THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

THE 2018 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. Corn was the previous crop. All sites were no-till except the N1 location, which was conventionally tilled. Farmer cooperators sprayed preemergence herbicides (varied by location). Postemergence herbicides included: N1, N2, and S2 = Select Max, Alliance, Basagran, First Rate, and Flexstar. C2 = Select Max, Alliance, Basagran, and Flexstar. C1 and S1 = Select Max, Alliance, Basagran, First Rate, Flexstar, and Raptor.

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 2018 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, and Xtend varieties were tested in the same block to allow for head-to-head comparisons. Conventional, Liberty Link, Roundup Ready, and Xtend entries 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.

2018 Tables by Type, Region, Maturity Grouping			
Conventional, Liberty Link, Roundup Ready, Xtend	North	Early (2.1-3.0)	Table 3
		Late (3.1-3.9)	Table 4
Conventional, Liberty Link, Roundup Ready, Xtend	Central	Early (2.5-3.3)	Table 5
		Late (3.4-4.1)	Table 6
Conventional, Liberty Link, Roundup Ready, Xtend	South	Early (2.5-3.6)	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. Lodging was rated at the S1 and S2 locations at harvest using the scale: 1 = nearly all plants erect, 2 = most plants leaning slightly, 3 = most plants leaning moderately (45° angle), 4 = most plants horizontal, 5 = 80% or more of the plants down on the soil surface. There was no lodging at the other locations.

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 2018 Ohio Soybean Performance Trials, Site Descriptions

	N1 Henry Co.	N2 Sandusky Co.	C1 Mercer Co.	C2 Marion Co.	S1 Preble Co.	S2 Clinton Co.
Soil texture	Clay	Sandy loam	Clay	Clay	Clay loam	Silt loam
Soil pH	6.5	6.8	7.2	6.3	6.3	6.7
Soil Test P-Mehlich (ppm)	21	23	88	31	158	51
Soil Test K (ppm)	191	79	192	175	169	134
Plant date	May 29	June 4	May 24	May 17	May 14	May 11
Harvest date	Oct. 18 (early trial) Oct. 19 (late trial)	Oct. 23	Oct. 21	Oct. 12	Oct. 3	Oct. 1

TABLE 3: The 2018 Ohio Soybean Performance Trials, *North Region - Early Varieties (RM 2.1-3.0)*

Entry			Physical Characteristics				North Region Yield (bu/acre)			
Variety	Brand/Company Name	Type	RM	Seeds/lb.	% Protein	% Oil	N1	N2	'18 Mean	'17-'18 Mean
28X9	Seed Consultants, Inc.	Xtend	2.8				68.1*	66.2**	67.2	
RS 28XT37	Rupp Seeds, Inc.	Xtend	2.8				69.2*	65.0*	67.1	
SC 8279X™	Seed Consultants, Inc.	Xtend	2.7				69.9*	63.8*	66.9	
7287X	NuTech Seed, LLC	Xtend	2.8				68.9*	62.3*	65.6	
GH3088X	Golden Harvest	Xtend	3.0				66.7*	63.3*	65.0	
HS 28X70	Growmark, Inc.	Xtend	2.8				70.0**	59.3	64.7	53.7
7279	NuTech Seed, LLC	RR1	2.7				67.0*	62.0*	64.5	53.3
3252L	NuTech Seed, LLC	LL	2.5				64.2	64.7*	64.5	56.2
SG-2629R2X	Shur Grow	Xtend	2.6				64.4	64.1*	64.3	
G2900RX	AgriGold Hybrids	Xtend	2.9				65.8*	62.4*	64.1	57.1
DB2616R	Seed Consultants, Inc.	RR1	2.6				66.0*	61.9*	64.0	
C2888RX	LG Seeds	Xtend	2.8				68.2*	59.2	63.7	53.6
30R8	Seed Consultants, Inc.	RR1	3.0				63.7	63.1*	63.4	
SG-2929R2X	Shur Grow	Xtend	2.9				65.4	61.3	63.4	
SG-2728R2X	Shur Grow	Xtend	2.7				66.2*	60.4	63.3	56.1
W 5828X	Wellman Seeds, Inc.	Xtend	2.8				67.1*	59.4	63.3	58.2
SG2832XT	Seedway LLC	Xtend	2.8				68.6*	56.9	62.8	
CZ 2312 LL	Credenz/BASF	LL	2.3				63.7	61.2	62.5	
CZ 2810 LL	Credenz/BASF	LL	2.8				61.5	63.2*	62.4	56.1
S30-M9X	NK Seeds/Syngenta	Xtend	3.0				64.2	60.3	62.3	
CZ 2408 LL	Credenz/BASF	LL	2.4				60.4	63.8*	62.1	
AG26X8	Asgrow/Bayer Crop Science	Xtend	2.6				64.9	59.2	62.1	50.7
W 295	Wellman Seeds, Inc.	CV	2.9				65.1	58.6	61.9	57.5
GH2981X	Golden Harvest	Xtend	2.9				65.7*	57.8	61.8	57.2
HS 28L70	Growmark, Inc.	LL	2.8				60.9	62.5*	61.7	
2949R2X	Stewart Seeds	Xtend	2.9				65.8*	57.6	61.7	
29LL01	Advanced Genetics, Inc.	LL	2.9				61.8	61.4	61.6	
AG30X8	Asgrow/Bayer Crop Science	Xtend	3.0				69.2*	53.5	61.4	57.0
S30XT96	Dyna-Gro Seed	Xtend	3.0				65.7*	56.6	61.2	57.2
27M05	Advanced Genetics, Inc.	RR1	2.7				62.9	59.2	61.1	57.9
S28XT58	Dyna-Gro Seed	Xtend	2.8				66.7*	55.3	61.0	54.3
AG21X7	Asgrow/Bayer Crop Science	Xtend	2.1				64.6	57.2	60.9	
S2908N	Dyna-Gro Seed	CV	2.9				64.8	56.8	60.8	53.7
S29-K3X	NK Seeds/Syngenta	Xtend	2.9				64.5	56.7	60.6	59.6
W 5926X	Wellman Seeds, Inc.	Xtend	2.6				63.4	57.8	60.6	
SG-3026R2X	Shur Grow	Xtend	3.0				65.4	55.4	60.4	56.7
W 265	Wellman Seeds, Inc.	CV	2.6				62.1	58.2	60.2	
AG27X7	Asgrow/Bayer Crop Science	Xtend	2.7				63.0	57.2	60.1	56.1
CZ 2928 LL	Credenz/BASF	LL	2.9				62.6	57.4	60.0	
LGS2759RX	LG Seeds	Xtend	2.7				65.7*	54.2	60.0	
Streeter	Ohio Foundation Seeds, Inc.	CV	3.0				64.1	55.8	60.0	51.2
CZ 2601 LL	Credenz/BASF	LL	2.6				59.9	59.9	59.9	53.9
S27-M8X	NK Seeds/Syngenta	Xtend	2.7				65.2	54.5	59.9	47.1
3029R2X	Stewart Seeds	Xtend	3.0				61.5	58.1	59.8	
DSR-3028/R2Y	Dairyland Seed	RR2Y	3.0				64.6	54.7	59.7	53.7
Summit	Ohio Foundation Seeds, Inc.	CV	2.6				64.4	54.8	59.6	55.0
HS 25X70	Growmark, Inc.	Xtend	2.5				60.4	58.3	59.4	57.9
30M08	Advanced Genetics, Inc.	RR1	3.0				64.3	54.1	59.2	54.6
G3098RX	AgriGold Hybrids	Xtend	3.0				63.5	54.1	58.8	
7253	NuTech Seed, LLC	RR1	2.5				60.6	57.0	58.8	
HS 27X80	Growmark, Inc.	Xtend	2.7				64.6	52.8	58.7	
W 4525	Wellman Seeds, Inc.	RR2Y	2.5				63.1	53.7	58.4	

NOTE: North Region, Early Variety Trial Results are Continued on the Next Page.

TABLE 3: The 2018 Ohio Soybean Performance Trials, *North Region - Early Varieties (RM 2.1-3.0)*
CONTINUED FROM PREVIOUS PAGE

Entry			Physical Characteristics				North Region Yield (bu/acre)			
Variety	Brand/Company Name	Type	RM	Seeds/lb.	% Protein	% Oil	N1	N2	'18 Mean	'17-'18 Mean
DSR-2909/R2Y	Dairyland Seed	RR2Y	2.9				62.7	53.9	58.3	51.5
31M04	Advanced Genetics, Inc.	RR1	3.1				62.5	53.9	58.2	
3309L	NuTech Seed, LLC	LL	3.0				62.7	53.6	58.2	52.6
26RY2	Advanced Genetics, Inc.	RR2Y	2.6				62.3	55.9	57.2	57.7
2601RX	Advanced Genetics, Inc.	Xtend	2.6				61.8	52.1	57.0	54.2
RS 21XT18	Rupp Seeds, Inc.	Xtend	2.1				59.9	54.0	57.0	
HS 28C70	Growmark, Inc.	CV	2.8				57.5	55.7	56.6	52.7
LGS2444RX	LG Seeds	Xtend	2.4				65.6*	46.9	56.3	
Wyandot 14	Ohio Foundation Seeds, Inc.	CV	2.9				57.9	52.0	55.0	49.2
		Min	2.1				57.5	46.9	55.0	
		Max	3.0				70.0	66.2	67.2	
		Mean	2.7				64.3	58.1	61.2	
		LSD (0.1)					4.5	4.7		
		CV					5.9	6.9		

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

TABLE 4: The 2018 Ohio Soybean Performance Trials, *North Region - Late Varieties (RM 3.1-3.9)*

Entry			Physical Characteristics				North Region Yield (bu/acre)			
Variety	Brand/Company Name	Type	RM	Seeds/lb.	% Protein	% Oil	N1	N2	'18 Mean	'17-'18 Mean
S3305N	Dyna-Gro Seed	CV	3.3				74.3*	67.8**	71.1	58.0
Ebberts 388R2X	Ebberts Field Seeds	Xtend	3.8				76.6**	62.4	69.5	
SC 9339R™	Seed Consultants, Inc.	GT	3.3				75.7*	62.4	69.1	
AG38X8	Asgrow/Bayer Crop Science	Xtend	3.8				71.6	65.4*	68.5	56.0
LGS3777RX	LG Seeds	Xtend, STS	3.7				73.8*	61.0	67.4	
HS 38X70	Growmark, Inc.	Xtend	3.8				73.0*	57.6	65.3	60.4
GH3546X	Golden Harvest	Xtend	3.5				65.7	64.5*	65.1	56.4
Ebberts 368R2X	Ebberts Field Seeds	Xtend	3.6				71.6	57.8	64.7	54.2
3449R2X	Stewart Seeds	Xtend	3.4				69.0	59.9	64.5	
W 5932X	Wellman Seeds, Inc.	Xtend	3.2				69.0	58.5	63.8	
3601RX	Advanced Genetics, Inc.	Xtend	3.6				68.4	58.6	63.5	
CZ 3601 LL	Credenz/BASF	LL	3.6				69.4	57.4	63.4	53.0
G3520RX	AgriGold Hybrids	Xtend	3.5				69.8	56.8	63.3	53.1
LGS3411RX	LG Seeds	Xtend	3.4				66.8	59.8	63.3	
S34XT69	Dyna-Gro Seed	Xtend	3.4				71.6	54.8	63.2	
7317	NuTech Seed, LLC	RR1	3.1				60.1	66.2*	63.2	52.8
AG36X6	Asgrow/Bayer Crop Science	Xtend	3.6				67.1	59.1	63.1	55.9
W 5836X	Wellman Seeds, Inc.	Xtend	3.6				66.4	59.6	63.0	56.5
HS 33X80	Growmark, Inc.	Xtend	3.3				69.4	56.2	62.8	
31CN07	Advanced Genetics, Inc.	CV	3.1				65.7	59.9	62.8	56.3
S33RY76	Dyna-Gro Seed	RR2Y	3.3				69.3	56.1	62.7	57.2
S31XT59	Dyna-Gro Seed	Xtend	3.1				64.1	61.3	62.7	
3337R2X	Stewart Seeds	Xtend	3.3				69.7	55.2	62.5	54.0
SG3494XT	Seedway LLC	Xtend	3.4				64.5	60.3	62.4	
W 4339	Wellman Seeds, Inc.	RR2Y	3.9				68.5	56.3	62.4	59.9
3301RX	Advanced Genetics, Inc.	Xtend	3.3				67.0	57.7	62.4	
3729R2X	Stewart Seeds	Xtend	3.7				66.5	57.4	62.0	
GH3195X	Golden Harvest	Xtend	3.1				67.7	55.9	61.8	54.1
G3440RX	AgriGold Hybrids	Xtend	3.4				66.5	57.0	61.8	

NOTE: North Region, Late Variety Trial Results are Continued on the Next Page.

TABLE 4: The 2018 Ohio Soybean Performance Trials, *North Region - Late Varieties (RM 3.1-3.9)*
CONTINUED FROM PREVIOUS PAGE

Entry			Physical Characteristics				North Region Yield (bu/acre)			
Variety	Brand/Company Name	Type	RM	Seeds/lb.	% Protein	% Oil	N1	N2	'18 Mean	'17-'18 Mean
DSR-3250/R2Y	Dairyland Seed	RR2Y	3.2				65.1	58.3	61.7	54.8
S33XT79	Dyna-Gro Seed	Xtend	3.3				65.3	58.0	61.7	
HS 35X80	Growmark, Inc.	Xtend	3.5				63.4	59.9	61.7	
HS 32L60	Growmark, Inc.	LL	3.2				62.7	60.4	61.6	55.9
CZ 3118 LL	Credenz/BASF	LL	3.1				62.3	60.6	61.5	52.9
CZ 3548 LL	Credenz/BASF	LL	3.5				65.0	57.8	61.4	56.5
SC 9367R™	Seed Consultants, Inc.	GT	3.5				64.4	58.2	61.3	
HS 34X60	Growmark, Inc.	Xtend	3.4				65.7	56.9	61.3	53.1
SG3783XT	Seedway LLC	Xtend	3.7				68.9	53.5	61.2	
DSR-3555/R2Y	Dairyland Seed	RR2Y	3.5				65.2	57.1	61.2	54.5
W 4333	Wellman Seeds, Inc.	RR2Y	3.3				65.8	56.3	61.1	53.8
C3550RX	LG Seeds	Xtend	3.5				68.5	53.5	61.0	55.1
AG34X6	Asgrow/Bayer Crop Science	Xtend	3.4				66.7	55.0	60.9	53.6
G3285RX	AgriGold Hybrids	Xtend	3.2				62.7	58.8	60.8	
39X9	Seed Consultants, Inc.	Xtend	3.9				64.3	57.1	60.7	
SG-3229R2X	Shur Grow	Xtend	3.2				62.8	58.4	60.6	
HS 32C80	Growmark, Inc.	CV	3.2				66.7	54.4	60.6	
3628R2X	Stewart Seeds	Xtend	3.6				68.0	53.0	60.5	52.8
Ebberts 379R2X	Ebberts Field Seeds	Xtend	3.7				65.5	55.1	60.3	
W 5833X	Wellman Seeds, Inc.	Xtend	3.3				66.4	54.1	60.3	53.8
RS 31XT40	Rupp Seeds, Inc.	Xtend	3.1				64.2	56.0	60.1	
DB3617X	Seed Consultants, Inc.	Xtend	3.6				64.2	56.0	60.1	
SG-3428R2X	Shur Grow	Xtend	3.4				67.4	52.7	60.1	
LGS3297RX	LG Seeds	Xtend	3.2				62.0	58.1	60.1	
3343L	NuTech Seed, LLC	LL	3.4				64.4	55.5	60.0	52.8
CZ 3233 LL	Credenz/BASF	LL	3.2				63.7	55.5	59.6	
AG32X8	Asgrow/Bayer Crop Science	Xtend	3.2				62.5	55.8	59.2	52.0
Ebberts 319R2X	Ebberts Field Seeds	Xtend	3.1				64.3	54.0	59.2	
HS 32X80	Growmark, Inc.	Xtend	3.2				62.9	55.3	59.1	
3321L	NuTech Seed, LLC	LL	3.2				63.6	54.5	59.1	
SC 9318R™	Seed Consultants, Inc.	GT	3.1				54.0	63.8	58.9	49.5
Ebberts 339R2X	Ebberts Field Seeds	Xtend	3.3				63.9	53.5	58.7	
Lorain	Ohio Foundation Seeds, Inc.	CV	3.4				61.1	55.9	58.5	52.4
HS 34C80	Growmark, Inc.	CV	3.4				60.5	56.3	58.4	
HS 38L32	Growmark, Inc.	LL	3.8				64.5	52.2	58.4	52.1
W 4732	Wellman Seeds, Inc.	RR2Y	3.2				63.7	52.7	58.2	51.6
W 335	Wellman Seeds, Inc.	CV	3.3				63.1	53.3	58.2	
SG3042XT	Seedway LLC	Xtend	3.0				63.5	51.0	57.3	
G3602RX	AgriGold Hybrids	Xtend	3.6				63.9	50.2	57.1	
AG33X8	Asgrow/Bayer Crop Science	Xtend	3.3				61.2	50.9	56.1	50.1
SC 8326X™	Seed Consultants, Inc.	Xtend	3.2				59.8	50.4	55.1	
		Min	3.1				54.0	50.2	55.1	
		Max	3.9				76.6	67.8	71.1	
		Mean	3.4				66.0	57.2	61.6	
		LSD (0.1)					3.6	3.9		
		CV					4.7	5.8		

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