

# 2018 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 2018.

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

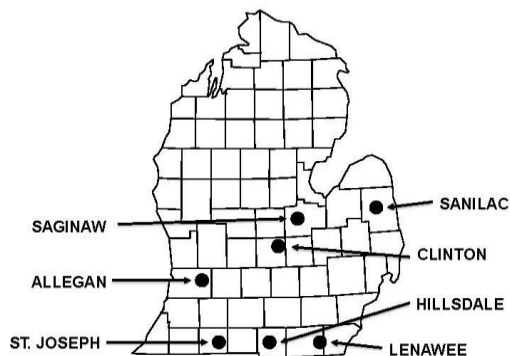
## TESTING PROCEDURES

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.

Twenty-five seed companies entered a total of 192 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, 20 feet long with 15-inch row spacing, at 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). All 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).

2018 TEST SITE COUNTY LOCATIONS



## TEST SITE INFORMATION

### Lenawee County

Nearest city: Britton  
Cooperator: David & Jason Woods  
Planting date: 5-29-18  
Harvest date: 10-26-18  
Previous crop: Seed Corn  
Soil type: Brookston Clay Loam  
Fertilizer: 250# /A 0-0-60  
Herbicides:  
Preemerge 12 oz. Authority MTZ, 1.5 pt/A Medal II-  
Over the entire field  
Conventional & Liberty Link Trials- 1 qt Basagran, 5 oz/A Raptor  
Roundup Ready Trials – 32 oz./A Roundup Powermax

### Hillsdale County

Nearest city: Reading  
Cooperator: Robert Lennard  
Planting date: 5-28-18  
Harvest date: 10-22-18  
Previous crop: Corn  
Soil type: Silty Loam  
Fertilizer: 250# /A 11-52-90  
Herbicides: Conventional & Liberty Link Trials –  
Preemerge 12 oz. Authority MTZ, 1.5 pt/A Medal II  
Conventional & Liberty Link Trials- 1 qt Basagran, 5 oz/A Raptor  
Roundup Ready Trials – 32 oz/A Roundup Powermax

### St. Joseph County - Irrigated

Nearest city: Leonidas  
Cooperator: Roger and Anne Gentz and Family  
Planting date: 5-25-18  
Harvest date: 10-30-18  
Previous crop: Seed Corn  
Soil type: Oshtemo  
Fertilizer: 200+ #/A 0-0-60 Variable Rate Spread  
Herbicides: Conventional and Liberty Link Trials –  
Preemerge 12 oz. Authority MTZ, 1.5 pt/A Medal II  
Conventional & Liberty Link Trials- 1 qt Basagran, 5 oz/A Raptor  
Roundup Ready Trials – 32 oz/A Roundup Powermax

### Clinton County

Nearest city: Ovid  
Cooperator: Tom Galecka  
Planting date: 5-9-18  
Harvest date: 10-16-18  
Previous crop: Corn  
Soil type: Corunna Sandy Loam  
Fertilizer: none  
Herbicides: Preemerge 12 oz. Authority MTZ, 1.5 pt/A Medal II  
Conventional & Liberty Link Trials- 1 qt Basagran, 5 oz/A Raptor  
Roundup Ready Trials – 32 oz/A Roundup Powermax  
5 oz/A Assure over entire field

### **Allegan County**

Nearest city: Hamilton

Cooperator: Harvey Jipping

Planting date: We were unable to plant this location, due to the excessive rainfall.

### **Saginaw County**

Nearest city: Saginaw

Cooperator: Tom Hoff

Planting date: 5-21-18

Harvest date: 10-18-18

Previous crop: Corn

Soil type: Clay Loam

Fertilizer: 200#/A Potash

Herbicides: Preemerge 12 oz. Authority MTZ, 1.5 pt/A

Medal II- over the entire field

Conventional & Liberty Link Trials- 1 qt Basagran, 5 oz/A Raptor

Roundup Ready Trials – 32 oz/A Roundup Powermax

5 oz/A Assure over entire field

### **Sanilac County**

Nearest city: Sandusky

Cooperator: Gerstenberger Farms, Inc.

Planting date: 5-17-18

Harvest date: 10-24-18

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/A Medal II

Conventional & Liberty Link Trials- 1 qt/A Basagran

Roundup Ready Trials – 32 oz/A Roundup Powermax

## **LIBERTY LINK TRIAL**

**The Central Liberty Link** soybean varieties were tested in 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**

Early rains caused delayed planting in some areas, especially on the west side of the state. Most of Michigan was dry during the early growing season and white mold as well as most diseases were not a factor. Excessive rain in the fall caused delayed harvest in many areas.

## **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 2018. 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
• Ag Armour	Ag Armour Elite
• Agr F/I	Agrishield Fungicide/Insecticide
• AM-C	Apron Maxx & Cruiser
• Clar	Clariva Complete Beans
• CM	Cruiser Maxx
• DFender	DFender
• Ecl	EclipseUS quad IM
• EG	EverGolEnergy
• ENC	Encase
• Eq	Equity
• I	ILeVO (BayerCropScience)
• Intego F/I	Intego Suite™ Fungicide + Insecticide
• L-Coat Total	L-Coat Total
• Lum	Dupont Lumisena™
• N	NForce
• N-H	Inhibit
• O	Optimize
• P	Poncho
• Sec	Security
• SmartCote S	SmartCote Supreme
• SS	SureStand
• V	Votivo
• Vib	Vibrance