Performance of Soybean Cultivars

In Alabama, 2017

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"The mission of the Alabama Variety Testing Program is to provide research-based, unbiased results on the performance of various crop hybrids, cultivars, and varieties to the agricultural community in our state. We are intent on conducting these trials in a manner that will result in maximum biological yield through methods common to the top-producing farms in Alabama. We are committed to providing this information in a rapid, timely manner for its use during the decision-making process. The success of the program rests upon our ability to help Alabama producers provide a safe, dependable source of food and fiber for all families as well as economic sustainability for theirs."

Methods

Cultivars were arranged in a randomized complete block experimental design with 4 replications. Plot size was 4 rows, 30- to 38-inches wide, and 20 to 22 feet long. Trials were managed according to the location and local practices (Tables 22, 23). All tests were fertilized according to soil test recommendations. Plots were harvested utilizing a small plot combine from the center 2 rows of each plot. Plot yields were adjusted to 13 percent moisture and converted to bushels (60 pounds/bushel) per acre.

Region	Ala. Exp. Station location and soil texture
North	Sand Mountain Research & Ext. Center
	Wynnville fine sandy loam
	Tennessee Valley Research & Ext. Center
	Decatur silt loam
Central	E.V. Smith Field Crops Unit
	Cowart's loamy sand
	Plant Breeding Unit, E.V. Smith Res. Ctr.
	Cahaba fine sandy loam
Southern	Gulf Coast Research & Ext. Center
	Malbis fine sandy loam

In 2017, soybean trials were treated with foliar fungicides.

Tables

Abbreviations: REC, Research and Extension Center; ARU, Agricultural Research Unit

2017 Soybean Cultivar Yield Performance

Northern Region

Table 1. Performance of MG Late IV & Early V soybean cultivars, Tenn. Valley REC, Belle Mina
Table 2. Performance of MG IV soybean cultivars, Tenn. Valley REC, Belle Mina
Table 3. Performance of MG Mid-to-Late V soybean cultivars, Tenn. Valley REC, Belle Mina
Table 4. Performance of MG Late IV & Early V soybean cultivars, Sand Mtn. REC, Crossville
Table 5. Performance of MG IV soybean cultivars, Sand Mtn. REC, Crossville
Table 6. Performance of MG Mid-to-Late V soybean cultivars, Sand Mtn. REC, Crossville

Central Region

Table 7. Performance of MG Late IV & Early V soybean cultivars, EVS Smith Field Crops Unit, Shorter
Table 8. Performance of MG VI & VII soybean cultivars, EV Smith Field Crops Unit, Shorter
Table 9. Performance of MG Mid-to-Late V soybean cultivars, EV Smith Field Crops Unit, Shorter
Table 10. Performance of MG IV soybean cultivars, EV Smith Plant Breeding Unit, Tallassee

Southern Region - (*Not reported due to bad stands and excessive moisture)*

Table 11. Performance of MG Late IV & Early V soybean cultivars, Gulf Coast REC, Fairhope
Table 12. Performance of MG VI, VII, & VIII soybean cultivars, Gulf Coast REC, Fairhope

Management, rainfall, and entry sources

Table 13. Cultural practices for soybean cultivar tests in 2017
Table 14. Rainfall at trial locations during 2017 growing season
Table 15. Soybean entries and sources for 2017

Table 1. Performance of Soybean Cultivars in North Alabama - 2017

Tennessee Valley REC - Belle Mina, AL

Regular - Maturity Groups Late IV to Early V

Cultivars		Yield
Group IV		**(bu/Acre)**
NK S 45-K5X		78
Credenz CZ 4820LL		75
Terral REV 48A26		75
AgriGold G 4440RX		75
Credenz CZ 4748LL		71
AgriGold G 4380RX		71
GoSoy Ireane		70
Petrus 4916 GT		70
S13-1805C		70
Terral REV 48A76		69
Petrus 479 GTS		69
AgriGold G 4835RX		68
Terral REV 49R94		68
NK S 48-R2X		67
AgriGold G 4990RX		66
AgriGold G 4685RX		63
Credenz CZ 4540LL		62
Credenz CZ 4818LL		61
Group V		
Dyna-Gro S52RS86		81
Terral REV 50A47		78
Terral REV 51A56		77
USG 7547XT		75
Terral REV 52A98		75
UA 5014C		73
UA 5115C		73
Syngenta NK S 52-Y7X		72
Dyna-Gro SX17852XT		72
GoSoy Leland		71
UA 5414 RR		71
Asgrow AG 51X8		71
AgriGold G5000RX		70
Credenz CZ 5242LL		70
AGS 537LL		67
Credenz CZ 5150LL		66
Credenz CZ 5375RY		66
Credenz CZ 5147LL		66
GoSoy 54G16		65
GoSoy 5115 LL		64
Trial mean		**70**
LSD (0.1)		**5**
CV (%)		**8**
Pr>F		**0.0059**

Table 2. Performance of Soybean Cultivars in North Alabama - 2017

Tennessee Valley REC - Belle Mina, AL

Regular - Maturity Group IV

Cultivars		Yield (bu/Acre)
Terral REV 48A26		93
Asgrow AG 48X8		90
Asgrow AG 45X8		88
Terral REV 48A76		87
Terral REV 49R94		87
Asgrow AG 43X8		86
Credenz CZ 4820LL		86
Terral REV 45A46		86
Asgrow AG 46X8		85
Terral REV 47R34		85
AgriGold G 4440RX		85
AgriGold G 4380RX		84
USG 7496XTS		83
USG 7478XTS		82
USG 74K95RS		81
AgriGold G 4685RX		81
AgriGold G 4835RX		81
Credenz CZ 4540LL		79
Credenz CZ 4748LL		79
Dyna-Gro S49XS76		78
S13-10590C		77
Dyna-Gro S49XS88		76
AgriGold G 4990RX		75
Petrus 479 GTS		75
Credenz CZ 4818LL		74
GoSoy Leland		70
Ellis		70
Petrus 4916 GT		69
GoSoy Ireane		69
USG 7497XT		56
Trial mean		**80**
LSD (0.1)		**5**
CV (%)		**7**
Pr>F		**0.0001**

Table 3. Performance of Soybean Cultivars in North Alabama - 2017

Tennessee Valley REC - Belle Mina, AL

Regular - Maturity Group Mid to Late V

Cultivars		Yield
		(bu/Acre)
UA 5814 HP		77
Terral REV 56A58		77
R11-8346		76
Osage		75
Terral REV 55A67		75
R11-7999		75
Asgrow AG 55X8		71
Dyna-Gro S56RY84		70
Dyna-Gro S56XT98		70
UA 5715GT		69
Asgrow AG 56X8		69
Credenz CZ 5515LL		63
USG 7568XT		62
Credenz CZ 5727LL		59
Credenz CZ 5947LL		59
Trial mean		**70**
LSD (0.1)		**5**
CV (%)		**10**
Pr>F		**0.0097**

Table 4. Performance of Soybean Cultivars in North Alabama - 2017

Sand Mountain REC - Crossville, AL

Regular - Maturity Groups Late IV to Early V

Cultivar		Yield
Group IV		**(bu/Acre)**
S13-1805C		53
Credenz CZ 4820LL		47
NK S 45-K5X		46
Terral REV 48A26		46
Petrus 4916 GT		45
AgriGold G 4835RX		45
Credenz CZ 4748LL		44
Terral REV 49R94		44
AgriGold G 4685RX		44
AgriGold G 4990RX		44
NK S 48-R2X		43
AgriGold G 4380RX		41
Credenz CZ 4818LL		41
AgriGold G 4440RX		40
Petrus 479 GTS		39
Credenz CZ 4540LL		38
GoSoy Ireane		37
Terral REV 48A76		35
Group V		
Dyna-Gro S52RS86		54
Credenz CZ 5375RY		49
GoSoy Leland		49
Asgrow AG 51X8		49
GoSoy 54G16		47
GoSoy 5115 LL		46
Credenz CZ 5242LL		45
USG 7547XT		45
Dyna-Gro SX17852XT		44
AGS 537LL		43
Credenz CZ 5150LL		43
Credenz CZ 5147LL		43
Syngenta NK S 52-Y7X		42
Terral REV 51A56		39
UA 5014C		38
Terral REV 52A98		38
Terral REV 50A47		38
AgriGold G5000RX		37
UA 5414 RR		37
UA 5115C		36
Trial mean		**43**
LSD (0.1)		**4**
CV (%)		**13**
Pr>F		**0.0001**

Table 5. Performance of Soybean Cultivars in North Alabama - 2017

Sand Mountain REC - Crossville, AL

Regular - Maturity Group IV

Cultivars		Yield
		(bu/Acre)
GoSoy Leland		64
Dyna-Gro S49XS88		61
Petrus 4916 GT		60
USG 7497XT		59
AgriGold G 4835RX		58
USG 7478XTS		57
USG 74K95RS		51
AgriGold G 4990RX		50
Dyna-Gro S49XS76		50
Credenz CZ 4748LL		50
AgriGold G 4685RX		49
Terral REV 48A76		49
Terral REV 47R34		49
Terral REV 45A46		48
Credenz CZ 4820LL		47
USG 7496XTS		47
AgriGold G 4440RX		46
Terral REV 49R94		46
Petrus 479 GTS		45
Asgrow AG 48X8		44
Credenz CZ 4540LL		44
Asgrow AG 46X8		44
AgriGold G 4380RX		43
Credenz CZ 4818LL		43
Terral REV 48A26		42
Ellis		41
Asgrow AG 45X8		39
GoSoy Ireane		37
Asgrow AG 43X8		35
S13-10590C		25
Trial mean		**47**
LSD (0.1)		**5**
CV (%)		**16**
Pr>F		**0.0001**

Table 6. Performance of Soybean Cultivars in North Alabama - 2017

Sand Mountain REC - Crossville, AL

Regular - Maturity Group Mid to Late V

Cultivar		Yield
		(bu/Acre)
Terral REV 56A58		71
R11-8346		70
Dyna-Gro S56RY84		70
USG 7568XT		68
Credenz CZ 5727LL		68
Dyna-Gro S56XT98		68
Asgrow AG 55X8		68
R11-7999		67
UA 5814 HP		67
Asgrow AG 56X8		66
Credenz CZ 5515LL		64
Terral REV 55A67		64
UA 5715GT		63
Osage		62
Credenz CZ 5947LL		62
Trial mean		**67**
LSD (0.1)		**4**
CV (%)		**8**
Pr>F		**0.3729**

Table 7. Performance of Soybean Cultivars in Central Alabama - 2017

E.V. Smith Research Field Crops Center - Shorter, AL

Regular - Maturity Groups Late IV & Early V

Cultivar		Yield
Group IV		**(bu/Acre)**
Credenz CZ 4820LL		48
Credenz CZ 4748LL		46
Credenz CZ 4818LL		45
AgriGold G 4990RX		45
AgriGold G 4685RX		44
AgriGold G 4835RX		43
Petrus 4916 GT		42
S13-1805C		42
Credenz CZ 4540LL		41
AgriGold G 4380RX		38
AgriGold G 4440RX		37
GoSoy Ireane		37
Petrus 479 GTS		35
Group V		
GoSoy 5115 LL		52
Credenz CZ 5242LL		50
Syngenta NK S 52-Y7X		48
USG 7547XT		47
GoSoy 54G16		46
AgriGold G5000RX		46
AGS 537LL		46
UA 5014C		46
GoSoy Leland		46
Credenz CZ 5375RY		45
Credenz CZ 5150LL		44
UA 5414 RR		43
Credenz CZ 5147LL		42
UA 5115C		38
Trial mean		**44**
LSD (0.1)		**3**
CV (%)		**10**
Pr>F		**0.0001**

Table 8. Performance of Soybean Cultivars in Central Alabama - 2017

E.V. Smith Research Field Crops Unit - Shorter, AL

Regular - Maturity Groups VI & VII

Cultivar		Yield
Group VI		**(bu/Acre)**
Asgrow AG 64X8		42
AGS 644R2X		41
AGS 700R2X		40
Credenz CZ 6515 LL		34
AGS 677LL		31
Credenz CZ 6109 LL		31
Credenz CZ 6060 RY		23
Group VII		
Credenz CZ 7070RY		43
Asgrow AG 74X8		42
Credenz CZ 7007LL		41
AGS 738 RR		40
Credenz CZ 7132LL		34
Trial Mean		**37**
LSD (0.1)		**3**
CV (%)		**13**
Pr>F		**0.0001**

Table 9. Performance of Soybean Cultivars in Central Alabama - 2017

E.V. Smith Research & Field Crops Unit - Shorter, AL

Regular - Maturity Group Mid to Late V

Cultivar		Yield
		(bu/Acre)
Credenz CZ 5947LL		47
Asgrow AG 55X8		46
Asgrow AG 56X8		45
Credenz CZ 5727LL		42
USG 7568XT		42
UA 5715GT		38
Credenz CZ 5515LL		38
Terral REV 56R63		37
Terral REV 56A58		36
S13-1955C		36
S14-9017R		36
R11-7999		35
Terral REV 55A67		32
UA 5814 HP		30
Osage		29
R11-8346		26
Trial mean		**37**
LSD (0.1)		**4**
CV (%)		**13**
Pr>F		**0.0001**

Table 10. Performance of Soybean Cultivars in Central Alabama - 2017

E.V. Smith Plant Breeding Unit - Tallassee, AL

Regular - Maturity Group IV

Cultivar		Yield
		(bu/Acre)
AgriGold G 4990RX		71
Credenz CZ 4820LL		62
Asgrow AG 45X8		62
AgriGold G 4685RX		61
AgriGold G 4835RX		58
Terral REV 48A26		57
Credenz CZ 4748LL		57
Ellis		57
USG 74K95RS		56
AgriGold G 4380RX		56
Petrus 4916 GT		55
USG 7497XT		55
USG 7496XTS		54
Asgrow AG 46X8		53
Credenz CZ 4540LL		52
USG 7478XTS		50
GoSoy Ireane		50
Terral REV 49R94		49
Credenz CZ 4818LL		47
GoSoy Leland		47
Asgrow AG 43X8		42
AgriGold G 4440RX		41
Petrus 479 GTS		41
Terral REV 48A76		40
Asgrow AG 48X8		38
Terral REV 47R34		37
S13-10590C		33
Terral REV 45A46		19
Trial mean		**50**
LSD (0.1)		**10**
CV (%)		**27**
Pr>F		**0.0011**

Tables 11 & 12 - Gulf Coast REC - Fairhope, AL.

Yields for Gulf Coast REC trials are not reported due to bad stands and excessive moisture.

Table 13. Cultural Practices for Soybean Variety Tests in 2017

Location	Type of test	Date planted	Row width	Herbicide used
			- inches -	
Belle Mina	Group IV	April 19	30	Section, Storm
	Group Late IV-V	May 11	30	Section, Storm
	Mid-Late V	May 11	30	Section, Storm
Crossville	Group IV	April 26	30	First Rate, Classic
	Group Late IV-V	June 16	30	First Rate, Classic
	Mid-Late V	June 16	30	First Rate, Classic
Tallassee	Group IV	April 25	30	Dual Magnum
Shorter	Group Late IV-V	June 12	36	Select Max
	Mid-Late V	June 12	36	Select Max
	Group VI-VII	June 12	36	Select Max
Marion Junction	Group IV-V (Sumter)	Too wet*	36	
	Group VI-VII (Sumter)	Too wet*	36	
	Group IV-V (Vaiden)	Too wet*	36	
	Group VI-VII (Vaiden)	Too wet*	36	
Brewton	Group IV-V	June 28**	36	
	Group VI-VII	June 28**	36	
Fairhope	Group IV-V	July 5***	38	First Rate, Raptor
	Group VI-VII	July 5***	38	First Rate, Raptor

* Too wet to plant, causing delayed planting date too late in season to obtain reliable data.

** Extreme wet conditons just before and at harvest, trial lost.

*** Yields not reported due to poor stands and field variation caused by excessive rainfall.

Table 14. Rainfall at Test Locations During Growing Season, 2017

Month	Days	Belle Mina	Crossville	Shorter	Tallassee	Marion Junction	Brewton	Fairhope
		inches						
May	1-5	1.42	2.30	1.50	1.51	3.07	5.24	5.45
	6-10	0.26	0.22	0.00	0.00	0.00	0.00	0.00
	11-15	0.00	0.06	0.76	0.87	0.20	2.00	1.05
	16-20	0.03	0.00	3.72	3.77	0.00	0.00	0.30
	21-25	2.81	5.45	2.34	2.74	1.76	5.12	2.44
	26-31	2.28	2.15	0.37	0.57	0.80	0.35	1.57
June	1-5	0.75	2.24	3.18	3.05	1.36	2.15	0.67
	6-10	0.24	0.46	0.87	2.26	0.66	1.75	2.18
	11-15	0.00	0.00	1.32	1.07	0.11	2.18	0.76
	16-20	2.79	1.13	1.76	1.99	5.15	1.75	0.88
	21-25	3.46	4.24	2.19	1.82	3.98	7.86	6.44
	26-31	0.19	1.34	0.78	0.94	0.89	2.21	0.88
July	1-5	2.18	3.81	0.50	0.48	2.43	1.33	0.18
	6-10	0.24	0.70	1.56	0.69	0.00	0.23	4.65
	11-15	0.39	0.03	1.77	0.37	0.30	2.05	1.04
	16-20	0.93	2.11	0.31	1.38	1.78	0.72	0.82
	21-25	0.55	0.06	1.17	0.50	0.06	0.82	0.85
	26-31	2.49	0.48	0.72	0.31	1.01	2.48	0.32
August	1-5	0.00	0.00	0.03	0.02	0.32	0.54	5.43
	6-10	1.29	0.81	0.37	0.77	1.47	2.12	0.49
	11-15	0.66	0.82	1.67	3.76	0.90	1.32	1.12
	16-20	0.01	0.10	0.00	0.02	1.09	1.53	0.35
	21-25	0.02	0.00	0.01	0.00	0.00	0.90	0.60
	26-31	0.67	0.62	1.36	1.73	0.33	3.92	5.70
September	1-5	1.24	1.05	0.07	0.08	0.21	0.42	0.14
	6-10	0.25	0.81	0.08	0.11	0.14	0.58	0.22
	11-15	0.23	3.14	2.81	2.70	0.74	0.72	0.00
	16-20	0.92	2.40	1.17	1.37	0.00	1.73	0.36
	21-25	0.00	0.13	0.02	0.05	0.00	0.28	0.15
	26-31	0.00	0.00	0.02	0.00	0.00	0.33	0.00
October	1-5	0.00	0.05	0.00	0.00	0.24	0.00	0.72
	6-10	1.23	3.37	3.38	3.74	3.83	2.78	5.55
	11-15	1.31	0.01	0.02	0.02	0.00	0.00	0.13
	16-20	0.14	1.42	0.04	0.03	0.50	0.09	2.88
	21-25	1.59	1.38	1.34	1.06	0.52	4.10	3.73
	26-31	1.15	1.63	0.67	0.56	0.29	0.69	0.88

Table 15. Entries and Sources for 2017

Source	Entry
AgriGold Hybrids	AgriGold brand varieties
St. Francisville, Illinois	
AGSouth Genetics	AGS brand varieties
Albany, Georgia	
Bayer CropScience	Credenz CZ brand varieties
Tifton, Georgia	
Crop Production Services	Dyna-Gro brand varieties
Madison, Alabama	
Monsanto	Asgrow AG brand varieties
St. Louis, Missouri	
Petrus Seed & Grain Company	Petrus Seed brand varieties
Hazen, Arkansas	
Progeny Ag Products	Progeny brand varieties
Wynne, Arkansas	
Stratton Seed	GoSoy brand varieties, AGS GS48R216
Stuttgart, Arkansas	
Syngenta Seeds	NK Seed brand varieties
Minnetonka, Minnesota	
Terral Seed, Inc.	Terral REV brand varieties
Lake Providence, Louisiana	
UniSouth Genetics, Inc.	USG brand varieties
Dickson, Tennessee	
University of Arkansas	UA 5014C, UA 5414RR, UA 5814HP,
Fayetteville, Arkansas	UA 5715GT (formerly R07-6614RR),
	UA 5115C (formerly R09-430), Osage,
	R11-7999*, R11-83456*
University of Missouri	S13-1805C*, S13-1955C*,
Portageville, Missouri	S14-9017R*, S13-10590C*

* Experimental lines

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Alabama Experiment Station Outlying Units with Annual Row Crop Variety Trials

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