



**THE OHIO STATE  
UNIVERSITY**

COLLEGE OF FOOD, AGRICULTURAL,  
AND ENVIRONMENTAL SCIENCES

# THE 2019 OHIO SOYBEAN PERFORMANCE TRIALS

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## INTRODUCTION

The purpose of the Ohio Soybean Performance Trials is to evaluate soybean varieties for yield and other agronomic characteristics. This evaluation gives soybean producers comparative information for selecting the best varieties for their unique production systems.

## FIELD PLOT DESIGN

The entries for each test site were planted in a randomized complete block design. Each entry was replicated four times and planted in plots 28 ft long and 5 ft wide containing four rows seeded at 15-inch row width. Seeding rate was 150,000 seeds per acre. At all locations, corn was the previous crop and no-till. Farmer cooperators sprayed preemergence herbicides (varied by location). Postemergence herbicides included: N1 and C1 = Select Max and Basagran; C2 = Select Max, Basagran, First Rate, Flexstar, Raptor; S1 = Alliance, Select Max, Basagran, First Rate, Flexstar; S2 = Alliance, Select Max, Basagran, Flexstar.

## METHOD OF CONDUCTING TRIALS

**Entries in Trials.** Performance of entries in The Ohio Soybean Performance Trials are published if seed will be available to Ohio soybean producers for the following planting season. All 2019 entries were submitted voluntarily by seed companies. Entry fee charges were paid per entry and region.

**Test by Maturity and Type.** Varieties were grouped, tested and analyzed by maturity (early and late). Conventional, Liberty Link, Roundup Ready, Xtend, Enlist, and Liberty/GT27 varieties were tested in the same block to allow for head-to-head comparisons. All herbicide traits are statistically comparable within a location and maturity grouping (early or late). Conventional herbicides were sprayed on all entries. Use the table below to find varieties by region, maturity, and type.

2019 Tables by Type, Region, Maturity Grouping			
Conventional, Liberty Link, Roundup Ready, Xtend, Enlist, Liberty/GT27	North	Early	Table 3
		Late	Table 4
Conventional, Liberty Link, Roundup Ready, Xtend, Enlist, Liberty/GT27	Central	Early	Table 5
		Late	Table 6
Conventional, Liberty Link, Roundup Ready, Xtend, Enlist, Liberty/GT27	South	Early (2.7-3.6)	Table 7
		Late (3.7-4.4)	Table 8

## MEASUREMENTS AND RECORDS

**Relative Maturity.** Relative maturity (RM) is a rating designed to account for all of the factors that affect maturity date and includes variety, planting date, weather, latitude, and disease. Maturity is defined as the “95% brown pods” stage. A variety with a RM rating of 3.5 should reach the 95% brown pod stage 5 days later than a variety with a rating of 3.0. RM was submitted by seed companies.

**Lodging Score.** There was no lodging in 2019.

**Seed Size** is reported as number of seeds per pound.

**Yield.** Each soybean variety was harvested when the moisture content was between 8 and 14 percent and yields reported in bushels per acre at 13 percent moisture.

**Protein, Oil %.** Analysis was determined by near infrared transmittance technology. The test was performed using a Foss NIR whole grain analyzer and is reported at 13 percent moisture.

**LSD.** A Least Significant Difference (LSD) for yield was computed for each location and maturity grouping. LSDs are reported in bushels per acre at 13 percent moisture. Yields of two varieties within a location and maturity grouping are significantly different 90% of the time if their yields differ by more than the LSD value shown for that maturity group. A double asterisk (\*\*) is used to denote the variety with the highest yield within a region and maturity grouping. A single asterisk (\*) is used to denote varieties with yield not statistically different than the highest yielding variety.

**DATA USE.** Inclusion of entries in the Ohio Soybean Performance Trials does not constitute an endorsement of a particular entry by the Ohio State University, Ohio Agricultural Research and Development Center, or Ohio State University Extension.

**Table 1: The 2019 Ohio Soybean Performance Trials, Site Descriptions**

	N1	N2	C1	C2	S1	S2
	Henry Co.	Sandusky Co.	Mercer Co.	Morrow Co.	Preble Co.	Clinton Co.
Soil texture	Clay		Clay loam	Silty clay loam	Silty clay	Silt loam
Soil pH	6.2	This location	6.8	6.3	6.5	6.4
Soil Test P-Mehlich (ppm)	60	was not planted	68	21	65	113
Soil Test K (ppm)	177	due to weather	137	97	150	172
Plant date	June 12	conditions.	June 8	June 4	May 16	May 16
Harvest date					Oct. 5	Oct. 10

**TABLE 7: The 2019 Ohio Soybean Performance Trials, South Region - Early Varieties (RM 2.7-3.6)**

Entry			Physical Characteristics			South Region Yield (bu/ac)			
Variety	Brand/Company Name	Type	RM	% Protein	% Oil	S1	S2	'19 Mean	'18-'19 Mean
GH3546X	Golden Harvest	Xtend	3.5			60.9	61.7**	61.3	68.5
CZ 3519GTLL	Credenz	Liberty	3.5			65.3*	56.8*	61.1	
SG3628R2X	Shur Grow	Xtend	3.6			65.8*	55.8	60.8	64.5
ZS3399 E3	Local Seed Company	Enlist	3.3			59.9	59.4*	59.7	
ZS3496 GL	Local Seed Company	Liberty/GT27	3.4			64.9*	53.3*	59.1	
G3620RX	AgriGold	Xtend	3.6			63.9*	53.9*	58.9	
CZ 3100GTLL	Credenz	Liberty	3.1			61.1	56.4*	58.8	
Ebberts 368R2X	Ebberts Field Seeds	Xtend	3.6			66.4*	51.0	58.7	66.1
CZ 3309GTLL	Credenz	Liberty	3.3			59.4	57.4*	58.4	
AG36X6	Asgrow	Xtend	3.6			66.3*	50.4	58.4	63.9
3450R2X	Stewart Seeds	Xtend	3.4			67.6*	48.9	58.3	
W 5033X	Wellman Seeds	Xtend	3.3			64.4*	51.5	58.0	
SC 9339R™	Seed Consultants	RR1	3.3			60.8	55.0*	57.9	62.9
Ebberts 1934 E3	Ebberts Field Seeds	Enlist	3.4			60.9	54.6*	57.8	
CZ 3099GTLL	Credenz	Liberty	3.0			58.6	56.5*	57.6	
LGS3600RX	LG Seeds	Xtend	3.6			68.0**	47.0	57.5	
W 5932X	Wellman Seeds	Xtend	3.2			68.0**	46.9	57.5	
W 5928X	Wellman Seeds	Xtend	2.8			60.4	54.2*	57.3	
SC 9359RR™	Seed Consultants	RR2Y	3.5			57.9	56.3*	57.1	
W 5836X	Wellman Seeds	Xtend	3.6			64.9*	48.7	56.8	63.2
AG34X9	Asgrow	Xtend	3.4			65.5*	47.9	56.7	
S34XT69	Dyna-Gro Seed	Xtend	3.4			63.7*	49.2	56.5	63.7
AG30X8	Asgrow	Xtend	3.0			58.8	52.4*	55.6	
CZ 2760GTLL	Credenz	Liberty	2.7			61.9	48.3	55.1	
LGS3060RX	LG Seeds	Xtend	3.0			62.3	47.7	55.0	
W 6034E	Wellman Seeds	Enlist	3.4			56.7	52.9*	54.8	
AG32X8	Asgrow	Xtend	3.2			64.0*	45.4	54.7	60.9
G3285RX	AgriGold	Xtend	3.2			60.5	48.5	54.5	
Key 1031GL	AGRA Solutions	Liberty/GT27	3.1			58	49.9	54.0	
Ebberts 340R2X	Ebberts Field Seeds	Xtend	3.4			62.6	44.7	53.7	
W 6032E	Wellman Seeds	Enlist	3.2			58.6	48.3	53.5	
S36GL10	Dyna-Gro Seed	Liberty/GT27	3.6			51.7	54.8*	53.3	
3527R2X	Stewart Seeds	Xtend	3.5			65.9*	40.2	53.1	
C2888RX	LG Seeds	Xtend	2.8			63.2*	42.3	52.8	
C3333RX	LG Seeds	Xtend	3.3			65.3*	40.0	52.7	
SG3640LLGT	Shur Grow	Liberty/GT27	3.6			54	50.0	52.0	
G3520RX	AgriGold	Xtend	3.5			63.4*	40.4	51.9	64.1
W 6030E	Wellman Seeds	Enlist	3.0			56.9	45.7	51.3	
CZ 2889GTLL	Credenz	Liberty	2.8			54.5	48.0	51.3	
W 6928E	Wellman Seeds	Enlist	2.8			53.1	48.2	50.7	
CZ 3660GTLL	Credenz	Liberty	3.6			56.8	43.7	50.3	
Key 1036GL	AGRA Solutions	Liberty/GT27	3.6			54.4	45.7	50.1	
AG33X8	Asgrow	Xtend	3.3			56.7	39.7	48.2	57.2
		<b>Min</b>	2.7			38.1	24.9	31.5	
		<b>Max</b>	3.6			68.0	61.7	61.3	
		<b>Mean</b>	3.3			60.4	49.0	54.7	
		<b>LSD (0.1)</b>				4.84	9.68		
		<b>CV</b>				6.85	14.42		

Note: Min, max, mean, LSD, and CV values include experimental cultivars that were not printed in this publication.

**TABLE 8: The 2019 Ohio Soybean Performance Trials, South Region - Late Varieties (RM 3.7-4.4)**

Variety	Entry Brand/Company Name	Type	Physical Characteristics			South Region Yield (bu/ac)				
			RM	Seeds/lb.	% Protein	% Oil	S1	S2	'19 Mean	'18-'19 Mean
LSX4487XS	Local Seed Company	Xtend	4.4				74.1*	68.0*	71.1	
CZ 3930GTLL	Credez	Liberty/GT27	3.9				70.2	69.8*	70.0	
S37XS89	Dyna-Gro Seed	Xtend	3.7				75.1*	64.7*	69.9	69.8
SC 3399L™	Seed Consultants	Liberty	3.9				68.3	71.2**	69.8	
AG41X8	Asgrow	Xtend	4.1				72.4*	67.0*	69.7	67.1
LS3976X	Local Seed Company	Xtend	3.9				71.4	67.8*	69.6	
Ebberts 1939 E3	Ebberts Field Seeds	Enlist	3.9				67.7	68.8*	68.3	
S37EN39	Dyna-Gro Seed	Enlist	3.7				66.3	70.0*	68.2	
S41XS98	Dyna-Gro Seed	Xtend	4.1				71.1	64.5*	67.8	66.2
AG42X9	Asgrow	Xtend	4.2				70.0	65.5*	67.8	
4029R2X	Stewart Seeds	Xtend	4.0				71.8*	63.2*	67.5	68.3
GH3728X	Golden Harvest	Xtend	3.7				76.2**	57.3	66.8	
GH3934X	Golden Harvest	Xtend	3.9				68.3	64.7*	66.5	
SC 8399X™	Seed Consultants	Xtend	3.9				71.0	61.9*	66.5	
S39EN19	Dyna-Gro Seed	Enlist	3.9				69.2	63.5*	66.4	
SC 8379X™	Seed Consultants	Xtend	3.7				72.8*	59.6	66.2	68.7
W 6939E	Wellman Seeds	Enlist	3.9				69.7	62.2*	66.0	
ZS3898 E3S	Local Seed Company	Enlist	3.8				67.9	63.5*	65.7	
CZ 3929GTLL	Credez	Liberty/GT27	3.9				66.2	63.8*	65.0	
S13-2743C	University of Missouri	Conventional	4.1				64.3	64.3*	64.3	
ZS3797 GL	Local Seed Company	Liberty/GT27	3.7				66.5	61.7*	64.1	
C3985RX	LG Seeds	Xtend	3.9				70.5	57.6	64.1	67.6
S40GL59	Dyna-Gro Seed	Liberty/GT27	4.0				64.4	63.2*	63.8	
Ebberts 388R2X	Ebberts Field Seeds	Xtend	3.8				74.6*	53.0	63.8	65.0
Ebberts 2037 E3	Ebberts Field Seeds	Enlist	3.7				66.1	60.2	63.2	
G3722RX	AgriGold	Xtend	3.7				71.3	54.3	62.8	66.8
W 6037E	Wellman Seeds	Enlist	3.7				62.2	62.6*	62.4	
LS4299XS	Local Seed Company	Xtend/STS	4.2				70.3	54.2	62.3	
SC 9385RR™	Seed Consultants	RR2Y	3.8				64.5	60.0	62.3	61.5
AG37X9	Asgrow	Xtend	3.7				70.8	52.8	61.8	
LGS3777RX	LG Seeds	Xtend	3.7				71.3	52.1	61.7	67.6
G4255RX	AgriGold	Xtend	4.2				69.8	53.4	61.6	
AG38X8	Asgrow	Xtend	3.8				68.6	53.4	61.0	63.3
G3850RX	AgriGold	Xtend	3.8				67.4	53.5	60.5	
3830R2X	Stewart Seeds	Xtend	3.8				71.6	46.5	59.1	
S13-3851C	University of Missouri	Conventional	4.4				54.1	59.0	56.6	54.4
S13-10590C	University of Missouri	Conventional	4.3				58.1	54.7	56.4	
S42EN89	Dyna-Gro Seed	Enlist	4.2				53.4	56.9	55.2	
SG3750E	Shur Grow	Enlist	3.7				57.3	53.0	55.2	
		<b>Min</b>	3.7				49.8	37.9	51.5	
		<b>Max</b>	4.4				76.2	71.2	71.1	
		<b>Mean</b>	3.9				66.4	58.7	62.6	
		<b>LSD (0.1)</b>					4.36	10.00		
		<b>CV</b>					5.6	12.51		

Note: Min, max, mean, LSD, and CV values include experimental cultivars that were not printed in this publication.