:
Cooperator: Tom Galecka
Planting date: 5-12-17
Harvest date: Roundup 10-3-17
Conventional & Liberty Link 10-4-17
Previous crop: Corn

Soil type: Corunna Sandy Loam
Fertilizer: none
Herbicides: All trials-Preemerge 12 oz. Authority MTZ, 1.5 pt/Medal II
Conventional & Liberty Link Trials- 1 qt Basagran, 5 oz Raptor
Roundup Ready Trials – 32 oz./A Roundup Powermax
All Trials- 5 oz Assure

Allegan County
Nearest city: Hamilton
Cooperator: Harvey Jipping
Planting date: 5-27-17
Harvest date: 11-30-17
Previous crop: Corn
Soil type: Clay Loam
Fertilizer: 200# /A 0-0-60
Herbicides: Conventional & Liberty Link Trials – Preemerge 12 oz. Authority MTZ, 1.5 pt/Medal II
Conventional & Liberty Link Trials- 1 qt Basagran, 5 oz Raptor
Roundup Ready Trials – 32 oz./A Roundup Powermax

Saginaw County
Nearest city: Saginaw
Cooperator: Tom Hoff
Planting date: 5-17-17
Harvest date: Roundup 10-6-17
Conventional & Liberty Link 10-9-17
Previous crop: Corn
Soil type: Clay Loam
Fertilizer: None
Herbicides: Conventional & Liberty Link Trials – Preemerge 12 oz. Authority MTZ, 1.5 pt/Medal II
Conventional & Liberty Link Trials- 1 qt Basagran, 5 oz Raptor
Roundup Ready Trials – 32 oz./A Roundup Powermax

Sanilac County
Nearest city: Sandusky
Cooperator: Gerstenberger Farms, Inc.
Planting date: 5-31-17
Harvest date: Roundup 10-21-17
Conventional & Liberty Link 10-22-17
Previous crop: Corn
Soil type: Parkhill Clay Loam
Fertilizer: none
Herbicides: Conventional and Liberty Link Trials – Preemerge 1.5#/A Lorox 50% D.F. 1.5 pt/Medal II
Conventional & Liberty Link Trials- 1 qt Basagran
Roundup Ready Trials – 32 oz./A Roundup Powermax

LIBERTY LINK TRIAL

The Central Liberty Link soybean varieties were tested in Allegan, Clinton, Saginaw and Sanilac Counties.
The South Liberty Link soybean varieties were tested in Hillsdale, Lenawee, Clinton and St. Joseph Counties.
Both trials were treated with conventional herbicides as noted in test site information.

GROWING CONDITIONS / COMMENTS

Most of Michigan was had adequate rain during the early growing season and became dry during the last part of the growing season. MSU campus received 10.3" of rain May-Septermber, and 9.0" in October. Dry conditions effected yield, particularly in the center of the state. Most testing locations had very little lodging this year.

USING THE DATA

Results are presented in Tables 1 through 8.

Yield: Yield is expressed as bushels per acre at 13% moisture and is reported as single and across site means for 2017. Two and three year means are also presented when applicable.

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 4 reps at all sites.

Lodging: Lodging scores reflect the erectness of the plants before harvest. The reported values are means of 4 reps at all sites. Ratings are based on the following scale:
1= Almost all plants are erect.
2= All plants leaning slightly, or fewer than 25% of the plants are down.
3= All plants leaning moderately (45%), or 25% to 50% of the plants are down.
4= All plants leaning considerably, or 50% to 80% of the plants are down.
5= Almost all plants are down.

Phytophthora Resistance: Information on the presence of phytophthora resistance genes was provided by the organizations entering varieties. Varieties denoted with:

- 1a are resistant to phytophthora Races 1, 2, 10, 11, 13-20, 24, 26 & 27.
- 1b are resistant to Races 1, 3-9, 13, 15, 18, 21, & 22.
- 1c are resistant to Races 1-3, 6-11, 13-15, 17, 21, 23, 24 & 26.
- 1k are resistant to Races 1-11, 13-15, 17, 18, 20-24 & 26.
- 3 are resistant to Races 1-5, 8 and 9.
- 6 are resistant to Races 1-4, 10, 12, 14-16, 18-21 & 25.
- 7 are resistant to Races 12, 16, 18 & 19.

Soybean Cyst Nematode Resistance (SCN): Seed Companies that screen varieties for SCN resistance have indicated if the variety has known susceptibility or resistance

- R – Resistant
- MR – Moderately Resistant
- S – Susceptible
- MS – Moderately Susceptible

These notations followed by a number indicate the identified cyst nematode race.

SELECTING A VARIETY

LSD (least significant difference, found at the bottom of each data column) 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% 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. (coefficient of variation, found at the bottom of each data column) 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.

The degree of lodging varies among varieties. Lodging ratings should be used to evaluate potential harvest losses. Growers who have experienced lodging in the past and have had harvest problems may want to select a more lodging-resistant variety. Alternatively, a variety susceptible to lodging may be planted at a slightly lower population to increase standability.

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.

SEED TREATMENT

Treated soybean seed submitted for Michigan State University's Soybean Performance Trials are noted by abbreviation in the 'TMT' column. Questions concerning treatments should be directed to the seed company. Contact information can be found in the 'Directory of Companies'.

Code	Treatment
ACL	Acceleron
Agr F/I	Agrishield Fungicide/Insecticide
ALL	Allegiance
AM	Apron Maxx (Maxim)
AM-C	Apron Maxx & Cruiser
Clar	Clariva
CM	Cruiser Maxx
Ecl-US-Q	EclipseUS quad IM
EG	EverGolEnergy
ENC	Encase
ESC	Escalate
G	Gaucho
I	ILeVO (BayerCropScience)
N	NForce
N-H	Inhibit
O	Optimize
P	Poncho
PA	PA2030
SmartCote S	SmartCote Supreme
SS	SureStand
Vib	Vibrance
V	Votivo