Soybean Variety Tests in Tennessee

2023

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**This report is available as a pdf and
as searchable, mobile-friendly tables at:
search.utcrops.com**

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SOYBEAN VARIETY TESTS IN TENNESSEE

2023

Experimental Procedures

AgResearch & Education Center Tests: All soybean variety trials were conducted in each of the physiographic regions of the state. Tests were conducted at Northeast Tennessee (Greeneville), East Tennessee (Knoxville), Middle Tennessee (Spring Hill), Highland Rim (Springfield), Milan (Milan), and West Tennessee (Jackson) AgResearch & Education Centers **(REC)**. Entries were divided into the following tests based on relative maturity: **MG-3** (relative maturity 3.0-3.9), **MG-4E** (relative maturity 4.0– 4.5), **MG-4L** (relative maturity: 4.6-4.9), and **MG-5** (relative maturity: 5.0-5.9). Each test was treated using conventional herbicides to provide a head-to-head comparison across herbicide tolerances. Duplicate plantings of all tests were made at the **Milan and Highland Rim REC** for performance testing **with and without irrigation**.

The plot size at all REC locations was two, 30-ft. rows with 30-inch row spacing. All varieties were planted at approximately 6 seeds per foot of row (i.e., approximately 140,000 seed per acre in the REC tests). Plots were replicated three times at each location in a randomized complete block design.

Genetics plus Seed Treatments: Seed of all varieties included in the REC tests were treated with one or more fungicides plus an insecticide. Research has shown that seed treatments can influence yield, therefore **the yields of varieties reported herein are the combined result of the genetic potential of the varieties plus the seed treatment "packages".** The seed treatments that were included in each variety were determined by the company or organization and are listed in Table 27. Many soybean varieties are now being marketed with combinations of fungicides and insecticides on the seed, similar to corn. A decision was made to test the varieties in the UT soybean performance tests with the seed treatments so the results would be comparable to what producers could expect from seed they purchase.

County Standard Tests: The County Standard Soybean Tests were conducted in 22 counties in Tennessee and one in Kentucky. The number of county locations depended on the test (Table 3). The County Standard Tests were divided by herbicide tolerance into Xtend Flex, Glyphosate / Dicamba tolerance, and Enlist and then further divided by relative maturity. Tests included **MG-3 Xtend Flex** (relative maturity 3.6-3.9), **MG-4E Glyphosate / Dicamba Tolerant** (relative maturity 4.0-4.5), **MG-4L Glyphosate / Dicamba Tolerant** (relative maturity 4.6-4.9), **MG-5 Xtend Flex** (relative maturity 5.0-5.5), **MG-4/5 Enlist** (relative maturity 4.0-5.2). Each variety was evaluated in a large strip-plot at each location, thus each county test was considered as one replication of the test in calculating the overall average yield and in conducting the statistical analysis to determine significant differences. At each location, plots were planted, sprayed, fertilized, and harvested with the equipment used in the cooperating producer's farming operation. The width and length of strip-plots were different in each county; however, within a location in a county, the strips were trimmed on the ends so that the lengths were the same for each variety, or if the lengths were different then the harvested length was measured for each variety and appropriate harvested area adjustments were made to determine the yield per acre.

Interpretation of Data

The tables on the following pages have been prepared with the entries listed in order of yield performance, the highest-yielding entry being listed first. Mean separation was performed using the **LSD (Least Significant Difference) test**. The mean trait value of any two entries being compared must differ

by at least the LSD amount shown to be considered different at the 5% level of probability of significance. For example, given that the LSD for a test is 7 bu/a and the mean yield of Variety A was 55 bu/a and the mean yield of Variety B was 49 bu/a, then the two hybrids are not statistically different in yield because the difference of 6 bu/a is less than the minimum of 7 bu/a required for them to be significant. Similarly, if the average yield of Variety C was 63 bu/a, then it is significantly higher yielding than both Variety B (63 - 49 = 14 bu/a > LSD of 7 bu/a) and Variety A (63 - 55 = 8 bu/a > LSD of 7 bu/ac). Tests with an LSD value of N.S. indicate there were no significant differences in entry performance within that test.

To simplify interpretation, **Mean Separation Letters** have been listed next to each entry for the test of average yield across all locations. Varieties that have any letter in common are not significantly different in yield at the 5% level of probability based on the LSD test. Varieties with performance not significantly different from the top-performing hybrid will have an "A" included in the list of mean separation letters next to that entry.

The **coefficient of variation (C.V.)** values are also shown at the bottom of each table. This value is a measure of the error variability found within each experiment. It is calculated as the ratio of the square root of error variance to the mean yield. For example, a C.V. of 10% indicates that the size of the error variation is about 10% of the size of the test mean. Similarly, a C.V. of 30% indicates that the size of the error variation is nearly one-third as large as the test mean. A goal in conducting each yield test is to keep the C.V. as low as possible, preferably below 20 percent. The C.V. is not reported for traits, such as lodging, which are not on a ratio scale and/or have a mean value near zero.

Results

Yield and Agronomic Traits. Seventy-one soybean varieties were evaluated in the 2023 **Research & Education Center (REC)** tests in Tennessee. There were 9 varieties in the MG-3, 20 in the MG-4E, 30 in the MG-4L, and 12 in the MG-5 tests. Herbicide tolerance varied by entries with the majority falling into the XtendFlex (XF) category, either with or without STS (40 entries) (Table 1). A breakdown of herbicide tolerance by test is given in Table 1.

Sixty-one varieties were evaluated in the **County Standard tests (CST)**, including the following number of varieties and counties within each test: MG-3 Xtend Flex - 5 varieties at 5 locations, MG-4E Glyphosate / Dicamba Tolerant - 12 varieties at 13 locations, MG-4L Glyphosate / Dicamba – 18 varieties at 12 locations, MG-5 Xtend Flex – 8 varieties at 6 locations, MG-4/5 Enlist – 18 varieties at 10 locations.

Table 1. Herbicide trait technology (A) and number of soybean entries within each herbicide trait class and maturity group in the 2023 UT AgResearch and Education Center soybean variety trials (B).

A.

	Abbr.	Description/Trade Name	Sulfonylurea	Glufosinate	Glyphosate	Dicamba	2,4-D	HPPDi
Conv.	Conv.	No herbicide tolerance						
Single	STS	Sulfonylurea tolerant	x					
Single	LL	LibertyLink		x				
Single	RR/RR2	Roundup Ready Roundup Ready 2 Roundup Ready 2 Yield			x			
Double	RR2+STS	Roundup Ready 2 with STS	x		x			
Double	GTLL	GTLL		x	x			
Double	R2X	Roundup Ready 2 Xtend			x	x		
Triple	LLGT27	LibertyLink GT27		x	x			x
Triple	R2X+STS	Xtend with STS	x		x	x		
Triple	XF	XtendFlex		x	x	x		
Triple	E3	Enlist E3		x	x		x	
Quad	XF+STS	XtendFlex with STS	x	x	x	x		
Quad	E3+STS	Enlist with STS	x	x	x		x	

B.

	Abbr.	MG-3	MG-4E	MG-4L	MG-5	Total
Conv.	Conv.	2	4	3	2	11
Single	STS					0
Single	LL					0
Single	RR/RR2				1	1
Double	RR2+STS					0
Double	GTLL					0
Double	R2X					0
Triple	LLGT27					0
Triple	R2X+STS		1	2		3
Triple	XF	4	6	11	7	28
Triple	E3	1	7	6	1	15
Quad	XF+STS	2	2	7	1	12
Quad	E3+STS			1		1
	Total	9	20	30	12	71

Irrigated vs. Non-irrigated Yields. Duplicate tests were conducted at the Milan and Springfield AgResearch and Education Center locations with and without irrigation. The irrigated tests at Milan exhibited a yield advantage compared to the non-irrigated tests, in all but the MG-3 test: MG-3 (- 2 bu/ac), MG-4E (+ 1 bu/a), MG-4L (+ 7 bu/a), and MG-5 (+ 8 bu/a). Unlike Milan, Springfield showed a yield reduction in irrigated tests compared to non-irrigated: MG-3 (- 9 bu/ac), MG-4E (- 8 bu/a), MG-4L (- 15bu/a), and MG-5 (- 18 bu/a). This was likely due to Sudden Death Syndrome, which was more widespread in the irrigated tests at Springfield.

Growing Season: Soybean official variety trials were planted across all AgResearch and Education Center locations from early to mid-May. Favorable planting conditions were present early this year allowing planting to occur across the state. Statewide soybean planting progress was ahead of the five-year average, with 68 percent of soybeans planted by late May. By late June soybean planting was on par with the 5-year average at 92 percent. Spotty drought conditions were present throughout the state until mid-June when state-wide rains brought relief. By late September, 64 percent of the soybeans rated good to excellent. In mid-October, 46 percent of soybeans had been harvested, which was on par with the five-year average. By the end of October, 73 percent of soybeans had been harvested, compared to the five-year average of 62 percent. By Mid-November, 87 percent of soybeans had been harvested. According to the National Agricultural Statistical Service, Tennessee growers planted 1.57 million acres of soybeans in 2023, down 50,000 acres from the previous year. Soybean production for 2023 is projected to be 78.5 million bushels, an increase of 1% from 2022. The state soybean yield average is projected to be 50 bu/a, up 2.0 bushels from a year ago and slightly above the national average.

Table 2. Location information from AgResearch and Education Centers where soybean variety tests were conducted in Tennessee in 2023.

Maturity Group III

Location	AgResearch and Education Center	Irrigation	Planting Date	Harvest Date	Seeding Rate	Soil Type
Springfield	Highland Rim	Irrigated	May 4, 2023	October 2, 2023	140000	Mountview Silt Loam
Springfield	Highland Rim	Non-irrigated	May 4, 2023	October 2, 2023	140000	Dickson Silt Loam
Spring Hill	Middle Tennessee	Non-irrigated	May 11, 2023	October 21, 2023	140000	Maury Silt Loam/ Huntington Silt Loam
Greeneville	Northeast Tennessee	Non-irrigated	May 12, 2023	November 7, 2023	140000	Decatur Silty Clay
Knoxville	East Tennessee	Irrigated	May 4, 2023	September 26, 2023	140000	Shady Loam
Milan	Milan	Irrigated	May 17, 2023	October 4, 2023	140000	Loring Silt Loam
Milan	Milan	Non-irrigated	May 17, 2023	October 4, 2023	140000	Grenada Silt Loam
Jackson	West Tennessee	Non-irrigated	May 1, 2023	September 27, 2023	140000	Vicksburg Silt Loam/Collins Silt Loam

Maturity Group Early IV (4.0 - 4.5)

Location	AgResearch and Education Center	Irrigation	Planting Date	Harvest Date	Seeding Rate	Soil Type
Memphis	Agricenter International	Irrigated	-	-	-	-
Springfield	Highland Rim	Irrigated	May 4, 2023	October 2, 2023	140000	Mountview Silt Loam
Springfield	Highland Rim	Non-irrigated	May 4, 2023	October 3, 2023	140000	Dickson Silt Loam
Spring Hill	Middle Tennessee	Non-irrigated	May 11, 2023	10/20-21/2023	140000	Maury Silt Loam/ Huntington Silt Loam
Greeneville	Northeast Tennessee	Non-irrigated	May 12, 2023	November 7, 2023	140000	Decatur Silty Clay
Knoxville	East Tennessee	Irrigated	May 4, 2023	September 29, 2023	140000	Shady Loam
Milan	Milan	Irrigated	May 17, 2023	October 18, 2023	140000	Loring Silt Loam
Milan	Milan	Non-irrigated	May 17, 2023	October 18, 2023	140000	Grenada Silt Loam
Jackson	West Tennessee	Non-irrigated	May 1, 2023	October 2, 2023	140000	Vicksburg Silt Loam/Collins Silt Loam

Maturity Group Late IV (4.6 - 4.9)

Location	AgResearch and Education Center	Irrigation	Planting Date	Harvest Date	Seeding Rate	Soil Type
Memphis	Agricenter International	Irrigated	-	-	-	-
Springfield	Highland Rim	Irrigated	May 4, 2023	October 3, 2023	140000	Mountview Silt Loam
Springfield	Highland Rim	Non-irrigated	May 4, 2023	October 9, 2023	140000	Dickson Silt Loam
Spring Hill	Middle Tennessee	Non-irrigated	May 11, 2023	October 21, 2023	140000	Maury Silt Loam/ Huntington Silt Loam
Greeneville	Northeast Tennessee	Non-irrigated	May 12, 2023	November 7, 2023	140000	Decatur Silty Clay
Knoxville	East Tennessee	Irrigated	May 4, 2023	October 3, 2023	140000	Shady Loam
Milan	Milan	Irrigated	May 19, 2023	October 23, 2023	140000	Loring Silt Loam
Milan	Milan	Non-irrigated	May 17, 2023	October 23, 2023	140000	Grenada Silt Loam
Jackson	West Tennessee	Non-irrigated	May 1, 2023	October 2, 2023	140000	Vicksburg Silt Loam/Collins Silt Loam

Table 2. cont.

Maturity Group Early V (5.0 - 5.5)

Location	AgResearch and Education Center	Irrigation	Planting Date	Harvest Date	Seeding Rate	Soil Type
Memphis	Agricenter International	Irrigated	-	-	-	-
Springfield	Highland Rim	Irrigated	May 4, 2023	October 9, 2023	140000	Mountview Silt Loam
Springfield	Highland Rim	Non-irrigated	May 4, 2023	October 9, 2023	140000	Dickson Silt Loam
Spring Hill	Middle Tennessee	Non-irrigated	May 11, 2023	October 21, 2023	140000	Maury Silt Loam/ Huntington Silt Loam
Greeneville	Northeast Tennessee	Non-irrigated	May 12, 2023	November 7, 2023	140000	Decatur Silty Clay
Knoxville	East Tennessee	Irrigated	May 4, 2023	October 18, 2023	140000	Shady Loam
Milan	Milan	Irrigated	May 17, 2023	November 6, 2023	140000	Loring Silt Loam
Milan	Milan	Non-irrigated	May 17, 2023	November 6, 2023	140000	Grenada Silt Loam
Jackson	West Tennessee	Non-irrigated	May 1, 2023	October 10, 2023	140000	Vicksburg Silt Loam/Collins Silt Loam

Table 3. Location information from counties where the soybean variety tests were conducted in 2023.

Roundup Ready/Dicamba tolerant Group III

County	Cooperator	Agent	Planting Date	N	W
Gibson	Denton Parkins	Jake Mallard	May 10, 2023	35.87607	-88.7715
Haywood	Berkley Cobb, Jr	Lindsay Stephenson	May 31, 2023	35.6688	-89.1575
Henry	Norwood Farms	Ranson Goodman	May 19, 2023	36.1579	-88.2571
Madison	Jarid King	Hunter Goodman	May 17, 2023	35.41423	-89.0433
Weakley	Scottie & OP Ogg	Bronson Bass	April 17, 2023	36.31275	-88.7296

Roundup Ready/Dicamba Tolerant Early IV (4.0 - 4.5)

County	Cooperator	Agent	Planting Date	N	W
Crockett	Adam Young	Daniel Wiggins	May 25, 2023	35.93688	-89.1714
Decatur	Stacy Vise	Cheyenne Rushing	May 26, 2023	35.57507	-88.0446
Dyer	Brandon Riles	Terrell Davis	June 1, 2023	36.01568	-89.4585
Gibson	Denton Parkins	Jake Mallard	May 10, 2023	35.87607	-88.7715
Hamblen	Eddie Gilbert	Mannie Bedwell	May 12, 2023	36.16301	-83.1873
Hardeman	Jake Hall	Clint Plunk	May 3, 2023	35.10421	-89.1647
Haywood	Berkley Cobb, Jr	Lindsay Stephenson	May 31, 2023	35.6688	-89.1575
Henderson	Josh Eason	Brian White	May 30, 2023	35.44397	-88.2442
Henry	Norwood Farms	Ranson Goodman	May 19, 2023	36.1573	-88.2569
Lake	Southern Planting Co	Justin Foulks	May 4, 2023	36.442	-89.4531
Lauderdale	Everett Tyus	JC Dupree	May 26, 2023	35.5983	-89.4661
Madison	Jarid King	Hunter Goodman	May 17, 2023	35.42674	-88.9411
Weakley	Garner	Bronson Bass	May 10, 2023	36.1935	-88.9252

Roundup Ready/Dicamba Tolerant Late IV (4.6 - 4.9)

County	Cooperator	Agent	Planting Date	N	W
Crockett	Daniel Boone	Daniel Wiggins	June 27, 2023	35.91401	-89.288
Dyer	Brandon Riles	Terrell Davis	June 1, 2023	36.01568	-89.4585
Franklin	Kenlee Rinkes	Matt Deist/John Ferrell	May 31, 2023	35.24454	-86.1007
Gibson	Denton Parkins	Jake Mallard	May 10, 2023	35.87607	-88.7715
Giles	Richard Sulcer	Kevin Rose	May 30, 2023	35.28831	-87.0243
Hardeman	Jake Hall	Clint Plunk	May 3, 2023	35.10421	-89.1647
Hardin	Karl & Alex Forsbach	Jared Stricklin	June 1, 2023	35.17276	-88.2842
Henry	Paul Neal/Wilson Farms	Ranson Goodman	June 26, 2023	36.16285	88.4352
Lauderdale	Barry Jones	JC Dupree	May 27, 2023	35.74321	-89.5388
Madison	Matt Griggs	Hunter Goodman	June 24, 2023	35.75258	-88.8867
Perry	Craig & Tim Byrd	Amanda Mathenia	May 24, 2023	35.53218	-87.8381
Weakley	Garner	Bronson Bass	May 10, 2023	36.19352	-88.9252

Table 3. cont.

Roundup Ready/Dicamba Tolerant Early V (5.0 - 5.5)

County	Cooperator	Agent	Planting Date	N	W
Dyer	Brandon Riles	Terrell Davis	June 1, 2023	36.01568	-89.4585
Gibson	Denton Parkins	Jake Mallard	May 10, 2023	35.87607	-88.7715
Giles	Richard Sulcer	Kevin Rose	May 30, 2023	35.28831	-87.0243
Henry	Paul Neal/Wilson Farms	Ranson Goodman	June 26, 2023	36.16285	88.4352
Madison	Chris Street	Hunter Goodman	July 2, 2023	35.66419	-88.7081
Madison	Jarid King	Hunter Goodman	May 17, 2023	35.41423	-89.0433

Enlist (3.8-5.2)

County	Cooperator	Agent	Planting Date	N	W
Calloway, KY	Mike Dixon	Tim Lax	June 28, 2023	36.56873	-88.392
Fayette	Ames Plantation	Jeff Via	May 30, 2023	35.11281	-89.1971
Franklin	Brooks & Mike Lynch	Matt Deist/John Ferrell	June 3, 2023	35.18334	-86.1378
Hamblen	Eddie Gilbert	Mannie Bedwell	May 12, 2023	36.16301	-83.1873
Hawkins	Chris Lipe	Blake Ramsey	June 1, 2023	36.43412	-82.996
Henry	Brannon Farms	Ranson Goodman	April 26, 2023	36.47813	-88.3248
Jefferson	J. Moser	Ryan Brown	May 11, 2023	36.14756	-83.4486
Macon	Troy Cothron	Keith Allen	June 8, 2023	36.52365	-85.9724
Madison	Chris Street	Hunter Goodman	June 2, 2023	35.64949	-88.6815
Maury	MTREC	Joe David Plunk	May 10, 2023	35.71676	-86.9657

Table 4. Average yields of varieties that were in the "A group" (not statistically different from the highest performing variety) in AgResearch and Education Center (REC) trials, County Standard Tests (CST), or both trial programs in 2023. Varieties are sorted by number of consecutive years in "A group" then percent of locs with above average yield.

MG 3 (3.0 - 3.9)

Variety	REC			CST		
	REC Yield[§]	Consecutive Years in A Group[‡]	Locs. with above avg. yield	CST Yield[§]	Consecutive Years in A Group[‡]	Locs. with above avg. yield
Revere 3908XFS	75	2	75%	73	1	40%
Dyna-Gro S38XF22S	75	2	75%	73	1	40%
Asgrow AG38XF1	76	1	100%			
USG 7394XFS	75	1	100%			
Asgrow 39XF3				80	1	80%
Xitavo 3803E	74	1	75%			
AsGrow AG39XF3	74	1	75%			
NK 39-M8XF				77	1	40%
Asgrow 38XF1				74	1	40%

MG 4 Early (4.0 - 4.4)

Variety	REC			CST		
	REC Yield[§]	Consecutive Years in A Group[‡]	Locs. with above avg. yield	CST Yield[§]	Consecutive Years in A Group[‡]	Locs. with above avg. yield
NK 42-A6E3S	90	1	100%	74	1	90%
Pioneer P42A84E				71	1	80%
Pioneer P45A81E				71	1	80%
Revere 4299XS	76	0	88%	71	1	63%
Revere 4237XFS	73	0	88%	74	1	63%
NK 44-Q5E3S	74	0	88%	70	1	60%
Pioneer P48A14E				70	1	70%
Asgrow 43XF2				74	1	63%
Pioneer P44A21X				74	1	63%
Asgrow 45XF3				73	1	63%
NK 44-J4XFS				73	1	63%
Progeny 4505RXS				72	1	63%
Dyna-Gro S41EN72	73	0	63%	71	1	60%
Revere Inn. 4233E3S				70	1	60%
Revere 4526XFS	74	0	63%	72	1	38%
Dyna-Gro S45XF02	73	0	63%	69	1	38%
NK 42-T5XF				72	1	38%
Progeny 4200RXS				70	1	38%

Table 4. cont.

MG 4 Late (4.5 - 4.9)

Variety	REC Yield§	REC Consecutive Years in A Group‡	Locs. with above avg. yield	CST Yield§	CST Consecutive Years in A Group‡	Locs. with above avg. yield
Revere 4795XS	77	5	100%	69	2	75%
Progeny 4604XFS	74	3	88%			
USG 7496XTS	74	3	75%			
USG 7461XFS	77	3	100%	63	0	33%
Revere 4826XF	77	2	100%			
Progeny 4691XFS	74	2	63%	65	0	50%
USG 7474XFS	74	1	75%	66	1	33%
Asgrow AG48XF3	76	1	88%			
Asgrow AG49XF3	76	1	88%			
Revere 4727XF	76	1	88%			
Don Mario DM48F53	73	1	75%			
NK 46-B4XFS				70	1	75%
Revere 4826XFS				69	1	75%
Dyna-Gro S49XF43S	71	0	63%	68	1	75%
Dyna-Gro S47XF23S	78	1	100%	63	0	33%

MG 5 (5.0 - 5.9)

Variety	REC Yield§	REC Consecutive Years in A Group‡	Locs. with above avg. yield	CST Yield§	CST Consecutive Years in A Group‡	Locs. with above avg. yield
NK 52-D6E3	80	2	100%	68	0	60%
NK 54J9XFS				63	1	83%
Revere 5029XF	74	0	88%	60	1	67%
Progeny 5056XFS	72	0	100%	57	1	50%
Asgrow 53XF2				58	1	50%
Dyna-Gro S51XF84S				57	1	50%
USG 7543XF	62	0	25%	58	1	50%
Pioneer P50A08LX				58	1	33%
NK 52-V1XF				56	1	33%

§ All yields are adjusted to 13% moisture.

Table 5-a. Mean[†] yield and agronomic traits of nine Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials at eight AgResearch and Education Center locations in Tennessee during 2023. Analysis included variety performance over a 1 yr, 2 yr, and 3 yr period.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[ǁ] (1-5)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Asgrow AG38XF1	XF	76 A	62 A	60 A	12.1 C	12.2 B	12.6 B	38 CD	36 B	35 B	1.4 C	1.2 A	1.2 A
USG 7394XFS	XFS	75 A			12.4 AB			41 A			1.8 A		
Revere 3908XFS*	XFS	75 AB	63 A	62 A	12.5 A	12.7 A	13.0 A	40 AB	38 A	37 A	1.5 BC	1.3 A	1.2 A
Dyna-Gro S38XF22S*	XF	75 AB	62 A		12.1 C	12.3 B		39 BC	36 B		1.3 C	1.2 A	
Xitavo 3803E	E3	74 AB			12.6 A			37 D			1.9 A		
Asgrow AG39XF3	XF	74 AB			12.2 BC			37 D			1.8 AB		
Innvictis A3992XF	XF	69 B			12.2 BC			37 D			1.6 A-C		
Perdue Agribusiness P30ILO22	Conv	53 C			12.2 BC			30 E			1.5 BC		
Perdue Agribusiness P29ILO22	Conv	48 C			12.5 A			31 E			1.9 A		
Average		69	62	61	12.3	12.4	12.8	37	37	36	1.6	1.2	1.2
Standard Error		4	13	8	0.6	0.4	0.5	1	3	2	0.3	0.2	0.1
L.S.D..05		5	N.S.	N.S.	0.2	0.2	0.2	1	1	1	0.3	N.S.	N.S.
C.V.		14	12	12	3	4	5	7	6	7	-	-	-
Site-Years		8	16	24	8	16	24	8	16	24	8	16	24

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
ǁ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table 5-b. Mean[†] yield and quality traits of nine Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials at eight AgResearch and Education Center locations in Tennessee during 2023. Analysis included variety performance over a 1 yr, 2 yr, and 3 yr period.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Maturity (DAP)			Protein[¶] (%)			Oil[¶] (%)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Asgrow AG38XF1	XF	76 A	62 A	60 A	133 C	131 A	132 B	33.9 CD	34.2 B	34.8 B	23.4 C	23.3 B	23.1 A
USG 7394XFS	XFS	75 A			135 A			34.4 BC			23.6 C		
Revere 3908XFS*	XFS	75 AB	63 A	62 A	133 BC	132 A	133 A	35.0 A	35.3 A	35.8 A	23.1 D	22.9 C	22.6 B
Dyna-Gro S38XF22S*	XF	75 AB	62 A		134 AB	132 A		33.1 E	33.4 C		24.8 B	24.9 A	
Xitavo 3803E	E3	74 AB			134 A-C			31.6 F			25.9 A		
Asgrow AG39XF3	XF	74 AB			134 A-C			34.8 AB			22.4 EF		
Innvictis A3992XF	XF	69 B			134 AB			33.3 E			23.4 CD		
Perdue Agribusiness P30ILO22	Conv	53 C			129 D			33.7 D			22.5 E		
Perdue Agribusiness P29ILO22	Conv	48 C			126 E			33.2 E			22.1 F		
Average		69	62	61	132	132	132	33.7	34.3	35.3	23.5	23.7	22.9
Standard Error		4	13	8	1	2	1	0.2	0.3	0.6	0.1	0.1	0.3
L.S.D..05		5	N.S.	N.S.	1	N.S.	1	0.5	0.5	0.3	0.3	0.3	0.1
C.V.		14	12	12	2	1	2	1	1	1	1	1	0
Site-Years		8	16	24	8	16	24	1	2	3	1	2	3

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
¶ Protein and oil were measured post-harvest using NIRS and are reported on a dry weight basis. Evaluated at Knoxville location only.

Table 5-c. Mean[†] yield and quality of nine Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials at eight AgResearch and Education Center locations in Tennessee during 2021. Sudden death syndrome (SDS) and frogeye disease ratings were taken in mid-September. Leaf holding was taken at harvest. Seed quality and purple stain raitings were taken post-harvest.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††, T] (%)	SDS DS[††, T] (1-9)	SDS DX[††, T] (DI x DS/9)	Frogeye[‡‡] (1-9)	Seed Quality[§§] (1-5)	Purple Stain[¶¶] (1-5)	Leaf Holding[∥] (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
Asgrow AG38XF1	XF	76 A	10 AB	1.7 A	3 AB	1.6 C	1.2 A	1.3 A	1.3 A
USG 7394XFS	XFS	75 A	4 A-C	1.7 A	2 A-C	2.2 BC	1.7 A	1.5 A	1.5 A
Revere 3908XFS*	XFS	75 AB	14 A	2.1 A	7 A	2.3 BC	1.5 A	1.5 A	1.5 A
Dyna-Gro S38XF22S*	XF	75 AB	3 C	1.2 A	0 C	3.2 A	1.3 A	1.2 A	1.2 A
Xitavo 3803E	E3	74 AB	5 A-C	1.3 A	1 A-C	1.9 BC	2.2 A	1.5 A	1.5 A
Asgrow AG39XF3	XF	74 AB	6 AB	1.5 A	2 AB	2.5 AB	1.3 A	1.3 A	1.3 A
Innvictis A3992XF	XF	69 B	3 BC	1.4 A	1 BC	3.0 A	1.5 A	1.2 A	1.2 A
Perdue Agribusiness P30ILO22	Conv	53 C	5 AB	1.3 A	1 AB	1.7 C	1.2 A	1.2 A	1.2 A
Perdue Agribusiness P29ILO22	Conv	48 C	7 A-C	1.5 A	2 A-C	2.0 BC	1.5 A	1.5 A	1.5 A
Average		69	6	1.5	2	1.5	1.4	1.2	1.2
Standard Error		4	3	0.3	1	0.2	0.1	0.1	0.1
L.S.D..05		5	Sig.	N.S.	Sig.	0.6	N.S.	N.S.	N.S.
Site-Years		8	8	8	8	8	1	1	6

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait,
MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September at all locations.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September at all locations.
∥ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity. Evaluated at all locations except Milan Irr and Milan Non-Irr.
§§ Seed quality was evaluated visually post-harvest using a 1 to 5 scale, with 1 indicating no shriveled or damaged seed. Evaluated at Knoxville location only.
¶¶ Purple stain was evaluated visually post-harvest using a 1 to 5 scale, with 1 indicating no purple stain. Evaluated at Knoxville location only.

Table 6. Mean[†] yields across and by location of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in replicated small plot trials at eight AgResearch and Education Center locations in Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	Greeneville Non-Irr. (bu/ac)	Knoxville Irr. (bu/ac)	Springfield Irr. (bu/ac)	Springfield Non-Irr. (bu/ac)	Spring Hill Non-Irr. (bu/ac)	Milan Irr. (bu/ac)	Milan Non-Irr. (bu/ac)	Jackson Non-Irr. (bu/ac)
Asgrow AG38XF1	XF	76 A	99 AB	75 BC	72 AB	84 AB	67 A-C	69 AB	74 AB	66 A
USG 7394XFS	XFS	75 A	105 AB	85 AB	68 B	76 CD	71 AB	66 AB	67 BC	63 A
Revere 3908XFS*	XFS	75 AB	108 A	77 A-C	64 BC	85 AB	72 A	72 AB	70 AB	50 A
Dyna-Gro S38XF22S*	XF	75 AB	99 AB	82 AB	75 AB	69 EF	66 A-C	76 A	75 A	54 A
Xitavo 3803E	E3	74 AB	93 BC	83 AB	83 A	81 BC	76 A	65 AB	61 C	52 A
Asgrow AG39XF3	XF	74 AB	83 C	88 A	74 AB	91 A	61 C	63 B	67 A-C	64 A
Innvictis A3992XF	XF	69 B	103 AB	65 CD	62 BC	71 DE	62 BC	69 AB	72 AB	50 A
Perdue Agribusiness P30ILO22	Conv	53 C	63 D	56 D	54 CD	63 F	45 D	41 C	42 D	58 A
Perdue Agribusiness P29ILO22	Conv	48 C	50 E	53 D	46 D	65 EF	39 D	36 C	46 D	50 A
Average		69	89	74	67	76	62	62	64	56
Standard Error		4	4	4	5	2	3	7	3	6
L.S.D..05		5	12	12	13	7	10	12	8	N.S.
C.V.		14	7	10	12	5	9	11	7	17

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.

Table 7. Yields of 5 Late Maturity Group III (3.6 - 3.9) Xtend Flex soybean varieties in 5 County Standard Tests in Tennessee during 2023[‡].

MS[†] Avg. Yield	Variety	Avg. Yield[§] (bu/acre)	Avg. Moisture (%)	Gibs 5/10	Hayw 5/31	Henr 5/19	Madi 5/17	Weak 4/17
A	Asgrow 39XF3	**79.5**	12.1	**80**	95	**63**	66	94
A	NK 39-M8XF	76.9	12.3	68	**96**	60	71	90
A	Asgrow 38XF1	73.5	**12.7**	73	75	62	65	93
A	Dyna-Gro S38XF22S	73.1	12.2	75	69	59	66	**96**
A	Revere 3908XFS	73.0	12.1	75	77	60	**72**	81
	Average	75.2	12.3	74	82	61	68	91

‡ Data Provided by Ryan Blair, Ext. Area Specialist, Grain and Cotton Variety Testing, and Extension agents in counties shown above.
† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
County Locations include: Gibson, Haywood, Henry, Madison, and Weakly

Table 8. Overall average yields, moistures, and test weights of two Maturity Group III (3.0 - 3.9) soybean varieties evaluated in both the County Standard Tests (CST) and AgResearch and Education Center Tests (REC) in Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. of REC and CST Tests			REC Tests			CST Tests		
		Avg. Yield[§] (bu/acre)	Avg. Moisture (%)	"A group" in both tests	Avg. Yield[§] (bu/acre)	Avg. Moisture (%)	"A group"	Avg. Yield[§] (bu/acre)	Avg. Moisture (%)	"A group"
Revere 3908XFS	XFS	73.9	12.3	*	74.7	12.5	*	73.0	12.1	*
Dyna-Gro S38XF22S	XF	73.8	12.1	*	74.6	12.1	*	73.1	12.2	*
Average		73.8	12.2		74.6	12.3		73.1	12.2	

‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.

Table 9. Yields and disease ratings of 5 Maturity Group III (3.6 - 3.9) Xtend Flex soybean varieties in 5 County Standard Tests and 6 varieties in small plot trials at 2 locations in Tennessee during 2023.

		Summary from County Tests	Summary from Small Plot Research									
		Avg.	On-farm Location (JAX)				Research & Education Center at Milan (RECM)					Soybean
		Yield	Yield (bu/ac)		Frogeye	Brown	Yield (bu/ac)		Frogeye	Target	Brown	Cyst
MS	Variety	(bu/ac)	*Treated	Non-treated	leaf spot	spot	*Treated	Non-treated	leaf spot	spot	spot	Nematode
A	Asgrow 39XF3	79.5	61.2	56.0	MOD	HIGH	66.6	53.1	LOW	MOD	MOD	MR
A	NK 39-M8XF	76.9	59.3	51.8	LOW	HIGH	58.3	51.4	LOW	LOW	MOD	S
A	Asgrow 38XF1	73.5	60.4	54.5	LOW	HIGH	61.5	49.7	NONE	MOD	MOD	MS
A	Dyna-Gro S38XF22S	73.1	59.7	50.5	MOD	HIGH	60.8	49.4	LOW	HIGH	MOD	MS
A	Revere 3908XFS	73.0	65.0	55.0	NONE	HIGH	63.2	56.3	LOW	NONE	MOD	MR
	Average	75.2	61.1	53.6			62.1	52.0				

Yield adjusted to 13.5% moisture
MS= Varieties that have any MS letter in common are not statistically different in yield (based on 95% confidence)

*Treated plots sprayed with Miravis Top @13.7 fl oz/a + 0.25% Induce @ R3 growth stage
On-farm location in Jackson (JAX) varieties planted May 19, sprayed July 25, and harvested Sept. 28
RECM varieties planted May 24, sprayed July 25, and harvested Oct. 3

NONE, LOW, MOD, and HIGH is a relative ranking of disease severity at each location.
Soybean Cyst Nematode rateds as Resistant (R), Moderately Resistant (MR), Moderately Susceptible (MS), Susceptible (S), or High Susceptible (HS) to HG Type 1.2.5.7/Race 2
Disease ratings at On-farm Location: Frogeye leaf spot ranged from 0 - 8%, averaged 2%
Disease ratings at RECM: Frogeye leaf spot ranged from 0 - 3%, averaged 1%; Target spot from 0 - 18%, averaged 7%; Brown spot from 12 - 23%, averaged 16%

Disease ratings & yield data compiled by Dr. Heather Kelly and Wesley Crowder from replicated plots at 2 locations
County data provided by Ryan Blair, Ext. Area Specialist, and County Extension agents
Soybean Cyst Nematode data provided by Dr. Lesley Schumacher and Tara Sydboten, USDA Research Plant Pathologist Unit

Table 10-a. Mean[†] yield, agronomic traits, and quality of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials at nine REC locations in Tennessee during 2023. Analysis included variety performance over a 1 yr, 2 yr, and 3 yr period.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
NK 42-A6E3S	E3	90 A			12.8 B-F			40 B			1.3 HI		
Asgrow AG45XF3	XF	77 B			12.7 E-G			42 A			1.2 I		
Revere 4299XS	R2XS	76 BC	66 A	67 A	12.9 B-F	12.5 A	12.8 A	42 A	40 B	38 A	1.3 HI	1.2 BC	1.2 B
Innvictis A4503XF	XF	74 B-D			12.4 H			38 D-F			1.3 HI		
Revere 4526XFS	XFS	74 B-D	67 A		12.9 B-E	12.5 A		44 A	41 A		1.4 G-I	1.3 B	
Xitavo 4522E	E3	74 B-D			12.7 F-H			37 E-G			1.2 I		
NK 44-Q5E3S	E3	74 B-E	62 BC		12.7 F-H	12.1 C		35 H	33 E		1.4 G-I	1.3 B	
Dyna-Gro S41EN72	E3	73 B-F	64 A-C	64 B	12.4 H	12.3 BC	12.6 B	39 B-D	37 D	35 B	1.7 D-G	1.6 A	1.6 A
Revere 4237XFS	XFS	73 C-G			12.8 C-G			40 BC			1.3 HI		
Dyna-Gro S45XF02	XF	73 C-G	65 AB		13.1 B	12.6 A		40 B	38 C		1.4 F-I	1.4 B	
Asgrow AG43XF2	XF	71 D-H	61 C		12.8 D-G	12.4 AB		40 B	38 C		1.1 I	1.1 C	
Innvictis B5013E	E3	70 D-H			12.9 B-F			43 A			1.3 HI		
Xitavo 4364E	E3	69 E-H			12.9 B-F			37 E-G			1.7 D-G		
Don Mario DM45F23	XF	69 F-H			13.1 BC			39 B-D			1.8 C-F		
Innvictis A4411XF	XF	69 GH			13.0 B-E			39 B-D			1.6 E-H		
Xitavo 4084E	E3	68 H			13.0 B-D			37 E-G			2.0 B-D		
Perdue Agribusiness P4	Conv	62 I			12.6 GH			37 FG			2.1 BC		
MO S19-10701	Conv	58 J			12.8 D-G			43 A			2.1 B		
Perdue Agribusiness P4	Conv	57 J			12.7 F-H			39 C-E			2.5 A		
Perdue Agribusiness P4	Conv	48 K			13.9 A			36 GH			1.9 B-E		
Average		70	64	65	12.8	12.4	12.7	40	38	37	1.6	1.3	1.4
Standard Error		4	10	6	0.8	0.5	0.4	2	3	2	0.2	0.1	0.1
L.S.D..05		4	3	3	0.3	0.2	0.2	2	1	1	0.3	0.2	0.2
C.V.		11	12	13	4	4	5	7	6	7	38	32	40
Site-Years		8	16	24	8	16	24	8	16	24	8	16	24

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

‡ For a full description of abbreviated biotech traits, see table 29.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).

Ŧ Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table 10-b. Mean[†] yield, agronomic traits, and quality of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials at nine REC locations in Tennessee during 2023. Analysis included variety performance over a 1 yr, 2 yr, and 3 yr period.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Maturity (DAP)			Protein[¶] (%)			Oil[¶] (%)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
NK 42-A6E3S	E3	90 A			140 DE			33.3 G-J			24.9 CD		
Asgrow AG45XF3	XF	77 B			141 B-D			33.8 E-H			23.9 EF		
Revere 4299XS	R2XS	76 BC	66 A	67 A	140 DE	138 B	137 A	34.4 DE	34.6 B	34.9 A	23.7 EF	23.5 C	23.4 B
Innvictis A4503XF	XF	74 B-D			138 F-H			32.8 IJ			25.4 B		
Revere 4526XFS	XFS	74 B-D	67 A		141 CD	138 AB		32.7 J	32.7 D		24.5 D	24.2 B	
Xitavo 4522E	E3	74 B-D			141 CD			35.3 C			23.8 EF		
NK 44-Q5E3S	E3	74 B-E	62 BC		141 CD	138 AB		35.3 C	35.4 A		22.7 H	22.6 E	
Dyna-Gro S41EN72	E3	73 B-F	64 A-C	64 B	139 E-G	136 C	135 B	32.7 J	32.7 D	32.8 B	25.1 BC	24.7 A	24.9 A
Revere 4237XFS	XFS	73 C-G			136 IJ			34.1 EF			24.5 D		
Dyna-Gro S45XF02	XF	73 C-G	65 AB		141 A-D	139 A		34.9 CD	35.1 A		23.3 G	23.0 D	
Asgrow AG43XF2	XF	71 D-H	61 C		140 D-F	138 B		33.5 F-I	33.6 C		24.9 CD	24.7 A	
Innvictis B5013E	E3	70 D-H			143 A			35.3 C			24.0 E		
Xitavo 4364E	E3	69 E-H			138 G-I			33.1 H-J			25.0 C		
Don Mario DM45F23	XF	69 F-H			142 A-C			34.0 EF			23.6 FG		
Innvictis A4411XF	XF	69 GH			140 D-F			34.1 EF			24.0 E		
Xitavo 4084E	E3	68 H			135 J			32.0 K			25.9 A		
Perdue Agribusiness P4	Conv	62 I			138 G-I			33.9 E-G			21.6 J		
MO S19-10701	Conv	58 J			143 A			36.6 B			22.3 I		
Perdue Agribusiness P4	Conv	57 J			137 H-J			35.0 CD			21.2 J		
Perdue Agribusiness P4	Conv	48 K			143 AB			38.3 A			22.7 HI		
Average		70	64	65	140	138	136	34.2	34.0	33.9	23.8	23.8	24.1
Standard Error		4	10	6	1	3	2	0.3	0.2	0.3	0.1	0.3	0.2
L.S.D..05		4	3	3	2	1	1	0.7	0.4	0.6	0.4	0.2	0.4
C.V.		11	12	13	2	2	2	1	1	2	1	1	2
Site-Years		8	16	24	8	16	24	1	2	3	1	2	3

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
¶ Protein and oil were measured post-harvest using NIRS and are reported on a dry weight basis.

Table 10-c. Mean[†] yield, agronomic traits, and quality of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials at nine REC locations in Tennessee during 2023. Sudden death syndrome (SDS) and frogeye disease ratings were taken in mid-September. Leaf holding was taken at harvest. Seed quality and purple stain raitings were taken post-harvest.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac) 1 yr	SDS DI[††, T] (%) 1 yr	SDS DS[††, T] (1-9) 1 yr	SDS DX[††, T] (DI x DS/9) 1 yr	Frogeye[‡‡] (1-9) 1 yr	Seed Quality[§§, T] (1-5) 1 yr	Purple Stain[¶¶] (1-5) 1 yr	Leaf Holding[‖] (1-5) 1 yr
NK 42-A6E3S	E3	90 A	4 D-G	1.1 I	1 EF	1.5 HI	2.2 A	1.5 A	1.1 B
Asgrow AG45XF3	XF	77 B	3 FG	1.7 D-F	1 EF	4.2 AB	1.0 D	1.0 B	1.1 B
Revere 4299XS	R2XS	76 BC	8 A-C	1.5 D-H	2 B-D	2.2 E-H	1.7 A-C	1.5 A	1.2 B
Innvictis A4503XF	XF	74 B-D	27 A-C	2.5 B	10 A-C	2.6 DE	1.0 D	1.5 A	1.1 B
Revere 4526XFS	XFS	74 B-D	5 E-G	1.8 C-E	2 EF	4.7 A	1.3 B-D	1.2 AB	1.0 B
Xitavo 4522E	E3	74 B-D	6 E-G	1.3 F-I	1 EF	2.3 E-G	2.0 AB	1.2 AB	1.1 B
NK 44-Q5E3S	E3	74 B-E	3 E-G	1.2 G-I	0 EF	1.5 HI	1.7 A-C	1.2 AB	1.0 B
Dyna-Gro S41EN72	E3	73 B-F	8 B-E	1.2 HI	1 C-E	1.6 G-I	1.3 B-D	1.0 B	1.1 B
Revere 4237XFS	XFS	73 C-G	13 A-C	1.9 CD	4 A-D	4.1 AB	1.5 A-C	1.5 A	1.2 B
Dyna-Gro S45XF02	XF	73 C-G	6 C-F	1.6 D-G	2 C-E	1.9 E-I	1.7 A-D	1.2 AB	1.1 B
Asgrow AG43XF2	XF	71 D-H	8 A-D	1.7 C-E	2 B-D	3.7 BC	1.7 A-C	1.3 AB	1.0 B
Innvictis B5013E	E3	70 D-H	2 G	1.2 G-I	0 F	3.3 C	1.5 A-C	1.2 AB	1.0 B
Xitavo 4364E	E3	69 E-H	4 G	1.5 D-I	1 F	4.1 AB	1.7 A-C	1.2 AB	1.2 B
Don Mario DM45F23	XF	69 F-H	18 AB	2.3 B	7 AB	1.5 HI	1.0 D	1.2 AB	1.2 B
Innvictis A4411XF	XF	69 GH	20 A-C	2.2 BC	8 A-C	3.1 CD	1.3 B-D	1.3 AB	1.5 A
Xitavo 4084E	E3	68 H	4 E-G	1.3 E-I	1 EF	1.6 G-I	1.7 A-C	1.5 A	1.1 B
Perdue Agribusiness P41IL022	Conv	62 I	7 C-F	1.4 D-I	2 DE	2.4 D-F	1.2 CD	1.5 A	1.1 B
MO S19-10701	Conv	58 J	20 A-C	2.5 B	8 A-C	1.8 F-I	1.0 D	1.0 B	1.6 A
Perdue Agribusiness P41MO2´	Conv	57 J	10 C-F	1.5 D-I	3 DE	2.4 D-F	1.2 CD	1.3 AB	1.0 B
Perdue Agribusiness P45XP42	Conv	48 K	38 A	3.5 A	21 A	1.4 I	1.7 A-C	1.0 B	1.5 A
Average		70	11	1.7	4	2.6	1.5	1.3	1.1
Standard Error		4	4	0.3	2	0.5	0.2	0.1	0.1
L.S.D.₀₅		4	Sig.	Sig.	2	0.7	Sig.	0.3	0.3
Site-Years		8	8	8	8	8	1	1	2

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

‡ For a full description of abbreviated biotech traits, see table 29.

§ All yields are adjusted to 13% moisture.

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September at all locations.

‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September at all locations.

‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity. Evaluated at all locations except Milan Irr and Milan Non-Irr.

§§ Seed quality was evaluated visually post-harvest using a 1 to 5 scale, with 1 indicating no shriveled or damaged seed. Evaluated at Knoxville location only.

¶¶ Purple stain was evaluated visually post-harvest using a 1 to 5 scale, with 1 indicating no purple stain. Evaluated at Knoxville location only.

Table 11. Mean[†] yields across and by location of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in replicated small plot trials at nine REC locations in Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	Greeneville Non-Irr. (bu/ac)	Knoxville Irr. (bu/ac)	Springfield Irr. (bu/ac)	Springfield Non-Irr. (bu/ac)	Spring Hill Non-Irr. (bu/ac)	Milan Irr. (bu/ac)	Milan Non-Irr. (bu/ac)	Jackson Non-Irr. (bu/ac)
NK 42-A6E3S	E3	90 A	120 A	105 A	93 A	89 A	83 A	74 B	74 AB	81 A
Asgrow AG45XF3	XF	77 B	107 A-D	78 B-D	72 B-D	75 B-E	70 B	84 A	72 A-C	62 B-E
Revere 4299XS	R2XS	76 BC	112 AB	77 B-E	66 C-E	81 A-C	70 B-D	73 B-D	68 A-D	65 BC
Innvictis A4503XF	XF	74 B-D	104 B-E	73 B-F	66 C-E	77 B-D	69 B-D	69 B-E	69 A-D	65 BC
Revere 4526XFS	XFS	74 B-D	111 A-C	77 B-E	71 B-D	69 D-F	63 CD	73 BC	67 A-D	59 C-E
Xitavo 4522E	E3	74 B-D	106 A-D	61 F-H	74 B-D	79 A-D	69 B-D	68 B-E	70 A-D	64 B-D
NK 44-Q5E3S	E3	74 B-E	92 D-H	81 B	72 B-D	79 A-C	70 B-D	65 C-F	68 A-D	62 B-E
Dyna-Gro S41EN72	E3	73 B-F	89 E-I	69 B-G	81 B	84 AB	70 B-D	61 E-H	66 A-D	68 B
Revere 4237XFS	XFS	73 C-G	97 B-F	74 B-E	70 C-E	71 C-F	70 BC	68 B-E	74 A	60 B-E
Dyna-Gro S45XF02	XF	73 C-G	96 C-F	71 B-F	76 BC	79 A-D	63 D	64 D-G	66 A-D	69 B
Asgrow AG43XF2	XF	71 D-H	96 D-G	64 E-H	68 C-E	76 B-D	67 B-D	67 B-E	69 A-D	63 B-D
Innvictis B5013E	E3	70 D-H	84 F-J	80 BC	67 C-E	79 A-D	67 B-D	66 B-E	62 DE	56 D-F
Xitavo 4364E	E3	69 E-H	80 G-K	77 B-D	69 C-E	75 B-E	68 B-D	64 E-G	65 B-D	57 C-E
Don Mario DM45F23	XF	69 F-H	93 D-H	66 D-H	65 DE	74 B-E	66 B-D	63 E-G	62 DE	65 BC
Innvictis A4411XF	XF	69 GH	93 D-H	67 C-G	60 EF	77 B-D	66 B-D	65 B-F	64 CD	58 C-E
Xitavo 4084E	E3	68 H	79 H-K	74 B-E	64 DE	76 B-D	71 B	54 H-J	65 B-D	57 C-E
Perdue Agribusiness P4	Conv	62 I	71 JK	68 C-G	69 C-E	76 B-E	64 B-D	48 J	54 E	48 FG
MO S19-10701	Conv	58 J	76 I-K	53 HI	49 G	66 E-G	52 E	57 F-I	55 E	54 EF
Perdue Agribusiness P4	Conv	57 J	82 F-K	56 GH	52 FG	63 FG	56 E	57 G-J	54 E	38 H
Perdue Agribusiness P4	Conv	48 K	68 K	42 I	37 H	58 G	50 E	51 IJ	39 F	43 GH
Average		70	93	71	67	75	66	65	64	60
Standard Error		4	5	5	4	3	3	4	3	4
L.S.D..05		4	16	13	11	10	7	9	9	9
C.V.		8	10	11	9	8	6	8	8	9

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

‡ For a full description of abbreviated biotech traits, see table 29.

§ All yields are adjusted to 13% moisture.

Table 12. Yields of 12 Maturity Group IV Early (4.0-4.5) Glyphosate / Dicamba tolerant soybean varieties in 13 County Standard Tests in Tennessee during 2023[‡].

MS† Avg. Yield	Variety	Avg. Yield§ (bu/acre)	Avg. Moisture (%)	Crock 5/25	Deca 5/26	Dyer 6/1	Gibs 5/10	Hamb 5/12	Hard 5/3	Hayw 5/31	Hend 5/30	Henry 5/19	Lake 5/4	Laud 5/26	Mad 5/17	Weak 5/18
A	Asgrow 43XF2	**74.3**	12.1	**88**	69	77	79	73	74	93	70	58	100	**60**	71	53
A	Pioneer P44A21X	74.1	11.7	88	74	68	**89**	77	64	76	**81**	**70**	85	58	77	57
A	Revere 4237XFS	73.5	11.9	84	68	73	82	72	73	84	78	64	95	52	79	51
AB	Asgrow 45XF3	73.2	11.8	84	70	66	77	79	64	**100**	72	68	**107**	43	70	51
AB	NK 44-J4XFS	73.2	12.0	88	71	67	88	58	**75**	85	72	66	93	60	**80**	48
AB	Revere 4526XFS	72.2	11.9	78	75	69	73	82	65	88	71	61	93	52	76	54
AB	Progeny 4505RXS	71.9	11.9	86	66	**82**	85	74	61	91	71	61	65	59	76	58
AB	NK 42-T5XF	71.6	11.9	84	69	64	78	65	69	94	72	67	101	41	77	51
AB	Revere 4299XS	70.5	11.9	85	**76**	54	80	**87**	52	93	68	62	68	47	77	**67**
AB	Progeny 4200RXS	70.2	**12.2**	83	69	67	80	77	70	89	70	61	67	51	70	59
AB	Dyna-Gro S45XF02	69.3	11.9	87	62	63	77	69	68	98	70	65	96	44	65	38
B	Dyna-Gro S42XF93S	67.8	11.8	71	55	77	72	64	62	98	65	54	95	46	66	55
	Average	71.8	11.9	84	69	69	80	73	66	91	72	63	89	51	74	53

‡ Data Provided by Ryan Blair, Ext. Area Specialist, Grain and Cotton Variety Testing, and Extension agents in counties shown above.

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

County Locations include: Crockett, Decatur, Dyer, Gibson, Hamblen, Hardeman, Haywood, Henderson, Henry, Lake, Lauderdale, Madison & Weakley

Table 13. Yields of 18 Maturity Group IV / V (4.0-5.2) Enlist tolerant soybean varieties in 10 County Standard Tests in Tennessee & KY during 2023‡.

MS† Avg. Yield	Variety	Avg. Yield§ (bu/acre)	Avg. Moisture (%)	Call 6/28	Faye 5/30	Frank 6/3	Hamb 5/12	Hawk 6/1	Henr 4/26	Jeff 5/11	Maco 6/8	Madi 6/2	Maur 5/10
A	NK 42A6E3S	**74.1**	12.4	69	50	42	80	71	**87**	**99**	85	70	**89**
AB	Pioneer P42A84E	71.1	12.4	**72**	45	50	79	58	84	93	84	70	78
ABC	Dyna-Gro S41EN72	70.6	12.4	70	54	38	80	73	81	90	79	59	81
ABC	Pioneer P45A81E	70.6	**12.5**	65	53	44	73	68	81	88	85	70	77
ABC	NK 44-Q5E3S	69.7	12.2	64	47	45	70	66	82	88	79	73	83
ABC	Revere Inn. 4233E3S	69.7	12.0	68	42	39	**83**	69	78	97	75	59	86
ABCD	Pioneer P48A14E	69.5	11.5	68	51	50	68	66	66	97	**87**	**74**	66
BCDE	Merschman Austin 2040E	68.6	12.1	62	**68**	38	52	55	81	91	87	72	80
BCDE	NK 52-D6E3	68.0	11.9	68	50	42	62	66	70	91	74	74	84
BCDE	Merschman Dallas 2348E	67.8	11.8	70	47	44	70	68	76	87	79	67	69
BCDE	Dyna-Gro S48EN73	67.4	12.1	71	49	42	72	63	76	90	82	69	60
BCDE	Dyna-Gro S45ES10S	67.0	12.0	69	40	40	67	65	76	95	83	66	70
BCDE	Merschman Truman 2338E	66.1	12.1	68	40	**51**	59	51	75	95	84	63	76
BCDE	Merschman Kennedy 1936E	65.9	12.3	64	43	43	66	65	76	92	78	51	82
BCDE	Merschman Memphis 2346E	65.9	12.0	70	46	43	74	56	74	89	75	68	64
CDE	Merschman Atlanta 2445E	65.5	12.4	71	46	36	70	53	65	82	84	69	78
DE	Pioneer P40A36E	64.3	12.2	66	39	40	69	**73**	72	77	79	53	76
E	Merschman Eisenhower 2439E	63.7	12.1	59	45	34	58	53	71	89	81	62	78
	Average	68.1	12.1	67	48	42	70	63	76	91	81	66	77

‡ Data Provided by Ryan Blair, Ext. Area Specialist, Grain and Cotton Variety Testing, and Extension agents in counties shown above.

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

* Asterisks after a hybrid name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

County Locations include: Calloway Ky, Fayette, Frankin, Hamblen, Hawkins, Henry, Jefferson, Macon, Madison, Maury.

Table 14. Overall average yields, moistures, and test weights of 6 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in both the County Standard Tests and Research and Education Center Tests in Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. of REC and CST Tests			REC Tests			CST Tests		
		Avg. Yield[§] (bu/*acre*)	Avg. Moisture (%)	"A group" in both tests	Avg. Yield[§] (bu/*acre*)	Avg. Moisture (%)	"A group"	Avg. Yield[§] (bu/*acre*)	Avg. Moisture (%)	"A group"
Revere 4299XS	XS	73.5	12.4		76.4	12.9		70.5	11.9	*
Revere 4237XFS	XFS	73.2	12.3		73.0	12.8		73.5	11.9	*
Revere 4526XFS	XFS	73.1	12.4		73.9	12.9		72.2	11.9	*
Dyna-Gro S41EN72	E3	72.0	12.4		73.5	12.4		70.6	12.4	*
NK 44-Q5E3S	E3	71.7	12.4		73.7	12.7		69.7	12.2	*
Dyna-Gro S45XF02	XF	71.1	12.5		73.0	13.1		69.3	11.9	*
Average		72.4	12.4		73.9	12.8		71.0	12.0	

‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.

Table 15. Yields and disease ratings of 11 Maturity Group IV Early (4.0-4.5) Glyphosate / Dicamba tolerant soybean varieties in 13 County Standard Tests and in small plot trials at 3 locations in Tennessee during 2023.

	Summary from County Tests		Summary from Small Plot Research															
		Avg. Yield (bu/ac)	On-farm Location in Jackson (JAX)					Research & Education Center at Milan (RECM)					West TN Research & Education Center (WTREC)					Soybean Cyst Nematode
			Yield (bu/ac)		Frogeye leaf spot	Target spot	Brown spot	Yield (bu/ac)		Frogeye leaf spot	Target spot	Brown spot	Yield (bu/ac)		Frogeye leaf spot	Target spot	Brown spot	
MS	Variety		*Treated	Non-treated				*Treated	Non-treated				*Treated	Non-treated				
A	Asgrow 43XF2	74.3	70.7	61.8	MOD	LOW	HIGH	58.5	54.5	MOD	NONE	HIGH	55.1	53.6	LOW	LOW	LOW	MS
A	Pioneer P44A21X	74.1	67.9	59.8	NONE	NONE	HIGH	59.5	52.4	NONE	NONE	HIGH	54.2	54.7	LOW	LOW	LOW	S
A	Revere 4237XFS	73.5	65.4	53.2	HIGH	NONE	MOD	57.3	53.0	MOD	NONE	HIGH	60.3	55.5	LOW	LOW	LOW	MR
AB	Asgrow 45XF3	73.2	68.4	52.0	HIGH	LOW	HIGH	53.4	54.4	MOD	NONE	HIGH	64.3	55.6	LOW	LOW	LOW	MS
AB	NK 44-J4XFS	73.2	67.2	60.8	MOD	NONE	MOD	57.8	57.3	LOW	NONE	MOD	62.4	57.2	LOW	NONE	LOW	MS
AB	Progeny 4505RXS	71.9	64.9	59.5	LOW	LOW	MOD	57.2	50.4	NONE	NONE	HIGH	62.7	61.0	LOW	NONE	LOW	S
AB	NK 42-T5XF	71.6	66.2	53.1	MOD	NONE	MOD	58.5	51.9	MOD	LOW	HIGH	57.1	60.5	LOW	LOW	MOD	MS
AB	Revere 4299XS	70.5	69.0	61.6	LOW	NONE	HIGH	54.2	51.8	LOW	LOW	HIGH	60.9	59.5	LOW	LOW	LOW	MR
AB	Progeny 4200RXS	70.2	67.1	62.5	NONE	NONE	HIGH	55.7	53.2	NONE	NONE	MOD	52.3	57.3	LOW	NONE	LOW	MS
AB	Dyna-Gro S45XF02	69.3	65.9	57.2	LOW	NONE	HIGH	57.3	56.0	LOW	NONE	MOD	60.8	60.2	LOW	NONE	MOD	MS
B	Dyna-Gro S42XF93S	67.8	66.8	54.9	HIGH	LOW	MOD	59.1	59.4	MOD	LOW	MOD	53.6	56.3	LOW	NONE	LOW	MR
	Average	71.8	67.2	57.9				57.1	54.0				58.5	57.4				

Yield adjusted to 13.5% moisture
MS= Varieties that have any MS letter in common are not statistically different in yield (based on 95% confidence)

*Treated plots sprayed with Miravis Top @13.7 fl oz/a + 0.25% Induce @ R3 growth stage
JAX varieties planted May 19, sprayed Aug. 1, and harvested Oct. 4
RECM varieties planted May 24, sprayed Aug. 7, and harvested Oct. 11
WTREC vareities planted June 15, sprayed Aug. 17, and harvested Oct. 19

NONE, LOW, MOD, and HIGH is a relative ranking of disease severity at each location.
Soybean Cyst Nematode rateds as Resistant (R), Moderately Resistant (MR), Moderately Susceptible (MS), Susceptible (S), or High Susceptible (HS) to HG Type 1.2.5.7/Race 2
Disease ratings at JAX: Frogeye leaf spot ranged from 0 - 36%, averaged 8%; Target spot from 0 - 1%, averaged 0.1%; Brown spot from 14 - 31%, averaged 20%
Disease ratings at RECM: Frogeye leaf spot ranged from 0 - 8%, averaged 3%; Target spot from 0 - 5%, averaged 0.4%; Brown spot from 12 - 29%, averaged 20%
Disease ratings at WTREC: Frogeye leaf spot ranged from 0.1 - 3%, averaged 1%; Target spot from 0 - 5%, averaged 1%; Brown spot from 6 - 18%, averaged 10%

Disease ratings & yield data compiled by Dr. Heather Kelly and Wesley Crowder from replicated plots at 3 locations
County data provided by Ryan Blair, Ext. Area Specialist, and County Extension agents

Table 16. Yields of 18 Maturity Group IV Early (4.0-4.5) Enlist tolerant soybean varieties in 10 County Standard Tests and in small plot trials at 3 locations in Tennessee during 2023

		Summary from County Tests	Summary from Small Plot Research																
		Avg. Yield (bu/ac)	On-farm Location in Jackson (JAX)					Research & Education Center at Milan (RECM)					West TN Research & Education Center (WTREC)					Soybean Cyst Nematode
			Yield (bu/ac)		Frogeye leaf spot	Target spot	Brown spot	Yield (bu/ac)		Frogeye leaf spot	Target spot	Brown spot	Yield (bu/ac)		Frogeye leaf spot	Target spot	Brown spot	
MS	Variety		*Treated	Non-treated				*Treated	Non-treated				*Treated	Non-treated				
A	NK 42A6E3S	74.1	68.1	59.7	NONE	NONE	MOD	58.2	55.2	NONE	NONE	MOD	61.0	56.2	LOW	LOW	MOD	S
AB	Pioneer P42A84E	71.1	68.6	60.7	NONE	NONE	MOD	56.0	53.0	NONE	NONE	MOD	55.5	57.1	LOW	NONE	MOD	S
ABC	Dyna-Gro S41EN72	70.6	60.8	56.0	NONE	-	MOD	53.2	49.8	NONE	NONE	MOD	58.3	59.9	LOW	LOW	MOD	MR
ABC	Pioneer P45A81E	70.6	64.9	57.2	NONE	NONE	MOD	51.7	51.2	NONE	NONE	HIGH	57.9	55.4	LOW	LOW	LOW	S
ABC	NK 44-Q5E3S	69.7	65.0	56.9	LOW	NONE	MOD	51.8	50.8	NONE	NONE	MOD	55.7	49.0	LOW	NONE	LOW	S
ABC	Revere Inn. 4233E3S	69.7	63.2	53.3	HIGH	NONE	HIGH	54.1	51.7	MOD	NONE	HIGH	59.0	55.5	LOW	LOW	LOW	MS
ABCD	Pioneer P48A14E	69.5	70.7	58.1	MOD	NONE	MOD	55.5	50.2	LOW	NONE	LOW	57.0	57.0	LOW	NONE	HIGH	S
BCDE	Merschman Austin 204	68.6	62.1	53.6	NONE	-	MOD	54.8	53.7	LOW	NONE	MOD	61.8	60.6	LOW	NONE	LOW	MS
BCDE	NK 52-D6E3	68.0	69.4	63.5	LOW	MOD	-	59.8	49.8	LOW	LOW	MOD	-	-	-	-	-	S
BCDE	Merschman Dallas 234	67.8	65.0	56.3	MOD	NONE	MOD	59.4	53.0	LOW	NONE	MOD	57.4	49.3	NONE	NONE	MOD	S
BCDE	Dyna-Gro S48EN73	67.4	65.4	54.2	LOW	NONE	MOD	55.6	51.2	LOW	NONE	MOD	48.5	45.2	LOW	NONE	MOD	MS
BCDE	Dyna-Gro S45ES10S	67.0	61.0	53.3	MOD	NONE	MOD	58.3	54.6	LOW	NONE	MOD	59.1	59.0	LOW	NONE	MOD	MS
BCDE	Merschman Truman 23	66.1	58.2	52.1	NONE	-	MOD	61.7	54.5	NONE	NONE	MOD	-	-	-	-	-	MS
BCDE	Merschman Kennedy	65.9	55.4	50.6	NONE	-	MOD	61.4	52.2	LOW	NONE	MOD	-	-	-	-	-	MS
BCDE	Merschman Memphis	65.9	66.1	57.9	LOW	NONE	MOD	58.9	54.5	LOW	NONE	LOW	51.0	47.4	LOW	NONE	MOD	S
CDE	Merschman Atlanta 24	65.5	59.5	52.7	NONE	NONE	HIGH	49.1	48.0	NONE	NONE	MOD	59.4	57.6	LOW	NONE	LOW	MS
DE	Pioneer P40A36E	64.3	57.1	52.0	NONE	-	MOD	52.1	48.4	NONE	NONE	HIGH	56.2	59.8	LOW	NONE	LOW	MS
E	Merschman Eisenhowe	63.7	59.9	55.0	NONE	-	HIGH	60.1	52.4	NONE	LOW	HIGH	-	-	-	-	-	MS
	Average	68.1	63.4	55.7				56.2	51.9				57.0	54.9				

Yield adjusted to 13.5% moisture
MS= Varieties that have any MS letter in common are not statistically different in yield (based on 95% confidence)

*Treated plots sprayed with Miravis Top @13.7 fl oz/a + 0.25% Induce @ R3 growth stage
JAX varieties planted May 19, sprayed Aug. 1, and harvested Oct. 10
RECM varieties planted May 24, sprayed Aug. 7, and harvested Oct. 18

NONE, LOW, MOD, and HIGH is a relative ranking of disease severity at each location.
Soybean Cyst Nematode rateds as Resistant (R), Moderately Resistant (MR), Moderately Susceptible (MS), Susceptible (S), or High Susceptible (HS) to HG Type 1.2.5.7/Race 2
Disease ratings at JAX: Frogeye leaf spot ranged from 3 - 11%, averaged 6%; Target spot from 0 - 2%, averaged 0.2%; Brown spot from 29 - 44%, averaged 36%
Disease ratings at RECM: Frogeye leaf spot ranged from 0 - 12%, averaged 4%; Target spot was not observed; Brown spot from 16 - 27%, averaged 20%

Disease ratings & yield data compiled by Dr. Heather Kelly and Wesley Crowder from replicated plots at 3 locations
County data provided by Ryan Blair, Ext. Area Specialist, and County Extension agents
Soybean Cyst Nematode data provided by Dr. Lesley Schumacher and Tara Sydboten, USDA Research Plant Pathologist Unit

Table 17-a. Mean† yield, agronomic traits, and quality of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials at nine REC locations in Tennessee during 2023. Analysis included variety performance over a 1 yr, 2 yr, and 3 yr period.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging^{ǁ} (1-5)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Dyna-Gro S47XF23S	XFS	78 A	67 A-C		12.1 C-I	12.2 E		41 E-J	39 DE		1.3 G-J	1.2 E	
Revere 4795XS****	R2XS	77 AB	69 AB	69 A	11.8 KL	12.0 E	12.2 C	42 D-G	39 CD	38 B	1.3 F-J	1.2 B-E	1.2 BC
Revere 4826XF*	XF	77 AB	69 A		11.9 E-K	12.2 E		40 H-L	38 E-G		1.3 G-J	1.2 DE	
USG 7461XFS**	XFS	77 AB	68 A-C	68 A	11.9 G-K	12.1 E	12.4 BC	44 BC	42 B	40 A	1.4 E-J	1.3 B-E	1.3 AB
Asgrow AG48XF3	XF	76 A-C			12.1 B-G			44 AB			1.3 E-J		
Asgrow AG49XF3	XF	76 A-D			11.9 E-K			46 A			1.3 F-J		
Revere 4727XF	XF	76 A-D	66 C-F		11.5 L	11.7 F		40 J-N	38 E-G		1.3 F-J	1.2 C-E	
USG 7496XTS**	R2XS	74 A-E	67 A-D	69 A	12.3 A-C	12.9 A	13.0 A	45 AB	43 A	41 A	1.4 E-J	1.3 A-E	1.3 AB
USG 7474XFS	XFS	74 A-E			11.9 E-K			41 E-J			1.3 F-J		
Progeny 4604XFS**	XFS	74 A-E	67 A-E	68 A	11.8 H-K	12.3 C-E	12.5 B	45 AB	42 AB	41 A	1.5 D-I	1.3 A-C	1.3 A
Progeny 4691XFS*	XFS	74 A-F	66 B-F		12.4 AB	12.5 BC		44 AB	42 AB		1.5 D-J	1.3 A-E	
Don Mario DM48F53	XF	73 A-F			12.0 E-K			37 OP			1.4 D-J		
Dyna-Gro S48EN73	E3	73 B-G	64 E-G		12.0 E-K	12.2 E		40 H-L	37 G		1.5 D-G	1.4 A	
USG 7463XF	XF	72 C-G	65 C-F		12.1 B-H	12.2 DE		42 C-E	40 C		1.2 IJ	1.2 DE	
Revere 4934XF	XF	71 D-G			12.1 B-H			38 L-O			1.6 D-F		
Dyna-Gro S49XF43S	XFS	71 D-G	65 C-F		12.1 B-H	12.8 AB		38 M-O	36 H		1.5 D-J	1.3 A-D	
Progeny 4798XF	XF	71 E-H	63 FG		11.8 J-L	12.0 E		40 H-K	38 D-F		1.4 D-J	1.4 AB	
Innvictis A4862XF	XF	71 E-H	64 D-G		12.0 D-J	12.1 E		42 D-H	39 DE		1.4 D-J	1.3 A-E	
Xitavo 4894E	E3	70 E-H			12.1 B-H			43 B-D			1.4 E-J		
Asgrow AG47XF2	XF	70 E-H	64 FG		12.3 A-D	12.5 CD		40 H-L	38 FG		1.2 H-J	1.2 B-E	
USG 7494ETS	E3S	70 E-H			12.2 A-F			42 D-F			1.3 F-J		
Progeny 4775E3S	E3S	69 F-H	62 GH		12.4 A	12.6 BC		44 AB	42 AB		1.5 D-H	1.3 A-D	
Xitavo 4653E	E3	69 GH			11.9 F-K			40 F-K			1.2 J		
Progeny 4806XFS	XFS	67 HI	60 H	62 B	11.8 I-L	12.2 DE	12.5 B	42 D-I	39 DE	37 B	1.3 F-J	1.2 E	1.1 C
Innvictis B4903E	E3	67 HI			11.8 H-K			40 G-K			1.7 D		
Revere 4731XF	XF	66 HI			12.5 A			39 K-N			2.2 BC		
Innvictis B4603E	E3	64 I			11.7 KL			40 I-M			2.1 C		
MO S18-17644	Conv	55 J			12.4 A			38 N-P			2.8 A		
Perdue Agribusiness P48	Conv	54 J			12.2 A-E			36 P			2.4 B		
TN Exp TN18-4110b	Conv.	47 K			11.8 J-L			29 Q			1.6 DE		
Average		70	66	67	12.0	12.3	12.5	41	39	39	1.5	1.3	1.2
Standard Error		5	8	5	0.7	0.4	0.3	1	3	3	0.2	0.2	0.1
L.S.D.$_{.05}$		5	3	2	0.3	0.3	0.2	2	1	1	0.3	0.2	0.1
C.V.		12	11	10	4	6	5	8	7	7	-	-	-
Site-Years		8	16	24	8	16	24	8	16	24	8	16	24

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
ǁ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table 17-b. Mean† yield, agronomic traits, and quality of 37 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials at nine REC locations in Tennessee during 2023. Analysis included variety performance over a 1 yr, 2 yr, and 3 yr period.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)			Maturity (DAP)			Protein¶ (%)			Oil¶ (%)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Dyna-Gro S47XF23S	XFS	78 A	67 A-C		144 J-O	141 F		32.8 H-J	32.8 F		24.2 A-E	23.9 BC	
Revere 4795XS****	R2XS	77 AB	69 AB	69 A	147 C-E	143 CD	142 BC	34.6 A-E	34.2 BC	34.2 B	23.6 D-J	23.5 D-F	23.6 AB
Revere 4826XF*	XF	77 AB	69 A		144 J-O	141 F		33.5 E-I	33.7 CD		23.8 D-J	23.7 CD	
USG 7461XFS**	XFS	77 AB	68 A-C	68 A	145 F-L	142 DE	142 C	33.6 C-I	33.5 DE	33.6 BC	23.7 D-J	23.6 C-F	23.5 B
Asgrow AG48XF3	XF	76 A-C			146 C-F			33.6 D-I			24.7 A-C		
Asgrow AG49XF3	XF	76 A-D			148 BC			33.8 C-H			23.2 IJ		
Revere 4727XF	XF	76 A-D	66 C-F		143 L-P	141 EF		33.7 C-H	33.5 DE		24.1 B-G	23.9 BC	
USG 7496XTS**	R2XS	74 A-E	67 A-D	69 A	147 CD	145 A	144 A	34.2 A-G	34.8 AB	35.1 A	23.5 E-J	23.0 G	23.1 C
USG 7474XFS	XFS	74 A-E			145 E-J			34.2 A-G			24.0 B-H		
Progeny 4604XFS**	XFS	74 A-E	67 A-E	68 A	145 F-K	142 DE	141 C	32.6 I-K	33.0 EF	33.1 CD	23.8 C-J	23.6 C-E	23.7 AB
Progeny 4691XFS*	XFS	74 A-F	66 B-F		142 OP	140 G		34.5 A-F	34.3 BC		23.4 F-J	23.2 E-G	
Don Mario DM48F53	XF	73 A-F			144 I-N			31.5 K			25.0 A		
Dyna-Gro S48EN73	E3	73 B-G	64 E-G		144 H-M	142 DE		34.8 A-C	34.7 AB		23.3 F-J	23.2 E-G	
USG 7463XF	XF	72 C-G	65 C-F		141 P	139 G		35.0 AB	34.7 AB		23.2 G-J	23.2 FG	
Revere 4934XF	XF	71 D-G			147 C-E			32.1 JK			24.8 AB		
Dyna-Gro S49XF43S	XFS	71 D-G	65 C-F		146 C-G	144 B		34.5 A-E	33.9 CD		24.4 A-D	24.5 A	
Progeny 4798XF	XF	71 E-H	63 FG		147 CD	144 BC		32.6 I-K	32.5 F		24.0 B-I	23.9 BC	
Innvictis A4862XF	XF	71 E-H	64 D-G		146 C-H	143 CD		33.4 F-I	33.9 CD		24.1 B-F	23.8 CD	
Xitavo 4894E	E3	70 E-H			144 H-M			35.1 A			23.6 D-J		
Asgrow AG47XF2	XF	70 E-H	64 FG		144 J-O	140 FG		33.9 B-H	33.8 CD		23.9 B-I	23.9 BC	
USG 7494ETS	E3S	70 E-H			146 D-H			34.3 A-G			23.8 D-J		
Progeny 4775E3S	E3S	69 F-H	62 GH		143 K-P	141 FG		35.1 A	35.2 A		23.2 H-J	22.9 G	
Xitavo 4653E	E3	69 GH			143 M-P			33.8 C-H			23.8 D-J		
Progeny 4806XFS	XFS	67 HI	60 H	62 B	146 D-I	143 CD	142 B	32.0 JK	32.5 F	33.0 D	24.7 A-C	24.2 AB	24.0 A
Innvictis B4903E	E3	67 HI			145 G-L			35.2 A			23.0 J		
Revere 4731XF	XF	66 HI			143 N-P			34.3 A-G			23.5 E-J		
Innvictis B4603E	E3	64 I			143 K-P			34.6 A-D			23.7 D-J		
MO S18-17644	Conv	55 J			147 C-E			33.1 G-J			23.2 F-J		
Perdue Agribusiness P4‡	Conv	54 J			149 AB			35.0 AB			21.1 K		
TN Exp TN18-4110b	Conv.	47 K			150 A			34.0 B-G			20.2 K		
Average		70	65	67	145	142	142	33.9	34	34	23.6	24	24
Standard Error		5	8	5	2	3	2	0.4	0.2	0.3	0.3	0.2	0.2
L.S.D..05		5	3	2	2	1	1	1.1	0.7	0.6	0.8	0.4	0.4
C.V.		12	11	10	2	2	2	2	2	2	2	2	2
Site-Years		8	16	24	8	16	24	1	2	3	1	2	3

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
¶ Protein and oil were measured post-harvest using NIRS and are reported on a dry weight basis.

Table 17-c. Mean[†] yield, agronomic traits, and quality of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials at eight REC locations in Tennessee during 2023 Sudden death syndrome (SDS) and frogeye disease ratings were taken in mid-September. Leaf holding was taken at harvest. Seed quality and purple stain raitings were taken post-harvest.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac) 1 yr	SDS DI[††, T] (%) 1 yr	SDS DS[††, T] (1-9) 1 yr	SDS DX[††, T] (DI x DS/9) 1 yr	Frogeye[‡‡] (1-9) 1 yr	Seed Quality[§§] (1-5) 1 yr	Purple Stain[¶¶, T] (1-5) 1 yr	Leaf Holding (1-5) 1 yr
Dyna-Gro S47XF23S	XFS	78 A	1 H	1.1 JK	0 G	2.7 D-F	1.0 E	1.2 BC	1.1 B
Revere 4795XS****	R2XS	77 AB	5 A-E	1.7 B-H	2 A-D	2.9 D-F	1.3 C-E	1.0 C	1.2 B
Revere 4826XF*	XF	77 AB	2 GH	1.3 H-K	1 FG	3.1 C-E	1.3 C-E	1.2 BC	1.1 B
USG 7461XFS**	XFS	77 AB	7 A-D	1.7 C-I	2 A-C	2.2 F-H	1.3 C-E	1.5 A	1.4 B
Asgrow AG48XF3	XF	76 A-C	8 A-D	1.7 C-I	2 A-C	3.2 A-D	1.2 DE	1.3 AB	1.2 B
Asgrow AG49XF3	XF	76 A-D	3 GH	1.1 JK	1 FG	3.9 A	1.3 C-E	1.3 AB	1.2 B
Revere 4727XF	XF	76 A-D	8 A-E	1.7 C-I	2 A-C	2.3 F-H	1.5 CD	1.5 A	1.4 B
USG 7496XTS**	R2XS	74 A-E	7 C-G	1.9 A-E	3 B-E	2.3 FG	1.3 C-E	1.5 A	1.3 B
USG 7474XFS	XFS	74 A-E	4 C-G	1.3 F-K	1 B-F	2.6 D-F	1.3 C-E	1.2 BC	1.3 B
Progeny 4604XFS**	XFS	74 A-E	8 A-E	1.4 E-J	2 A-D	2.7 D-F	1.3 C-E	1.0 C	1.3 B
Progeny 4691XFS*	XFS	74 A-F	14 A-D	1.8 A-F	5 A-C	3.2 B-E	1.2 DE	1.5 A	1.2 B
Don Mario DM48F53	XF	73 A-G	12 A-D	2.1 A-D	6 A-C	1.3 I	1.0 E	1.2 BC	1.1 B
Dyna-Gro S48EN73	E3	73 B-G	3 E-H	1.3 I-K	0 D-G	2.7 D-F	1.7 BC	1.3 AB	1.3 B
USG 7463XF	XF	72 C-G	5 A-E	1.4 E-K	1 A-D	3.1 C-E	1.2 DE	1.0 C	1.1 B
Revere 4934XF	XF	71 D-G	12 A-E	2.0 A-E	6 A-D	1.1 I	1.2 DE	1.0 C	1.3 B
Dyna-Gro S49XF43S	XFS	71 D-G	16 AB	2.0 A-C	6 A	1.6 HI	1.3 C-E	1.5 A	1.2 B
Progeny 4798XF	XF	71 E-H	6 A-E	1.4 E-K	1 A-D	2.7 D-F	1.0 E	1.0 C	1.4 B
Innvictis A4862XF	XF	71 E-H	8 A-C	1.8 A-F	2 AB	1.5 I	1.2 DE	1.5 A	1.2 B
Xitavo 4894E	E3	70 E-H	2 F-H	1.0 K	0 E-G	3.2 A-D	1.7 BC	1.2 BC	1.3 B
Asgrow AG47XF2	XF	70 E-H	3 B-F	1.6 C-I	1 B-E	1.8 G-I	1.0 E	1.0 C	1.2 B
USG 7494ETS	E3S	70 E-H	5 GH	1.3 G-K	2 FG	3.8 AB	1.7 BC	1.3 AB	1.2 B
Progeny 4775E3S	E3S	69 F-H	6 D-H	1.3 F-K	1 C-G	3.2 B-E	1.5 CD	1.3 AB	1.2 B
Xitavo 4653E	E3	69 GH	5 C-G	1.5 E-J	1 B-F	2.5 EF	1.5 CD	1.0 C	1.2 B
Progeny 4806XFS	XFS	67 HI	24 A	2.5 A	13 A	3.8 A-C	1.5 CD	1.2 BC	1.2 B
Innvictis B4903E	E3	67 HI	15 A-D	2.3 A-C	9 A-C	2.8 D-F	2.3 A	1.3 AB	1.3 B
Revere 4731XF	XF	66 HI	24 A	2.4 AB	11 A	1.4 I	1.3 C-E	1.0 C	1.1 B
Innvictis B4603E	E3	64 I	9 A-D	1.9 A-G	4 A-C	1.7 G-I	2.2 AB	1.5 A	1.3 B
MO S18-17644	Conv	55 J	10 D-G	1.9 A-G	5 B-F	1.6 HI	1.0 E	1.0 C	1.8 A
Perdue Agribusiness P48MO21	Conv	54 J	5 A-E	1.5 D-J	1 A-D	1.5 I	1.0 E	1.2 BC	2.0 A
TN Exp TN18-4110b	Conv.	47 K	6 A-D	1.6 C-J	2 A-C	1.2 I	1.0 E	1.0 C	2.0 A
Average		70	8	1.6	3	2.4	1.3	1.2	1.3
Standard Error		5	4	0.3	2	0.4	0.2	0.1	0.2
L.S.D..05		5	3	0.2	2	0.7	0.3	Sig.	0.3
Site-Years		8	8	8	8	8	1	1	6

Table 17-c. Mean[†] yield, agronomic traits, and quality of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials at eight REC locations in Tennessee during 2023 Sudden death syndrome (SDS) and frogeye disease ratings were taken in mid-September. Leaf holding was taken at harvest. Seed quality and purple stain raitings were taken post-harvest.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††, T] (%)	SDS DS[††, T] (1-9)	SDS DX[††, T] (DI x DS/9)	Frogeye[‡‡] (1-9)	Seed Quality[§§] (1-5)	Purple Stain[¶¶, T] (1-5)	Leaf Holding (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr	1 yr	1 yr

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

‡ For a full description of abbreviated biotech traits, see table 29.

§ All yields are adjusted to 13% moisture.

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September at all locations.

‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September at all locations.

|| Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity. Evaluated at all locations except Milan Irr and Milan Non-Irr.

§§ Seed quality was evaluated visually post-harvest using a 1 to 5 scale, with 1 indicating no shriveled or damaged seed. Evaluated at Knoxville location only.

Table 18. Mean[†] yields across and by location of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in replicated small plot trials at nine REC locations in Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	Greeneville Non-Irr. (bu/ac)	Knoxville Irr. (bu/ac)	Springfield Irr. (bu/ac)	Springfield Non-Irr. (bu/ac)	Spring Hill Non-Irr. (bu/ac)	Milan Irr. (bu/ac)	Milan Non-Irr. (bu/ac)	Jackson Non-Irr. (bu/ac)
Dyna-Gro S47XF23S	XFS	78 A	103 B-H	83 A-C	74 A	81 A-E	67 A-E	77 A-E	69 A-C	69 A
Revere 4795XS****	R2XS	77 AB	111 A-E	78 A-D	71 A	77 B-G	70 A-C	83 AB	69 A-C	60 B-I
Revere 4826XF*	XF	77 AB	107 A-G	74 A-G	73 A	83 A-C	65 A-F	80 A-C	68 A-E	67 A-C
USG 7461XFS**	XFS	77 AB	116 A-C	75 A-F	62 A-C	82 A-D	71 A	78 A-D	68 A-D	62 A-H
Asgrow AG48XF3	XF	76 A-C	95 F-J	83 AB	67 AB	88 A	67 A-E	79 A-D	69 A-C	61 A-H
Asgrow AG49XF3	XF	76 A-D	119 A	68 D-I	66 AB	80 A-G	65 B-F	75 A-F	74 A	59 B-I
Revere 4727XF	XF	76 A-D	105 A-H	83 A-C	66 AB	78 B-G	68 A-D	84 A	64 B-E	57 D-J
USG 7496XTS**	R2XS	74 A-E	101 C-I	77 A-E	66 AB	85 AB	70 A-C	69 C-I	61 C-G	66 A-D
USG 7474XFS	XFS	74 A-E	96 E-J	84 A	72 A	77 B-G	63 D-F	76 A-E	64 B-E	62 A-G
Progeny 4604XFS**	XFS	74 A-E	105 A-H	75 A-F	66 AB	81 A-E	68 A-E	75 A-F	68 A-D	56 D-J
Progeny 4691XFS*	XFS	74 A-F	118 AB	68 D-I	65 AB	75 C-H	62 EF	77 A-E	66 A-E	60 B-H
Don Mario DM48F53	XF	73 A-G	111 A-D	62 H-K	59 A-E	85 AB	65 B-F	75 A-F	64 B-E	67 A-C
Dyna-Gro S48EN73	E3	73 B-G	100 D-J	73 B-H	69 AB	78 B-G	66 A-E	73 A-G	68 A-E	56 E-J
USG 7463XF	XF	72 C-G	103 B-H	64 F-K	64 AB	77 B-G	65 B-F	72 A-H	63 B-F	64 A-F
Revere 4934XF	XF	71 D-G	101 C-I	68 D-I	55 B-F	80 A-F	66 A-F	70 C-I	63 B-F	68 AB
Dyna-Gro S49XF43S	XFS	71 D-G	91 H-J	69 D-I	72 A	73 D-H	69 A-D	69 C-I	66 A-E	62 A-G
Progeny 4798XF	XF	71 E-H	100 D-J	66 E-J	61 A-D	71 GH	65 A-F	77 A-E	64 B-E	62 A-G
Innvictis A4862XF	XF	71 E-H	95 F-J	63 G-K	60 A-E	75 C-H	71 AB	69 C-I	70 AB	63 A-G
Xitavo 4894E	E3	70 E-H	87 IJ	75 A-F	66 AB	79 B-G	65 B-F	74 A-G	66 A-E	50 I-L
Asgrow AG47XF2	XF	70 E-H	97 D-J	68 D-I	63 A-C	78 B-G	62 EF	65 E-I	61 B-H	65 A-E
USG 7494ETS	E3S	70 E-H	100 D-J	72 C-H	55 B-F	72 E-H	66 A-F	70 C-I	65 B-E	59 B-I
Progeny 4775E3S	E3S	69 F-H	110 A-F	66 F-J	60 A-E	76 B-G	64 C-F	63 F-I	61 D-H	54 G-J
Xitavo 4653E	E3	69 GH	92 G-J	68 D-I	65 AB	78 B-G	60 FG	73 A-G	60 E-H	56 F-J
Progeny 4806XFS	XFS	67 HI	101 D-I	66 F-J	42 F	66 HI	71 A	71 B-H	66 A-E	50 J-L
Innvictis B4903E	E3	67 HI	92 G-J	55 JK	48 C-F	85 AB	67 A-E	67 D-I	60 E-H	58 C-J
Revere 4731XF	XF	66 HI	91 H-J	71 D-H	47 D-F	79 A-G	63 D-F	59 H-J	63 B-F	60 A-H
Innvictis B4603E	E3	64 I	85 J	56 JK	67 AB	76 B-G	64 D-F	57 IJ	56 F-H	53 H-K
MO S18-17644	Conv	55 J	61 K	59 I-K	47 D-F	70 F-I	54 GH	57 IJ	54 GH	44 KL
Perdue Agribusiness P48MO21	Conv	54 J	56 K	54 K	55 B-F	57 J	52 H	62 G-I	53 HI	41 L
TN Exp TN18-4110b	Conv.	47 K	54 K	36 L	46 EF	60 IJ	43 I	47 J	46 I	44 KL
Average		**70**	**97**	**69**	**62**	**77**	**64**	**71**	**64**	**59**
Standard Error		**5**	**5**	**4**	**5**	**4**	**2**	**5**	**3**	**3**
L.S.D..05		**5**	**16**	**11**	**15**	**9**	**6**	**13**	**8**	**9**
C.V.		**12**	**10**	**10**	**15**	**7**	**6**	**11**	**8**	**10**

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

‡ For a full description of abbreviated biotech traits see table 29

Table 19. Yields of 18 Maturity Group IV Late (4.6-4.9) Glyphosate / Dicamba tolerant soybean varieties in 12 County Standard Tests in Tennessee during 2023‡.

MS† Avg. Yield	Variety	Avg. Yield§ (bu/acre)	Avg. Moisture (%)	Croc 6/27	Dyer 6/1	Frank 5/31	Gibs 5/10	Giles 5/30	Hard 5/3	Hardin 6/1	Henr 6/26	Laud 5/27	Mad 6/24	Perr 5/24	Weak 5/10
A	Pioneer P47A64X	**71.8**	10.7	**80**	56	81	**88**	59	75	59	63	45	**98**	98	56
AB	NK 46-B4XFS	69.8	10.7	73	66'	77	82	49	**87**	**66**	63	39	94	97	44
ABCD	Revere 4795XS*	68.8	10.2	74'	65	80	84	**68**	64	56	62	41	83	96	51
ABC	Revere 4826XFS	68.8	10.6	74	65	82	80	67	80	60	51	37	88	89	53
ABCD	Dyna-Gro S49XF43S	67.6	11.0	76	63'	81	80	47	74	57	62	33	94	99	46
ABCD	USG 7474XFS	66.4	10.8	70	57	77	78	43	79	53	63	38	88	86	**65**
BCD	Revere 4806XS	66.2	**11.1**	68	69	77	75	67	67	63	58	33	85	89	43
BCD	Asgrow 48XF3	66.2	10.4	76	63'	74	75	37	70	60	60	42	82	91	65
BCD	NK 48-A8XF	65.9	10.8	71	**73**	80	78	40	67	56	63	39	88	90	43
BCD	Armor 46-F76	65.6	10.6	67	68	69	79	43	74	50	**64**	43	81	90	59
BCD	Pioneer P46A90LX	65.5	10.6	73	57	79	82	43	57	51	62	**53**	91	91	47
BCD	Asgrow 49XF3	65.3	10.8	75	68	79	71	48	69	56	61	24	92	81	60
BCD	Progeny 4691XFS	64.5	10.8	68	68	68	75	42	75	64	61	34	88	93	37
BCD	USG 7463XF	64.4	11.0	69	58	75	77	66	69	56	57	45	81	90	32
CD	Armor 46-F96	64.0	10.1	67	54	77	80	44	73	50	61	38	88	89	47
D	Asgrow 47XF2	63.4	10.5	63	64	82	81	40	48	55	53	37	80	**103**	55
D	USG 7461XFS	63.3	10.7	70	51	**83**	80	35	73	63	60	37	83	89	36
D	Dyna-Gro S47XF23S	63.1	10.4	62	63	73	79	46	72	45	61	35	85	86	51
	Average	66.1	10.6	71	62	78	79	49	71	57	60	38	87	91	49

Data Provided by Ryan Blair, Ext. Area Specialist, Grain and Cotton Variety Testing, and Extension agents in counties shown above.

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

County Locations include: Crockett, Dyer, Franklin, Gibson, Giles, Hardeman, Hardin, Henry, Lauderdale, Madison, Perry, Weakley

Table 20. Overall average yields, moistures, and test weights of eight Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in both the County Standard Tests and Research and Education Center Tests in Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. of REC and CST Tests			REC Tests			CST Tests		
		Avg. Yield[§] (bu/acre)	Avg. Moisture (%)	"A group" in both tests	Avg. Yield[§] (bu/acre)	Avg. Moisture (%)	"A group"	Avg. Yield[§] (bu/acre)	Avg. Moisture (%)	"A group"
Revere 4795XS	R2XS	73.1	11.0	*	77.3	11.8	*	68.8	10.2	*
Dyna-Gro S47XF23S	XFS	70.4	11.2		77.8	12.1	*	63.1	10.4	
USG 7474XFS	XFS	70.4	11.3	*	74.3	11.9	*	66.4	10.8	*
Dyna-Gro S48EN73	E3	70.2	12.1		72.9	12.0		67.4	12.1	
USG 7461XFS	XFS	70.0	11.3		76.7	11.9	*	63.3	10.7	
Dyna-Gro S49XF43S	XFS	69.4	11.6		71.3	12.1		67.6	11.0	*
Progeny 4691XFS	XFS	69.1	11.6		73.7	12.4	*	64.5	10.8	
USG 7463XF	XF	68.0	11.5		71.6	12.1		64.4	11.0	
Average		**70.1**	**11.4**		**74.5**	**12.0**		**65.7**	**10.9**	

‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.

Table 21. Yields and disease ratings of 17 Maturity Group 4 Late (4.6-4.9) Glyphosate / Dicamaba tolerant soybean varieties in 13 County Standard Tests and 18 varieties in small plot trials at 3 locations in Tennessee during 2023.

	Summary from County Tests		Summary from Small Plot Research															
		Avg.	On-farm Location in Jackson (JAX)					Research & Education Center at Milan (RECM)					West TN Research & Education Center (WTREC)				Soybean Cyst Nematode
		Yield	Yield (bu/ac)		Frogeye leaf spot	Target spot	Brown spot	Yield (bu/ac)		Frogeye leaf spot	Target spot	Brown spot	Yield (bu/ac)		Frogeye leaf spot	Target spot	Brown spot	
MS	Variety	(bu/ac)	*Treated	Non-treated				*Treated	Non-treated				*Treated	Non-treated				
A	Pioneer P47A64X	71.8	73.3	63.1	LOW	NONE	MOD	60.3	57.7	LOW	NONE	MOD	54.6	56.1	LOW	NONE	HIGH	S
AB	NK 46-B4XFS	69.8	70.5	56.2	HIGH	NONE	MOD	58.7	51.0	MOD	NONE	HIGH	54.3	47.1	LOW	NONE	HIGH	S
ABC	Revere 4826XFS	68.8	68.6	52.4	LOW	NONE	HIGH	49.5	49.0	LOW	NONE	MOD	53.9	49.2	LOW	LOW	MOD	S
ABCD	Dyna-Gro S49XF43S	67.6	68.5	57.8	NONE	LOW	HIGH	59.4	56.0	NONE	NONE	MOD	58.9	53.2	NONE	NONE	HIGH	MS
ABCD	USG 7474XFS	66.4	68.6	53.4	LOW	NONE	HIGH	53.9	48.7	LOW	NONE	MOD	53.8	55.5	LOW	NONE	MOD	MS
BCD	Asgrow 48XF3	66.2	66.9	51.2	MOD	NONE	HIGH	53.0	50.9	MOD	NONE	MOD	59.9	58.1	LOW	NONE	HIGH	MS
BCD	Revere 4806XS	66.2	67.4	50.8	LOW	NONE	HIGH	52.8	48.9	LOW	NONE	HIGH	53.7	51.5	LOW	LOW	HIGH	MS
BCD	NK 48-A8XF	65.9	64.0	49.4	HIGH	NONE	MOD	56.2	51.0	HIGH	NONE	MOD	58.9	58.5	LOW	NONE	MOD	S
BCD	Armor 46-F76	65.6	64.4	51.4	HIGH	NONE	HIGH	53.8	51.3	HIGH	NONE	MOD	58.5	58.1	LOW	NONE	HIGH	MS
BCD	Pioneer P46A90LX	65.5	66.5	57.7	NONE	NONE	HIGH	57.9	55.7	NONE	NONE	MOD	52.5	44.9	NONE	NONE	MOD	MS
BCD	Asgrow 49XF3	65.3	65.4	56.2	MOD	LOW	MOD	59.6	52.1	MOD	LOW	LOW	60.9	55.9	LOW	MOD	MOD	MS
BCD	Progeny 4691XFS	64.5	67.8	56.2	HIGH	NONE	HIGH	55.8	51.8	MOD	NONE	MOD	53.9	53.7	LOW	LOW	MOD	MS
BCD	USG 7463XF	64.4	66.8	57.2	MOD	NONE	HIGH	55.4	49.8	LOW	NONE	HIGH	59.4	55.6	NONE	LOW	HIGH	MS
CD	Armor 46-F96	64.0	64.3	59.3	MOD	NONE	HIGH	54.1	53.3	LOW	LOW	HIGH	52.1	41.5	NONE	NONE	MOD	S
D	Asgrow 47XF2	63.4	61.8	54.5	NONE	NONE	HIGH	50.0	49.6	NONE	NONE	MOD	51.7	53.0	NONE	LOW	MOD	MS
D	USG 7461XFS	63.3	65.8	57.3	MOD	NONE	MOD	50.7	51.7	LOW	NONE	MOD	53.9	52.5	LOW	NONE	MOD	MS
D	Dyna-Gro S47XF23S	63.1	63.7	52.7	LOW	NONE	HIGH	47.0	45.4	LOW	NONE	MOD	58.1	55.4	LOW	NONE	MOD	MS
	Average	66.0	66.7	55.1				54.6	51.4				55.8	52.9				

Yield adjusted to 13.5% moisture
MS= Varieties that have any MS letter in common are not statistically different in yield (based on 95% confidence)

*Treated plots sprayed with Miravis Top @13.7 fl oz/a + 0.25% Induce @ R3 growth stage
JAX varieties planted May 19, sprayed Aug. 1, and harvested Oct. 9
RECM varieties planted May 24, sprayed Aug. 7, and harvested Oct. 12
WTREC vareities planted June 15, sprayed Aug. 17, and harvested Oct. 19

NONE, LOW, MOD, and HIGH is a relative ranking of disease severity at each location.
Soybean Cyst Nematode rateds as Resistant (R), Moderately Resistant (MR), Moderately Susceptible (MS), Susceptible (S), or High Susceptible (HS) to HG Type 1.2.5.7/Race 2
Disease ratings at JAX: Frogeye leaf spot ranged from 0 - 60%, averaged 12%; Target spot from 0 - 6%, averaged 0.3%; Brown spot from 20 - 40%, averaged 29%
Disease ratings at RECM: Frogeye leaf spot ranged from 0 - 18%, averaged 5%; Target spot from 0 - 2%, averaged 0.2%; Brown spot from 9 - 27%, averaged 19%
Disease ratings at WTREC: Frogeye leaf spot ranged from 0 - 2%, averaged 0.4%; Target spot from 0 - 8%, averaged 0.7%; Brown spot from 14 - 28%, averaged 21%

Disease ratings & yield data compiled by Dr. Heather Kelly and Wesley Crowder from replicated plots at 3 locations
County data provided by Ryan Blair, Ext. Area Specialist, and County Extension agents
Soybean Cyst Nematode data provided by Dr. Lesley Schumacher and Tara Sydboten, USDA Research Plant Pathologist Unit

Table 22-a. Mean[†] yield, agronomic traits, and quality of 12 Maturity Group V (5.0 - 5.9) soybean varieties evaluated in small plot replicated trials at nine REC locations in Tennessee during 2023. Analysis included variety performance over a 1 yr, 2 yr, and 3 yr period.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)		Moisture at Harvest (%)		Plant Height (in.)		Lodging[‖] (1-5)	
		1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr
NK 52-D6E3*	E3	80 A	71 A	12.2 D	12.0 C	43 B	40 B	1.4 D-F	1.6 B
Revere 5029XF	XF	74 B	67 B	12.6 A-C	12.6 A	45 A	43 A	1.6 C-E	1.5 B
Progeny 5056XFS	XFS	72 BC	67 B	12.7 A	12.7 A	46 A	43 A	1.6 CD	1.5 B
USG 7503XF	XF	72 B-D		12.4 B-D		43 B		1.5 C-F	
Innvictis A5503XF	XF	71 B-E		12.2 D		43 B		1.2 EF	
Innvictis A5003XF	XF	67 C-F		12.2 D		40 C		1.8 BC	
Asgrow AG53XF2	XF	66 D-F	60 C	12.3 B-D	12.3 B	43 B	41 B	1.2 F	1.2 C
MO S18-6013	Conv	66 EF		12.6 AB		36 D		1.6 B-D	
USG 7534GT	GT	63 FG		12.4 B-D		46 A		2.0 B	
USG 7543XF	XF	62 F-H		12.3 CD		46 A		2.0 B	
MO S18-6328	Conv	59 GH	57 C	12.3 B-D	12.2 BC	36 D	35 C	2.6 A	2.2 A
Innvictis A5813XF	XF	57 H		12.4 B-D		40 C		1.4 D-F	
Average		67	64	12.4	12.4	42	40	1.7	1.6
Standard Error		5	6	0.8	0.4	1	2	0.2	0.2
L.S.D.·.05		5	3	0.3	0.3	2	1	0.3	0.2
C.V.		14	13	4	6	8	8	-	-
Site-Years		8	16	8	16	8	16	8	16

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

‡ For a full description of abbreviated biotech traits, see table 29.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table 22-b. Mean[†] yield, agronomic traits, and quality of 12 Maturity Group V (5.0 - 5.9) soybean varieties evaluated in small plot replicated trials at nine REC locations in Tennessee during 2023. Analysis included variety performance over a 1 yr, 2 yr, and 3 yr period.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)		Maturity (DAP)		Protein[¶] (%)		Oil[¶] (%)	
		1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr
NK 52-D6E3*	E3	80 A	71 A	149 EF	147 B	33.5 E	33.6 C	24.4 BC	23.8 AB
Revere 5029XF	XF	74 B	67 B	151 C	148 A	33.8 DE	34.2 BC	24.5 BC	24.0 AB
Progeny 5056XFS	XFS	72 BC	67 B	151 CD	148 A	33.7 E	34.4 B	24.2 C	23.7 B
USG 7503XF	XF	72 B-D		149 F		32.0 G		24.5 BC	
Innvictis A5503XF	XF	71 B-E		151 C-E		31.6 G		24.7 B	
Innvictis A5003XF	XF	67 C-F		150 D-F		32.7 F		25.7 A	
Asgrow AG53XF2	XF	66 D-F	60 C	150 C-E	147 B	31.6 G	32.3 D	24.9 B	24.2 A
MO S18-6013	Conv	66 EF		155 A		34.2 DE		24.2 C	
USG 7534GT	GT	63 FG		150 C-F		36.7 A		22.2 E	
USG 7543XF	XF	62 F-H		153 B		34.4 CD		23.4 D	
MO S18-6328	Conv	59 GH	57 C	153 B	149 A	35.0 C	35.2 A	23.2 D	22.8 C
Innvictis A5813XF	XF	57 H		155 A		35.9 B		22.0 E	
Average		67	64	151	148	33.8	33.9	24.0	23.7
Standard Error		5	6	2	3	0.2	0.5	0.2	0.6
L.S.D.-.05		5	3	1	1	0.6	0.7	0.4	0.5
C.V.		14	13	2	1	1	2	1	2
Site-Years		8	16	8	16	1	2	1	2

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

‡ For a full description of abbreviated biotech traits, see table 29.

§ All yields are adjusted to 13% moisture.

¶ Protein and oil were measured post-harvest using NIRS and are reported on a dry weight basis.

Table 22-c. Mean[†] yield, agronomic traits, and quality of 12 Maturity Group V (5.0 - 5.9) soybean varieties evaluated in small plot replicated trials at nine REC locations in Tennessee during 2023. Sudden death syndrome (SDS) and frogeye disease ratings were taken in mid-September. Leaf holding was taken at harvest. Seed quality and purple stain raitings were taken post-harvest.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††, T] (%)	SDS DS[††, T] (1-9)	SDS DX[††, T] (DI x DS/9)	Frogeye[‡‡, T] (1-9)	Seed Quality[§§] (1-5)	Purple Stain[¶¶] (1-5)	Leaf Holding (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
NK 52-D6E3*	E3	80 A	2 E	1.1 F	0 E	1.1 E	1.8 A	1.0 A	1.7 CD
Revere 5029XF	XF	74 B	6 CD	1.5 DE	2 CD	1.8 BC	1.0 C	1.5 A	2.2 A
Progeny 5056XFS	XFS	72 BC	3 DE	1.2 EF	1 DE	1.9 B	1.2 BC	1.2 A	1.8 B-D
USG 7503XF	XF	72 B-D	14 A	2.2 AB	5 A	1.4 C-E	1.3 B	1.0 A	1.8 A-D
Innvictis A5503XF	XF	71 B-E	15 AB	1.9 B-D	4 AB	1.5 C-E	1.0 C	1.2 A	1.6 CD
Innvictis A5003XF	XF	67 C-F	21 AB	2.0 A-C	7 AB	1.3 DE	1.0 C	1.3 A	1.5 D
Asgrow AG53XF2	XF	66 D-F	12 BC	2.0 A-D	4 BC	1.3 DE	1.0 C	1.2 A	1.6 CD
MO S18-6013	Conv	66 EF	4 DE	1.2 EF	1 DE	1.1 DE	1.0 C	1.0 A	1.8 B-D
USG 7534GT	GT	63 FG	18 AB	1.8 B-D	5 AB	1.2 DE	1.2 BC	1.3 A	2.1 AB
USG 7543XF	XF	62 F-H	20 AB	2.4 A	7 AB	1.2 DE	1.0 C	1.0 A	2.0 A-C
MO S18-6328	Conv	59 GH	2 E	1.2 EF	0 E	1.5 B-D	1.0 C	1.0 A	2.2 A
Innvictis A5813XF	XF	57 H	10 A-C	1.7 CD	3 A-C	3.2 A	1.0 C	1.2 A	1.8 B-D
Average		67	10	1.7	3	1.5	1.1	1.2	1.8
Standard Error		5	4	0.3	2	0.2	0.1	0.1	0.3
L.S.D.-.05		5	Sig.	Sig.	Sig.	Sig.	0.3	N.S.	0.4
Site-Years		8	8	8	8	8	1	1	6

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

‡ For a full description of abbreviated biotech traits, see table 29.

§ All yields are adjusted to 13% moisture.

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September at all locations.

‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September at all locations.

|| Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity. Evaluated at all locations except Milan Irr and Milan Non-Irr.

§§ Seed quality was evaluated visually post-harvest using a 1 to 5 scale, with 1 indicating no shriveled or damaged seed. Evaluated at Knoxville location only.

Table 23. Mean[†] yields across and by location of 12 Maturity Group V (5.0 - 5.9) soybean varieties evaluated in replicated small plot trials at nine REC locations in Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	Greeneville Non-Irr. (bu/ac)	Knoxville Irr. (bu/ac)	Springfield Irr. (bu/ac)	Springfield Non-Irr. (bu/ac)	Spring Hill Non-Irr. (bu/ac)	Milan Irr. (bu/ac)	Milan Non-Irr. (bu/ac)	Jackson Non-Irr. (bu/ac)
NK 52-D6E3*	E3	80 A	95 A-C	77 A	83 A	91 A	75 A	81 A	67 A-C	66 A
Revere 5029XF	XF	74 B	99 A-C	71 A	65 B	81 B	71 A-C	83 A	70 A	51 BC
Progeny 5056XFS	XFS	72 BC	89 B-D	75 A	60 B-D	78 BC	72 AB	76 AB	70 A	56 B
USG 7503XF	XF	72 B-D	112 A	79 A	55 B-F	71 CD	64 CD	73 A-D	69 AB	51 BC
Innvictis A5503XF	XF	71 B-E	111 AB	64 A	57 B-E	77 B-D	67 B-D	75 A-D	64 A-C	52 BC
Innvictis A5003XF	XF	67 C-F	92 A-C	80 A	44 EF	78 BC	70 A-C	64 DE	62 A-C	44 CD
Asgrow AG53XF2	XF	66 D-F	91 A-C	67 A	52 B-F	76 B-D	67 B-D	64 C-E	61 BC	51 BC
MO S18-6013	Conv	66 EF	67 DE	71 A	66 B	72 B-D	62 DE	76 A-C	60 C	55 B
USG 7534GT	GT	63 FG	98 A-C	70 A	51 C-F	71 B-D	64 C-E	61 E	45 E	45 CD
USG 7543XF	XF	62 F-H	69 DE	61 A	47 D-F	81 B	63 DE	67 B-E	63 A-C	42 D
MO S18-6328	Conv	59 GH	64 E	72 A	62 BC	67 D	52 F	61 E	51 DE	41 D
Innvictis A5813XF	XF	57 H	79 C-E	66 A	41 F	51 E	57 EF	61 E	59 CD	39 D
Average		67	89	71	57	75	65	70	62	49
Standard Error		5	8	6	5	3	2	4	3	3
L.S.D.·.05		5	22	N.S.	14	10	7	12	8	8
C.V.		14	15	14	14	8	6	10	8	9

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.

Table 24. Yields of eight Maturity Group V Early (5.0-5.5) Xtend Flex soybean varieties in six County Standard Tests in Tennessee during 2023‡.

MS† Avg. Yield	Variety	Avg. Yield§ (bu/acre)	Avg. Moisture (%)	Dyer 6/1	Gibs 5/10	Gile 5/30	Henr 6/26	Mad1 5/17	Mad2 7/2
A	NK 54J9XFS	**63.4**	**13.2**	55	76	41	**88**	77	43
A	Revere 5029XF	59.9	10.9	41	77	**56**	66	79	39
A	Pioneer P50A08LX	58.0	10.2	**64**	74	40	56	73	41
A	Asgrow 53XF2	57.6	10.7	52	**78**	40	54	**81**	41
A	USG 7543XF	57.6	10.6	59	66	45	73	68	36
A	Dyna-Gro S51XF84S	57.3	10.8	43	77	49	61	77	38
A	Progeny 5056XFS	57.3	10.4	59	75	35	62	68	**45**
A	NK 52-V1XF	56.1	11.6	52	76	37	64	76	33
	Average	58.4	11.1	53	75	43	65	75	39

‡ Data Provided by Ryan Blair, Ext. Area Specialist, Grain and Cotton Variety Testing, and Extension agents in counties shown above.

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

County Locations include: Dyer, Gibson, Giles, Henry, Madison

Table 25. Overall average yields, moistures, and test weights of four Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in both the County Standard Tests and Research and Education Center Tests in Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. of CST and REC Tests			REC Tests			CST Tests		
		Avg. Yield[§] (bu/*acre*)	Avg. Moisture (%)	"A group" in both tests	Avg. Yield[§] (bu/*acre*)	Avg. Moisture (%)	"A group"	Avg. Yield[§] (bu/*acre*)	Avg. Moisture (%)	"A group"
NK 52-D6E3	E3	73.8	12.0		79.5	12.2	*	68.0	11.9	
Revere 5029XF	XF	66.8	11.7		73.8	12.6		59.9	10.9	*
Progeny 5056XFS	XFS	64.6	11.6		72.0	12.7		57.3	10.4	*
USG 7543XF	XF	59.8	11.5		61.9	12.3		57.6	10.6	*
Average		66.3	11.7		71.8	12.4		60.7	10.9	

‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.

Table 26. Yields and disease ratings of 8 Maturity Group V (5.0 - 5.5) Xtend Flex soybean varieties in 6 County Standard Tests and in small plot trials at 2 locations in Tennessee during 2023.

	Summary from County Tests		Summary from Small Plot Research									
		Avg. Yield (bu/ac)	On-farm Location in Jackson (JAX)				Research & Education Center at Milan (RECM)					Soybean Cyst Nematode
			Yield (bu/ac)		Frogeye leaf spot	Brown spot	Yield (bu/ac)		Frogeye leaf spot	Target spot	Brown spot	
MS	Variety		*Treated	Non-treated			*Treated	Non-treated				
A	NK 54J9XFS	63.4	62.5	56.8	LOW	HIGH	64.5	57.4	NONE	NONE	MOD	MS
A	Revere 5029XF	59.9	60.3	55.7	MOD	MOD	57.7	52.7	LOW	NONE	MOD	MS
A	Pioneer P50A08LX	58.0	57.8	54.5	LOW	MOD	53.1	51.4	LOW	LOW	MOD	MS
A	Asgrow 53XF2	57.6	66.0	57.9	LOW	MOD	59.6	51.8	LOW	LOW	LOW	MR
A	USG 7543XF	57.6	60.2	57.9	LOW	HIGH	63.5	54.9	NONE	LOW	MOD	MS
A	Dyna-Gro S51XF84S	57.3	63.9	50.3	HIGH	HIGH	55.5	50.0	MOD	NONE	MOD	MS
A	Progeny 5056XFS	57.3	64.5	55.5	MOD	HIGH	57.1	50.6	LOW	NONE	HIGH	MS
A	NK 52-V1XF	56.1	64.9	55.4	MOD	MOD	58.3	49.7	LOW	LOW	MOD	S
	Average	58.4	62.5	55.5			58.7	52.3				

Yield adjusted to 13.5% moisture
MS= Varieties that have any MS letter in common are not statistically different in yield (based on 95% confidence)

*Treated plots sprayed with Miravis Top @13.7 fl oz/a + 0.25% Induce @ R3 growth stage
JAX varieties planted May 19, sprayed Aug. 1, and harvested Oct. 10
RECM varieties planted May 24, sprayed Aug. 7, and harvested Oct. 18

NONE, LOW, MOD, and HIGH is a relative ranking of disease severity at each location.
Soybean Cyst Nematode rateds as Resistant (R), Moderately Resistant (MR), Moderately Susceptible (MS), Susceptible (S), or High Susceptible (HS) to HG Type 1.2.5.7/Race 2
Disease ratings at JAX: Frogeye leaf spot ranged from 0.2 - 28%, averaged 6%; Target spot was not observed; Brown spot from 10 - 25%, averaged 18%
Disease ratings at RECM: Frogeye leaf spot ranged from 0 - 14%, averaged 3%; Target spot from 0 - 4%, averaged 1%; Brown spot from 10 - 23%, averaged 16%

Disease ratings & yield data compiled by Dr. Heather Kelly and Wesley Crowder from replicated plots at 2 locations
County data provided by Ryan Blair, Ext. Area Specialist, and County Extension agents
Soybean Cyst Nematode data provided by Dr. Lesley Schumacher and Tara Sydboten, USDA Research Plant Pathologist Unit

Table 27. Characteristics of soybean varieties evaluated in Tennessee during 2023, as provided by the seed company.

Variety	Rel. Mat.	Herb. Tol.[†]	SCN[‡]	SDS[‡]	Frogeye[‡]	Seed Treatment
Asgrow AG38XF1	3.8	XF	R3	5	3	Accerleron Fungicide + Insecticide
Asgrow AG39XF3	3.9	XF	R3	S	S	
Asgrow AG43XF2	4.3	XF	R3	S	S	Accerleron Fungicide + Insecticide
Asgrow AG45XF3	4.5	XF	R3	S	S	
Asgrow AG47XF2	4.7	XF	R3	S	S	Accerleron Fungicide + Insecticide
Asgrow AG48XF3	4.8	XF	R3	S	S	
Asgrow AG49XF3	4.9	XF	R3	S	S	
Asgrow AG53XF2	5.3	XF	R3	S	S	Accerleron Fungicide + Insecticide
Don Mario DM45F23	4.5	XF		MR	R	Cruiser Max Vibrance
Don Mario DM48F53	4.8	XF		MR	R	Cruiser Max Vibrance
Dyna-Gro S38XF22S*	3.8	XF	MR3	MR	MR	Equity VIP Saltro & Vayantis
Dyna-Gro S41EN72	4.1	E3	R3, MR14	MR	MR	Equity VIP Saltro & Vayantis
Dyna-Gro S45XF02	4.5	XF	MR3	MR	MR	Equity VIP Saltro & Vayantis
Dyna-Gro S47XF23S	4.7	XFS	R3	MR	MS	Equity VIP Saltro & Vayantis
Dyna-Gro S48EN73	4.8	E3	R3	MS	MS	Equity VIP Saltro & Vayantis
Dyna-Gro S49XF43S	4.9	XFS	MR3	MS	R	Equity VIP Saltro & Vayantis
Innvictis A3992XF	3.9	XF	R	R	R	Insecticide/Fungicude
Innvictis A4411XF	4.4	XF				
Innvictis A4503XF	4.5	XF	R	MR	R	Insecticide/Fungicude
Innvictis A4862XF	4.8	XF	R	R	R	fungicide /insecticide
Innvictis A5003XF	5.0	XF	R	R	R	Insecticide/Fungicude
Innvictis A5503XF	5.5	XF	SR	R	R	Insecticide/Fungicude
Innvictis A5813XF	5.8	XF	R	MR	NA	Insecticide/Fungicude
Innvictis B4603E	4.6	E3	MR	R	R	Insecticide/Fungicude
Innvictis B4903E	4.9	E3	MR	R	R	Insecticide/Fungicude
Innvictis B5013E	4.0	E3	MR	NA	R	Insecticide/Fungicude
MO S18-17644	4.8	Conv	1, 3, 14	R	MR	Warden RTA
MO S18-6013	5.2	Conv	3, 14	R	MR	Warden RTA
MO S18-6328	5.0	Conv	R - 1, 3, 14	R	MR	Warden RTA
MO S19-10701	4.5	Conv	3, 14	R	S	Warden RTA
NK 42-A6E3S	4.2	E3	MR3	R	R	Cruisermaxx APX
NK 44-Q5E3S	4.4	E3	MR3, MR14	R	R	Cruisermaxx APX

Table 27. cont.

Variety						
NK 52-D6E3*	5.2	E3	MR3, MR14	R	R	Cruisermaxx APX
Perdue Agribusiness P29ILO22	2.9	Conv	R3			
Perdue Agribusiness P30ILO22	3.0	Conv	R3			
Perdue Agribusiness P41IL022	4.1	Conv	R3			
Perdue Agribusiness P41MO21	4.1	Conv	R3, R14	S	S	
Perdue Agribusiness P45XP421	4.5	Conv	S1, S3, S5			
Perdue Agribusiness P48MO21	4.8	Conv	R2	R	R	
Progeny 4604XFS**	4.6	XFS	R	MR/MS	MR	ProServo/S
Progeny 4691XFS*	4.6	XFS	R	S	MR	ProServo/S
Progeny 4775E3S	4.7	E3S	R3, MR14	MR	MR	ProServo/S
Progeny 4798XF	4.7	XF		MR	MR	ProServo/S
Progeny 4806XFS	4.8	XFS		S	MS	ProServo/S
Progeny 5056XFS	5	XFS		MS	S	ProServo/S
Revere 3908XFS*	3.9	XFS	MR3	MR/MS	Avg	Radius Premium
Revere 4237XFS	4.2	XFS				Radius Premium
Revere 4299XS	4.2	R2XS	R3, MR14	MR	VG	Radius Premium
Revere 4526XFS	4.5	XFS	R3, MR14	MR	BA	Radius Premium
Revere 4727XF	4.7	XF	R3, MR14	R	Ex	Radius Premium
Revere 4731XF	4.7	XF				Radius Premium
Revere 4795XS****	4.7	R2XS	R3, MR14	R	VG	Radius Premium
Revere 4826XF*	4.8	XF	R3, MR14	MR/MS	BA	Radius Premium
Revere 4934XF	4.9	XF				Radius Premium
Revere 5029XF	5.0	XF	R3, MR14	MR/MS	Avg	Radius Premium
TN Exp TN18-4110b	4.9	Conv.	S	unknown	unknown	tbd
USG 7394XFS	3.9	XFS	HR3, MS14	MR	MR	Ipconazole, Metalaxyl, Imidicloprid

Table 27. cont.

USG 7461XFS**	4.6	XFS	R3, MR14	MR	MR	Ipconazole, Metalaxyl, Imidicloprid
USG 7463XF	4.6	XF	S	MR	MR	Ipconazole, Metalaxyl, Imidicloprid
USG 7474XFS	4.7	XFS	R3, MR14	MR	R	Ipconazole, Metalaxyl, Imidicloprid
USG 7494ETS	4.9	E3S	R3, MR14		MR	Ipconazole, Metalaxyl, Imidicloprid
USG 7496XTS**	4.9	R2XS	R3, MR14	MR	MS	Ipconazole, Metalaxyl, Imidicloprid
USG 7503XF	5.0	XF	S	MR	MR	Ipconazole, Metalaxyl, Imidicloprid
USG 7534GT	5.4	GT	MS2, MR3, MS5			Ipconazole, Metalaxyl, Imidicloprid
USG 7543XF	5.4	XF	S	MR	MR	Ipconazole, Metalaxyl, Imidicloprid
Xitavo 3803E	3.8	E3	R3	MS	MR	ObviusPlus Poncho Votivo Ilevo
Xitavo 4084E	4.0	E3	R3	MS	MR	ObviusPlus Poncho Votivo Ilevo
Xitavo 4364E	4.3	E3	R3	MR	MR	ObviusPlus Poncho Votivo Ilevo
Xitavo 4522E	4.5	E3	R3	MR	MD	ObviusPlus Poncho Votivo Ilevo
Xitavo 4653E	4.6	E3	R3	MS	MR	ObviusPlus Poncho Votivo Ilevo
Xitavo 4894E	4.8	E3	R3		MR	ObviusPlus Poncho Votivo Ilevo

† For a full description of abbreviated biotech traits, see table 30.
‡ R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

Table 28. Contact information for soybean seed companies evaluated in yield tests in Tennessee during 2023.

Brand (Company)	Contact	Phone	Email	Web site
Asgrow (Bayer Company)	Wes Rodgers	731-478-4349	wesley.rodgers@bayer.com	www.bayer.com
Don Mario (GDM Seeds)	Caleb Smitch	217-722-0079	csmith@gdmseeds.com	
Dyna-Gro (Nutrien Ag Solutions)	Brock Sargeant	270-881-3003	brock.sargeant@nutrien.com	www.dynagroseed.com
Innvictis Seed Solutions	Max Crittenden	254-652-0032	max.crittenden@innvictis.com	www.innvictis.com
MO (University of Missouri)	Michael Clubb	573-379-5431	clubbm@missouri.edu	www.missouri.edu
NK Seeds (Syngenta)	Brad McAlpin	870-227-0524	brad.mcalpin@syngenta.com	www.syngenta-us.com/seeds/nk
Perdue Agribusiness LLC	Christian Overton	252-301-0536	christian.overton@perdue.com	www.perdueagribusiness.com
Progeny Ag (Erwin-Keith, Inc)	Jimbo Crawford	870-974-2310	jimbo@progenyag.com	www.progenyag.com
Revere Seed	Doug Messersmith	570-753-5503	doug.messersmith@revereseed.com	www.revereseed.com
TN (University of Tennessee)	Vince Pantalone	865-974-8801	vpantalo@utk.edu	
USG (UniSouth Genetics, Inc.)	Fandrich Supply Co. (Belvidere, TN)	931-967-3377	sburwick@usgseed.com	www.usgseed.com
	Huffstetler & Sons Seed Inc. (Greenfield, TN)	731-235-2167		
	Hurt Seed Co. Inc. (Halls, TN)	731-836-7574		
	Stacy Burwick	800-505-3133		
Xitavo (BASF)	David Pazdernik	317-385-9101	david.pazdernik@basf.com	xitavosoybeanseed.com

Table 29. Abbreviations used to identify biotech traits of soybean varieties evaluated in Tennessee during 2023.

Abbreviation	Name	Characteristic
E3	Corteva Enlist E3	2,4-D choline, Glyphosate, and Glufosinate tolerance
R2	Bayer Roundup Ready 2®	Glyphosate tolerance.
RX	Bayer Roundup Ready 2 Xtend®	Glyphosate and Dicamba tolerance
XF	Bayer XtendFlex	Dicamba, glyphosate, and glufosinate tolerance
Conv.	Conventional	No transgenic modification
S	Sulfonylurea tolerant soybean (May be in combination with above traits)	Sulfonylurea tolerance

Table A-1-a. Mean[†] yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials without irrigation at the Northeast Tennessee AgResearch and Education Center in Greeneville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Revere 3908XFS*	XFS	108 A	84 A	78 A	8.5 B	11.2 A	11.9 A	40 AB	41 A	40 A	2.0 EF	1.5 B	1.4 A	138 BC	129 A	-
USG 7394XFS	XFS	105 AB			8.8 A			43 A			3.0 BC			139 AB		
Innvictis A3992XF	XF	103 AB			8.4 BC			39 B			2.8 BC			140 A		
Asgrow AG38XF1	XF	99 AB	84 A	77 A	8.4 BC	11.3 A	12.0 A	40 AB	42 A	39 A	2.2 D-F	1.6 B	1.4 A	139 AB	130 A	-
Dyna-Gro S38XF22S*	XF	99 AB	79 A		8.3 BC	11.2 A		44 A	41 A		2.5 C-E	1.9 A		139 AB	130 A	-
Xitavo 3803E	E3	93 BC			8.4 BC			39 B			2.7 CD			138 A-C		
Asgrow AG39XF3	XF	83 C			8.5 B			41 AB			3.3 AB			138 BC		-
Perdue Agribusiness P30ILO22	Conv	63 D			8.2 C			31 C			1.7 F			134 D		
Perdue Agribusiness P29ILO22	Conv	50 E			7.7 D			34 C			3.7 A			137 C		
Average		89	82	77	8.4	11.3	11.9	39	41	40	2.6	1.7	1.4	138	129	-
Standard Error		4	20	13	0.1	2.8	1.8	1	2	2	0.2	0.6	0.4	1	9	-
L.S.D..05		12	N.S.	N.S.	0.3	N.S.	N.S.	4	N.S.	N.S.	0.6	0.3	N.S.	2	N.S.	-
C.V.		7	13	15	2	3	3	5	9	8	-	-	-	1	0	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

‡ For a full description of abbreviated biotech traits, see table 29.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-1-b. Mean[†] yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials without irrigation at the Northeast Tennessee AgResearch and Education Center in Greeneville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††] (%)	SDS DS[††] (1-9)	SDS DX[††] (DI x DS/9)	Frogeye[‡‡] (%)	Leaf Holding[‖] (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
Revere 3908XFS*	XFS	108 A	0.0	1.0	0.0	1.3 A	1.7
USG 7394XFS	XFS	93 BC	3.3	1.0	0.4	1.3 A	1.5
Innvictis A3992XF	XF	83 C	0.0	1.0	0.0	2.0 A	1.5
Asgrow AG38XF1	XF	99 AB	0.0	1.0	0.0	1.0 A	1.5
Dyna-Gro S38XF22S*	XF	105 AB	0.0	1.0	0.0	1.3 A	1.5
Xitavo 3803E	E3	63 D	0.0	1.0	0.0	2.0 A	1.5
Asgrow AG39XF3	XF	99 AB	0.0	1.0	0.0	1.7 A	1.5
Perdue Agribusiness P30ILO22	Conv	50 E	0.0	1.0	0.0	2.0 A	1.5
Perdue Agribusiness P29ILO22	Conv	103 AB	0.0	1.0	0.0	1.0 A	1.5
Average		89	0	1.0	0	1.5	2
Standard Error		4	0	0.0	0	0.4	0
L.S.D..05		12	N.E.	N.E.	N.E.	N.S.	N.E.
C.V.		7	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-2-a. Mean[†] yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials with irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Asgrow AG39XF3	XF	88 A			13.4 A			36 BC			2.5 A			137 AB		
USG 7394XFS	XFS	85 AB			13.5 A			39 A			2.3 AB			136 A-C		
Xitavo 3803E	E3	83 AB			13.7 A			36 A-C			2.5 A			134 CD		
Dyna-Gro S38XF22S*	XF	82 AB	80 A		13.3 A	14.4 A		38 AB	42 A		1.8 B-D	1.8 A		136 A-C	133 A	
Revere 3908XFS*	XFS	77 A-C	80 A	79 A	13.6 A	14.4 A	14.9 A	37 A-C	43 A	39 A	2.0 A-C	1.8 A	1.7 A	135 B-D	134 A	133 B
Asgrow AG38XF1	XF	75 BC	74 A	72 B	13.2 A	14.3 A	14.8 A	35 BC	40 A	37 B	1.5 CD	1.3 B	1.3 B	135 BC	134 A	135 A
Innvictis A3992XF	XF	65 CD			13.2 A			34 C			1.8 B-D			138 A		
Perdue Agribusiness P30ILO22	Conv	56 D			13.4 A			28 D			1.3 D			133 D		
Perdue Agribusiness P29ILO22	Conv	53 D			13.8 A			28 D			1.5 CD			129 E		
Average		74	78	76	13.5	14.4	14.9	34	41	38	1.9	1.7	1.5	135	134	134
Standard Error		4	2	2	0.1	1.0	0.8	1	5	4	0.2	0.2	0.2	1	2	1
L.S.D..05		12	N.S.	5	N.S.	N.S.	N.S.	3	N.S.	2	0.6	0.4	0.3	2	N.S.	1
C.V.		10	6	6	2	4	2	5	5	5	19	19	16	1	1	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-2-b. Mean[†] yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials with irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Protein[¶] (%)			Oil[¶] (%)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Asgrow AG39XF3	XF	88 A			34.8 AB			22.4 EF		
USG 7394XFS	XFS	85 AB			34.4 BC			23.6 C		
Xitavo 3803E	E3	83 AB			31.6 F			25.9 A		
Dyna-Gro S38XF22S*	XF	82 AB	80 A		33.1 E	33.4 C		24.8 B	24.9 A	
Revere 3908XFS*	XFS	77 A-C	80 A	79 A	35.0 A	35.3 A	35.8 A	23.1 D	22.9 C	22.6 B
Asgrow AG38XF1	XF	75 BC	74 A	72 B	33.9 CD	34.2 B	34.8 B	23.4 C	23.3 B	23.1 A
Innvictis A3992XF	XF	65 CD			33.3 E			23.4 CD		
Perdue Agribusiness P30ILO22	Conv	56 D			33.7 D			22.5 E		
Perdue Agribusiness P29ILO22	Conv	53 D			33.2 E			22.1 F		
Average		74	78	76	33.7	34.3	35.3	23.5	23.7	22.9
Standard Error		4	2	2	0.2	0.3	0.6	0.1	0.1	0.3
L.S.D..05		12	N.S.	5	0.5	0.5	0.3	0.3	0.3	0.1
C.V.		10	6	6	1	1	1	1	1	0

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
¶ Protein and oil were measured post-harvest using NIRS and are reported on a dry weight basis.

Table A-2-c. Mean† yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials with irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)	SDS DI†† (%)	SDS DS†† (1-9)	SDS DX†† (DI x DS/9)	Frogeye‡‡ (%)	Seed Quality§§ (1-5)	Purple Stain¶¶ (1-5)	Leaf Holding‖ (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
Asgrow AG39XF3	XF	88 A	20 A-C	3.3 B	8 BC	3.0 A	1.3 B	1.3 A	1.3 A-C
USG 7394XFS	XFS	85 AB	20 A-C	3.7 B	8 BC	2.7 A	1.7 AB	1.5 A	1.7 A
Xitavo 3803E	E3	83 AB	18 BC	1.3 CD	2 C	1.7 A	2.2 A	1.5 A	1.3 A-C
Dyna-Gro S38XF22S*	XF	82 AB	0 C	1.0 D	0 C	2.7 A	1.3 B	1.2 A	1.2 BC
Revere 3908XFS*	XFS	77 A-C	45 A	5.3 A	26 A	1.7 A	1.5 B	1.5 A	1.5 AB
Asgrow AG38XF1	XF	75 BC	43 AB	3.3 B	16 B	1.7 A	1.2 B	1.3 A	1.5 AB
Innvictis A3992XF	XF	65 CD	5 C	2.7 BC	1 C	3.3 A	1.5 B	1.2 A	1.5 AB
Perdue Agribusiness P30ILO22	Conv	56 D	15 C	2.7 BC	4 C	2.0 A	1.2 B	1.2 A	1.0 C
Perdue Agribusiness P29ILO22	Conv	53 D	25 A-C	2.7 BC	8 BC	3.0 A	1.5 B	1.5 A	1.0 C
Average		74	21	2.9	8	2.4	1.5	1.4	1.3
Standard Error		4	9	0.5	3	0.7	0.2	0.1	0.1
L.S.D..05		12	26	1.4	10	N.S.	0.6	N.S.	0.4
C.V.		10	-	-	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
§§ Seed quality was evaluated visually post-harvest using a 1 to 5 scale, with 1 indicating no shriveled or damaged seed.
¶¶ Purple stain was evaluated visually post-harvest using a 1 to 5 scale, with 1 indicating no purple stain.

Table A-3-a. Mean† yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials with irrigation at the Highland Rim AgResearch and Education Center in Springfield, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging‖ (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Xitavo 3803E	E3	83 A			14 A			35 A-C			1.0			135 A		
Dyna-Gro S38XF22S*	XF	75 AB	49 A		14 A	12 A		38 AB	32 A		1.0	1.0	1.0	135 A	135 A	
Asgrow AG39XF3	XF	74 AB			13 A			34 BC			1.0	1.0		135 A		
Asgrow AG38XF1	XF	72 AB	47 A	52 A	13 A	12 B	12 A	36 A-C	31 A	31 A	1.0	1.0	1.0	136 A	134 AB	134 A
USG 7394XFS	XFS	68 B			14 A			38 AB			1.0			136 A		
Revere 3908XFS*	XFS	64 BC	48 A	55 A	13 A	12 AB	13 A	40 A	33 A	33 A	1.0	1.0	1.0	133 B	133 B	133 A
Innvictis A3992XF	XF	62 BC			13 A			35 A-C			1.0			134 B		
Perdue Agribusiness P30ILO22	Conv	54 CD			13 A			28 D			1.0			130 C		
Perdue Agribusiness P29ILO22	Conv	46 D			14 A			31 CD			1.0			126 D		
Average		67	48	54	13.5	12.2	12.4	35	32	32	1.0	1.0	1.0	133	134	134
Standard Error		5	22	13	0.1	1.2	0.8	3	6	3	0.0	0.0	0.0	0	1	1
L.S.D..05		13	N.S.	N.S.	N.S.	0.3	N.S.	5	N.S.	N.S.	N.E	N.E.	N.E.	1	1	N.S.
C.V.		12	14	15	2	2	2	9	10	10	-	-	-	0	1	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

‡ For a full description of abbreviated biotech traits, see table 29.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-3-b. Mean† yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials with irrigation at the Highland Rim AgResearch and Education Center in Springfield, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)	SDS DI†† (%)	SDS DS†† (1-9)	SDS DX†† (DI x DS/9)	Frogeye‡‡ (%)	Leaf Holding‖ (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
Xitavo 3803E	E3	83 A	10 CD	2.7 AB	3 BC	1.7 A	1.0
Dyna-Gro S38XF22S*	XF	75 AB	0 D	1.0 C	0 C	5.0 A	1.0
Asgrow AG39XF3	XF	74 AB	13 BC	2.3 AB	4 BC	5.3 A	1.0
Asgrow AG38XF1	XF	72 AB	23 B	2.7 AB	7 B	3.0 A	1.0
USG 7394XFS	XFS	68 B	8 CD	2.7 AB	2 C	3.3 A	1.0
Revere 3908XFS*	XFS	64 BC	47 A	3.3 A	22 A	4.0 A	1.0
Innvictis A3992XF	XF	62 BC	8 CD	1.7 BC	2 C	5.0 A	1.0
Perdue Agribusiness P30ILO22	Conv	54 CD	7 CD	1.7 BC	1 C	2.7 A	1.0
Perdue Agribusiness P29ILO22	Conv	46 D	7 CD	1.0 C	1 C	3.3 A	1.0
Average		67	14	2.1	5	3.7	1.0
Standard Error		5	5	0.4	1	1.1	0.0
L.S.D..05		13	13	1.3	4	N.S.	N.E.
C.V.		12	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-4-a. Mean† yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials without irrigation at the Highland Rim AgResearch and Education Center in Springfield, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging‖ (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Asgrow AG39XF3	XF	91 A			13 AB			38 A			1.0			134 A		
Revere 3908XFS*	XFS	85 AB	57 A	49 A	13 B-D	12 A	12 A	37 A	31 AB	29 A	1.0	1.0	1.0	133 A	133 A	131 A
Asgrow AG38XF1	XF	84 AB	57 A	47 A	13 A-C	12 A	12 A	36 A	32 A	28 A	1.0	1.0	1.0	131 A	131 A	130 A
Xitavo 3803E	E3	81 BC			13 A			35 A			1.0			135 A		
USG 7394XFS	XFS	76 CD			13 B-D			37 A			1.0	1.0	1.0	133 A		
Innvictis A3992XF	XF	71 DE			13 B-D			33 A			1.0			133 A		
Dyna-Gro S38XF22S*	XF	69 EF	47 B		13 D	12 A		34 A	29 B		1.0	1.0		134 A	132 A	
Perdue Agribusiness P29ILO22	Conv	65 EF			13 CD			33 A			1.0			125 B		
Perdue Agribusiness P30ILO22	Conv	63 F			13 AB			30 A			1.0			127 B		
Average		76	54	48	13.0	11.7	12.4	35	31	29	1.0	1.0	1.0	132	132	131
Standard Error		2	26	18	0.1	1.2	1.0	2	5	4	0.0	0.0	0.0	1	1	1
L.S.D..05		7	8	N.S.	0.2	N.S.	N.S.	N.S.	2	N.S.	N.E.	N.E.	N.E.	4	N.S.	N.S.
C.V.		5	12	18	1	1	1	8	6	10	-	-	-	2	2	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-4-b. Mean[†] yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials without irrigation at the Highland Rim AgResearch and Education Center in Springfield, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††] (%)	SDS DS[††] (1-9)	SDS DX[††] (DI x DS/9)	Frogeye[‡‡,T] (%)	Leaf Holding[‖] (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
Asgrow AG39XF3	XF	91 A	8 A	1.3 A	1 A	1.3 A	1.0
Revere 3908XFS*	XFS	85 AB	3 A	1.0 A	0 A	1.0 A	1.0
Asgrow AG38XF1	XF	84 AB	5 A	1.3 A	1 A	1.0 A	1.0
Xitavo 3803E	E3	81 BC	2 A	1.0 A	0 A	1.3 A	1.0
USG 7394XFS	XFS	76 CD	2 A	1.0 A	0 A	1.3 A	1.0
Innvictis A3992XF	XF	71 DE	7 A	1.7 A	1 A	3.0 A	1.0
Dyna-Gro S38XF22S*	XF	69 EF	12 A	1.3 A	2 A	2.7 A	1.0
Perdue Agribusiness P29ILO22	Conv	65 EF	0 A	1.0 A	0 A	1.0 A	1.0
Perdue Agribusiness P30ILO22	Conv	63 F	0 A	1.0 A	0 A	1.0 A	1.0
Average		76	4	1.2	1	1.5	1.0
Standard Error		2	4	0.2	1	0.1	0.0
L.S.D..05		7	N.S.	N.S.	N.S.	N.S.	N.E.
C.V.		5	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-5-a. Mean[†] yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials without irrigation at the Middle Tennessee AgResearch and Education Center in Spring Hill, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Xitavo 3803E	E3	76 A			13 A			32 B-D			1.0			136 AB		
Revere 3908XFS*	XFS	72 A	56 A	53 A	13 B	14 A	14 A	34 AB	30 A	29 A	1.0	1.0	1.0	138 A	136 A	139 A
USG 7394XFS	XFS	71 AB			13 AB			36 A			1.0	1.0	1.0	137 A		
Asgrow AG38XF1	XF	67 A-C	47 B	47 A	13 C	13 B	14 A	30 CD	28 B	27 B	1.0	1.0	1.0	137 A	135 A	137 A
Dyna-Gro S38XF22S*	XF	66 A-C	47 B		13 C	13 AB		33 BC	29 AB		1.0	1.0		136 A	135 A	
Innvictis A3992XF	XF	62 BC			13 B			29 D			1.0			138 A		
Asgrow AG39XF3	XF	61 C			13 BC			30 CD			1.0			136 A		
Perdue Agribusiness P30ILO22	Conv	45 D			13 BC			23 E			1.0			133 BC		
Perdue Agribusiness P29ILO22	Conv	39 D			13 BC			22 E			1.0			133 C		
Average		62	50	50	12.9	13.2	13.9	30	29	28	1.0	1.0	1.0	136	136	138
Standard Error		3	19	11	0.1	0.5	0.8	1	4	2	0.0	0.0	0.0	1	2	3
L.S.D..05		10	7	N.S.	0.3	0.7	N.S.	3	2	1	N.E.	N.E.	N.E.	3	N.S.	N.S.
C.V.		9	11	14	1	4	4	6	5	5	-	-	-	1	2	2

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-5-b. Mean[†] yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials without irrigation at the Middle Tennessee AgResearch and Education Center in Spring Hill, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac) 1 yr	SDS DI[††] (%) 1 yr	SDS DS[††] (1-9) 1 yr	SDS DX[††] (DI x DS/9) 1 yr	Frogeye[‡‡] (%) 1 yr	Leaf Holding[‖] (1-5) 1 yr
Xitavo 3803E	E3	76 A	2	1.0	1	1.7 C	1.0
Revere 3908XFS*	XFS	72 A	0	0.0	0	2.7 BC	1.2
USG 7394XFS	XFS	71 AB	0	0.0	0	2.7 BC	1.0
Asgrow AG38XF1	XF	67 A-C	0	0.0	0	1.0 C	1.0
Dyna-Gro S38XF22S*	XF	66 A-C	0	0.0	0	6.0 A	1.0
Innvictis A3992XF	XF	62 BC	0	0.0	0	4.7 AB	1.0
Asgrow AG39XF3	XF	61 C	0	0.0	0	2.3 BC	1.0
Perdue Agribusiness P30ILO22	Conv	45 D	0	0.0	0	2.3 BC	1.0
Perdue Agribusiness P29ILO22	Conv	39 D	0	0.0	0	1.7 C	2.0
Average		62	0	0.1	0	2.8	1
Standard Error		3	0	0.0	0	0.9	0
L.S.D..05		10	N.E.	N.E.	N.E.	2.4	N.E.
C.V.		9	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were significant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-6-a. Mean[†] yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials with irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Dyna-Gro S38XF22S*	XF	76 A	72 A		12 A	12 B		44 BC	45 B		1.0 D	1.0 A		133 AB	133 A	
Revere 3908XFS*	XFS	72 AB	65 A	65 A	14 A	14 A	14 A	46 B	47 A	45 A	2.3 BC	1.7 A	1.4 A	132 A-C	133 A	134 A
Innvictis A3992XF	XF	69 AB			13 A			42 C-E			1.3 CD			134 AB		
Asgrow AG38XF1	XF	69 AB	66 A	66 A	13 A	13 B	13 B	43 CD	44 B	42 B	1.7 CD	1.3 A	1.2 A	130 C	131 A	132 B
USG 7394XFS	XFS	66 AB			13 A			49 A			3.0 AB			135 A		
Xitavo 3803E	E3	65 AB			14 A			40 E			3.0 AB			132 A-C		
Asgrow AG39XF3	XF	63 B			13 A			41 DE			2.3 BC			131 BC		
Perdue Agribusiness P30ILO22	Conv	41 C			13 A			32 F			3.7 A			130 C		
Perdue Agribusiness P29ILO22	Conv	36 C			14 A			34 F			3.3 AB			121 D		
Average		62	68	66	13.2	12.9	13.4	41	45	44	2.4	1.3	1.3	131	132	133
Standard Error		7	5	3	0.4	0.2	0.2	1	1	2	0.5	0.4	0.3	1	1	1
L.S.D..05		12	N.S.	N.S.	N.S.	0.7	0.7	2	2	2	1.1	N.S.	N.S.	3	N.S.	2
C.V.		11	7	9	5	4	5	3	4	5	-	-	-	1	1	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

‡ For a full description of abbreviated biotech traits, see table 29.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-6-b. Mean[†] yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials with irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac) 1 yr	SDS DI[††] (%) 1 yr	SDS DS[††] (1-9) 1 yr	SDS DX[††] (DI x DS/9) 1 yr	Frogeye[‡‡] (%) 1 yr
Dyna-Gro S38XF22S*	XF	76 A	3 BC	2.0 A	1 B	1.3 A
Revere 3908XFS*	XFS	72 AB	8 A	2.3 A	3 A	1.0 A
Innvictis A3992XF	XF	69 AB	0 C	1.0 A	0 B	1.7 A
Asgrow AG38XF1	XF	69 AB	3 BC	2.0 A	1 B	1.0 A
USG 7394XFS	XFS	66 AB	0 C	1.0 A	0 B	1.0 A
Xitavo 3803E	E3	65 AB	2 C	1.3 A	0 B	1.3 A
Asgrow AG39XF3	XF	63 B	2 C	1.3 A	0 B	1.3 A
Perdue Agribusiness P30ILO22	Conv	41 C	3 BC	1.0 A	0 B	1.7 A
Perdue Agribusiness P29ILO22	Conv	36 C	7 AB	1.7 A	1 AB	1.3 A
Average		62	3	1.5	1	1.3
Standard Error		7	2	0.4	1	0.3
L.S.D..05		12	5	N.S.	2	N.S.
C.V.		11	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
|| Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative

Table A-7-a. Mean[†] yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials without irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Dyna-Gro S38XF22S*	XF	75 A	69 A		13 C	12 A		43 BC	39 B		1.3 A	1.2 A		127 BC	128 B	
Asgrow AG38XF1	XF	74 AB	65 A	64 A	13 C	12 A	12 A	41 CD	38 B	38 B	1.0 A	1.0 A	1.0 A	126 C	128 B	129 B
Innvictis A3992XF	XF	72 AB			13 BC			43 BC			1.3 A			130 AB		
Revere 3908XFS*	XFS	70 AB	64 A	65 A	14 AB	12 A	13 A	44 AB	41 A	41 A	1.0 A	1.0 A	1.1 A	129 AB	131 A	132 A
Asgrow AG39XF3	XF	67 A-C			13 C			41 CD			1.3 A			129 AB		
USG 7394XFS	XFS	67 BC			13 A-C			46 A			1.7 A			131 A		
Xitavo 3803E	E3	61 C			14 A			39 D			2.0 A			130 AB		
Perdue Agribusiness P29ILO22	Conv	46 D			14 AB			32 E			1.3 A			121 D		
Perdue Agribusiness P30ILO22	Conv	42 D			13 C			32 E			1.0 A			123 D		
Average		64	66	64	13.0	12.3	12.4	40	39	40	1.3	1.1	1.1	127	129	130
Standard Error		3	7	4	0.2	0.7	0.5	1	4	2	0.3	0.1	0.1	1	2	2
L.S.D..05		8	N.S.	N.S.	0.7	N.S.	N.S.	2	2	2	N.S.	N.S.	N.S.	3	2	1
C.V.		7	7	6	3	3	4	4	4	4	-	-	-	1	1	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-7-b. Mean[†] yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials without irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††] (%)	SDS DS[††] (1-9)	SDS DX[††] (DI x DS/9)	Frogeye[‡‡] (%)
		1 yr	1 yr	1 yr	1 yr	1 yr
Dyna-Gro S38XF22S*	XF	75 A	2 C	1.0 A	0 B	2.0 A
Asgrow AG38XF1	XF	74 AB	7 BC	1.3 A	1 B	1.0 A
Innvictis A3992XF	XF	72 AB	0 C	1.3 A	0 B	1.3 A
Revere 3908XFS*	XFS	70 AB	7 BC	2.0 A	1 B	1.3 A
Asgrow AG39XF3	XF	67 A-C	5 C	1.0 A	1 B	1.3 A
USG 7394XFS	XFS	67 BC	5 C	2.0 A	1 B	1.3 A
Xitavo 3803E	E3	61 C	5 C	1.0 A	1 B	1.3 A
Perdue Agribusiness P29ILO22	Conv	46 D	15 A	2.7 A	5 A	1.0 A
Perdue Agribusiness P30ILO22	Conv	42 D	13 AB	1.3 A	2 B	1.3 A
Average		64	6	1.5	1	1.3
Standard Error		3	3	0.4	1	0.3
L.S.D..05		8	8	N.S.	3	N.S.
C.V.		7	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-8-a. Mean[†] yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials without irrigation at the West Tennessee AgResearch and Education Center in Jackson, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Asgrow AG38XF1	XF	66 A	55 A	59 A	11 A	11 A	11 B	39 A	34 A	34 B	2.0 A	1.5 A	1.3 A	128 A	128 A	126 B
Asgrow AG39XF3	XF	64 A			11 A			40 A			1.7 A			131 A		
USG 7394XFS	XFS	63 A			11 A			41 A			1.3 A			129 A		
Perdue Agribusiness P30ILO22	Conv	58 A			11 A			35 A			1.0 A			123 B		
Dyna-Gro S38XF22S*	XF	54 A	54 A		11 A	11 A		39 A	35 A		1.0 A	1.0 A		130 A	130 A	
Xitavo 3803E	E3	52 A			11 A			38 A			1.7 A			129 A		
Innvictis A3992XF	XF	50 A			11 A			40 A			2.3 A			128 A		
Revere 3908XFS*	XFS	50 A	49 A	55 A	12 A	12 A	12 A	41 A	37 A	39 A	1.3 A	1.2 A	1.1 A	129 A	129 A	128 A
Perdue Agribusiness P29ILO22	Conv	50 A			11 A			31 A			2.0 A			117 C		
Average		56	53	57	11.2	11.4	11.3	38	36	36	1.6	1.2	1.2	127	129	127
Standard Error		6	5	6	0.3	0.2	0.3	3	4	2	0.6	0.3	0.2	1	1	2
L.S.D..05		N.S.	N.S.	N.S.	N.S.	N.S.	1.0	N.S.	N.S.	2	N.S.	N.S.	N.S.	4	N.S.	2
C.V.		17	17	13	5	4	9	11	6	6	-	-	-	2	1	2

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

‡ For a full description of abbreviated biotech traits, see table 29.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-8-b. Mean[†] yield and agronomic traits of 9 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials without irrigation at the West Tennessee AgResearch and Education Center in Jackson, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac) 1 yr	SDS DI[††] (%) 1 yr	SDS DS[††] (1-9) 1 yr	SDS DX[††] (DI x DS/9) 1 yr	Frogeye[‡‡] (%) 1 yr
Asgrow AG38XF1	XF	66 A	0	1.0	0	3.3 A
Asgrow AG39XF3	XF	64 A	0	1.0	0	4.0 A
USG 7394XFS	XFS	63 A	0	1.0	0	3.3 A
Perdue Agribusiness P30ILO22	Conv	58 A	2	1.0	0	1.7 A
Dyna-Gro S38XF22S*	XF	54 A	0	1.0	0	4.3 A
Xitavo 3803E	E3	52 A	0	1.0	0	4.3 A
Innvictis A3992XF	XF	50 A	0	1.0	0	3.7 A
Revere 3908XFS*	XFS	50 A	0	1.0	0	5.0 A
Perdue Agribusiness P29ILO22	Conv	50 A	0	1.0	0	3.0 A
Average		56	1	1.0	1	3.6
Standard Error		6	0	0	0	1.2
L.S.D..05		N.S.	N.E.	N.E.	N.E.	N.S.
C.V.		17	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
|| Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-9-a. Mean[†] yield, agronomic traits, and quality of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials without irrigation at the Northeast Tennessee AgResearch and Education Center in Greeneville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
NK 42-A6E3S	E3	120 A			8 E-G			45 C-H			2.3 C-F			147 AB		
Revere 4299XS	R2XS	112 AB	94 A	91 A	8 F-H	11 BC	11 A	46 B-E	46 A	44 A	2.3 C-F	1.9 A	1.8 A	145 B-F	136 A	-
Revere 4526XFS	XFS	111 A-C	90 AB		9 B-D	11 B		47 B-D	46 A		2.2 D-F	1.8 A		147 A-C	137 A	
Asgrow AG45XF3	XF	107 A-D			8 C-E			47 BC			2.2 D-F			147 A-C		
Xitavo 4522E	E3	106 A-D			8 D-G			43 D-I			2.0 EF			146 A-D		
Invictis A4503XF	XF	104 B-E			8 F-H			40 IJ			2.5 C-F			145 C-F		
Revere 4237XFS	XFS	97 B-F			8 E-G			44 C-H			2.8 B-E			146 B-E		
Dyna-Gro S45XF02	XF	96 C-F	82 BC		9 A	12 A		45 C-G	44 AB		2.5 C-F	2.0 A		147 A-C	137 A	
Asgrow AG43XF2	XF	96 D-G	84 A-C		8 C-F	11 B		42 E-J	43 BC		1.7 F	1.3 A		146 B-E	137 A	
Invictis A4411XF	XF	93 D-H			8 C-F			42 F-J			2.2 D-F			146 B-E		
Don Mario DM45F23	XF	93 D-H			9 A-C			44 C-H			3.2 A-C			146 A-D		
NK 44-Q5E3S	E3	92 D-H	74 C		8 G-I	11 BC		39 J	38 D		2.7 C-E	1.8 A		148 A	138 A	
Dyna-Gro S41EN72	E3	89 E-I	77 C	75 B	8 J	11 C	11 A	41 G-J	41 C	40 B	2.5 C-F	1.9 A	1.8 A	145 B-F	136 A	-
Invictis B5013E	E3	84 F-J			8 C-E			45 C-F			2.0 EF			146 A-D		
Perdue Agribusiness P41MO21	Conv	82 F-K			8 H-J			45 C-F			2.7 C-E			145 D-F		
Xitavo 4364E	E3	80 G-K			8 GH			40 IJ			3.0 B-D			146 B-F		
Xitavo 4084E	E3	79 H-K			8 IJ			40 IJ			2.8 B-E			144 EF		
MO S19-10701	Conv	76 I-K			8 C-F			55 A			4.0 A			147 A-C		
Perdue Agribusiness P41IL022	Conv	71 JK			8 F-H			41 H-J			3.7 AB			144 F		
Perdue Agribusiness P45XP421	Conv	68 K			9 AB			50 B			4.0 A			148 A		
Average		93	83	83	8.2	11.0	11.4	44	43	42	2.7	1.8	1.8	146	137	-
Standard Error		5	16	9	0.1	2.8	1.8	1	1	1	0.3	0.5	0.3	1	10	-
L.S.D..05		16	11	8	0.3	0.3	N.S.	4	2	3	0.9	N.S.	N.S.	2	N.S.	-
C.V.		10	11	8	2	3	2	5	5	6	-	-	-	1	1	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

‡ For a full description of abbreviated biotech traits, see table 29.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-9-b. Mean† yield, agronomic traits, and quality of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials without irrigation at the Northeast Tennessee AgResearch and Education Center in Greeneville, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)	SDS DI†† (%)	SDS DS†† (1-9)	SDS DX†† (DI x DS/9)	Frogeye‡‡ (%)	Leaf Holding‖ (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
NK 42-A6E3S	E3	120 A	0	1.0	0.0	1.0	1.5 B
Revere 4299XS	R2XS	112 AB	0	1.0	0.0	1.3	1.7 B
Revere 4526XFS	XFS	111 A-C	0	1.0	0.0	1.3	1.5 B
Asgrow AG45XF3	XF	107 A-D	0	1.0	0.0	1.3	1.5 B
Xitavo 4522E	E3	106 A-D	0	1.0	0.0	1.0	1.5 B
Innvictis A4503XF	XF	104 B-E	0	1.0	0.0	1.0	1.5 B
Revere 4237XFS	XFS	97 B-F	0	1.0	0.0	1.3	1.5 B
Dyna-Gro S45XF02	XF	96 C-F	0	1.0	0.0	1.0	1.5 B
Asgrow AG43XF2	XF	96 D-G	0	1.0	0.0	1.0	1.5 B
Innvictis A4411XF	XF	93 D-H	2	1.0	0.6	1.0	1.5 B
Don Mario DM45F23	XF	93 D-H	0	1.0	0.0	1.0	2.0 A
NK 44-Q5E3S	E3	92 D-H	0	1.0	0.0	1.3	1.5 B
Dyna-Gro S41EN72	E3	89 E-I	0	1.0	0.0	1.0	1.5 B
Innvictis B5013E	E3	84 F-J	0	1.0	0.0	1.3	1.7 B
Perdue Agribusiness P41MO21	Conv	82 F-K	0	1.0	0.0	1.3	1.7 B
Xitavo 4364E	E3	80 G-K	2	1.7	1.7	1.0	1.5 B
Xitavo 4084E	E3	79 H-K	0	1.0	0.0	1.0	1.5 B
MO S19-10701	Conv	76 I-K	0	1.0	0.0	1.0	2.0 A
Perdue Agribusiness P41IL022	Conv	71 JK	0	1.0	0.0	1.3	1.5 B
Perdue Agribusiness P45XP421	Conv	68 K	0	1.0	0.0	1.3	2.2 A
Average		93	0	1.0	0	1.1	1.6
Standard Error		5	0	0.0	0.0	0.0	0.1
L.S.D.₀₅		16	N.E.	N.E.	N.E.	N.E.	0.2
C.V.		10	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

‡ For a full description of abbreviated biotech traits, see table 29.

§ All yields are adjusted to 13% moisture.

†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.

‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.

‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values

Table A-10-a. Mean[†] yield and agronomic traits of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials with irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield§ (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging‖ (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
NK 42-A6E3S	E3	105 A			16 B-E			37 B-E			1.5 D			142 A-E		
NK 44-Q5E3S	E3	81 B	76 A		15 F	14 C		32 F	36 D		1.5 D	2.0 AB		144 A-C	140 AB	
Innvictis B5013E	E3	80 BC			15 C-F			40 AB			1.7 CD			144 AB		
Asgrow AG45XF3	XF	78 B-D			16 B-E			40 AB			1.5 D			141 D-H		
Xitavo 4364E	E3	77 B-D			16 AB			37 B-E			2.5 AB			137 I		
Revere 4526XFS	XFS	77 B-E	73 A		16 A-C	15 A		43 A	47 A		2.3 BC	2.0 AB		142 B-F	139 BC	
Revere 4299XS	R2XS	77 B-E	76 A	79 A	16 A-C	15 AB	15 A	39 A-C	44 B	41 A	1.3 D	1.3 B	1.4 A	139 E-I	137 C	138 A
Xitavo 4084E	E3	74 B-E			16 B-E			34 EF			1.7 CD			137 I		
Revere 4237XFS	XFS	74 B-E			16 C-F			37 B-E			1.3 D			137 I		
Innvictis A4503XF	XF	73 B-F			15 D-F			36 C-E			1.3 D			138 HI		
Dyna-Gro S45XF02	XF	71 B-F	73 A		16 A-D	15 AB		38 B-D	42 BC		2.3 BC	2.3 A		145 A	142 A	
Dyna-Gro S41EN72	E3	69 B-G	72 A	72 A	15 D-F	14 BC	14 B	36 C-E	40 C	38 B	1.8 B-D	2.3 A	2.0 A	142 B-F	137 C	137 A
Perdue Agribusiness P41IL022	Conv	68 C-G			15 EF			36 C-F			1.3 D			139 G-I		
Innvictis A4411XF	XF	67 C-G			16 B-E			35 D-F			1.8 B-D			138 I		
Don Mario DM45F23	XF	66 D-H			16 A			35 D-F			1.5 D			139 F-I		
Asgrow AG43XF2	XF	64 E-H	67 A		16 B-E	15 AB		37 B-E	41 C		1.2 D	1.3 B		143 A-D	140 AB	
Xitavo 4522E	E3	61 F-H			15 EF			32 F			1.3 D			145 A		
Perdue Agribusiness P41MO21	Conv	56 GH			15 D-F			36 C-F			3.2 A			137 I		
MO S19-10701	Conv	53 HI			15 D-F			36 B-E			2.3 BC			141 C-G		
Perdue Agribusiness P45XP421	Conv	42 I			16 A			32 F			1.8 B-D			144 A-C		
Average		71	73	76	15.6	14.4	14.5	36	42	39	1.8	1.8	1.7	141	139	138
Standard Error		5	4	4	0.2	1.2	0.8	1	4	4	0.3	0.3	0.2	1	3	2
L.S.D.·05		13	N.S.	N.S.	0.7	0.6	0.4	4	2	2	0.8	0.8	N.S.	3	2	N.S.
C.V.		11	11	14	3	3	3	6	5	5	-	-	-	1	1	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-10-b. Mean† yield and quality of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials with irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)			Protein¶ (%)			Oil¶ (%)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
NK 42-A6E3S	E3	105 A			33 G-J			25 CD		
NK 44-Q5E3S	E3	81 B	76 A		35 C	35 A		23 H	23 E	
Innvictis B5013E	E3	80 BC			35 C			24 E		
Asgrow AG45XF3	XF	78 B-D			34 E-H			24 EF		
Xitavo 4364E	E3	77 B-D			33 H-J			25 C		
Revere 4526XFS	XFS	77 B-E	73 A		33 J	33 D		25 D	24 B	
Revere 4299XS	R2XS	77 B-E	76 A	79 A	34 DE	35 B	35 A	24 EF	24 C	23 B
Xitavo 4084E	E3	74 B-E			32 K			26 A		
Revere 4237XFS	XFS	74 B-E			34 EF			25 D		
Innvictis A4503XF	XF	73 B-F			33 IJ			25 B		
Dyna-Gro S45XF02	XF	71 B-F	73 A		35 CD	35 A		23 G	23 D	
Dyna-Gro S41EN72	E3	69 B-G	72 A	72 A	33 J	33 D	33 B	25 BC	25 A	25 A
Perdue Agribusiness P41IL022	Conv	68 C-G			34 E-G			22 J		
Innvictis A4411XF	XF	67 C-G			34 EF			24 E		
Don Mario DM45F23	XF	66 D-H			34 EF			24 FG		
Asgrow AG43XF2	XF	64 E-H	67 A		33 F-I	34 C		25 CD	25 A	
Xitavo 4522E	E3	61 F-H			35 C			24 EF		
Perdue Agribusiness P41MO21	Conv	56 GH			35 CD			21 J		
MO S19-10701	Conv	53 HI			37 B			22 I		
Perdue Agribusiness P45XP421	Conv	42 I			38 A			23 HI		
Average		71	73	76	34.2	34.0	33.9	23.8	23.8	24.1
Standard Error		5	4	4	0.3	0.2	0.3	0.1	0.3	0.2
L.S.D..05		13	N.S.	N.S.	0.7	0.4	0.6	0.4	0.2	0.4
C.V.		11	11	14	1	1	2	1	1	2

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
¶ Protein and oil were measured post-harvest using NIRS and are reported on a dry weight basis.

Table A-10-c. Mean† yield and quality of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials with irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)	SDS DI†† (%)	SDS DS†† (1-9)	SDS DX†† (DI x DS/9)	Frogeye‡‡ (%)	Seed Quality§§, Ŧ (1-5)	Purple Stain¶¶ (1-5)	Leaf Holding‖ (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
NK 42-A6E3S	E3	105 A	2 G	1.3 FG	0 E	1.7 EF	2.2 A	1.5 A	1.2 A
NK 44-Q5E3S	E3	81 B	3 FG	1.7 E-G	1 E	2.7 D-F	1.7 A-C	1.2 AB	1.0 A
Innvictis B5013E	E3	80 BC	5 FG	2.3 C-G	1 E	3.0 C-F	1.5 A-C	1.2 AB	1.0 A
Asgrow AG45XF3	XF	78 B-D	13 E-G	3.0 B-E	4 DE	5.3 B	1.0 D	1.0 B	1.2 A
Xitavo 4364E	E3	77 B-D	2 G	2.3 C-G	1 E	7.3 A	1.7 A-C	1.2 AB	1.3 A
Revere 4526XFS	XFS	77 B-E	20 C-F	3.3 B-D	8 DE	4.3 B-D	1.3 B-D	1.2 AB	1.0 A
Revere 4299XS	R2XS	77 B-E	23 C-E	3.0 B-E	9 DE	2.7 D-F	1.7 A-C	1.5 A	1.3 A
Xitavo 4084E	E3	74 B-E	7 E-G	2.0 D-G	1 E	1.7 EF	1.7 A-C	1.5 A	1.0 A
Revere 4237XFS	XFS	74 B-E	37 BC	3.7 BC	15 B-D	7.3 A	1.5 A-C	1.5 A	1.3 A
Innvictis A4503XF	XF	73 B-F	43 AB	4.3 AB	23 BC	4.7 BC	1.0 D	1.5 A	1.2 A
Dyna-Gro S45XF02	XF	71 B-F	5 FG	2.7 C-F	1 E	3.7 B-D	1.7 A-D	1.2 AB	1.2 A
Dyna-Gro S41EN72	E3	69 B-G	8 E-G	1.0 G	1 E	2.7 D-F	1.3 B-D	1.0 B	1.0 A
Perdue Agribusiness P41IL022	Conv	68 C-G	7 E-G	2.0 D-G	1 E	3.0 C-F	1.2 CD	1.5 A	1.2 A
Innvictis A4411XF	XF	67 C-G	58 A	3.7 BC	24 AB	4.3 B-D	1.3 B-D	1.3 AB	1.5 A
Don Mario DM45F23	XF	66 D-H	20 C-F	4.3 AB	10 DE	1.3 F	1.0 D	1.2 AB	1.2 A
Asgrow AG43XF2	XF	64 E-H	13 E-G	3.0 B-E	5 DE	7.3 A	1.7 A-C	1.3 AB	1.0 A
Xitavo 4522E	E3	61 F-H	2 G	1.3 FG	0 E	4.0 B-D	2.0 AB	1.2 AB	1.0 A
Perdue Agribusiness P41MO21	Conv	56 GH	33 B-D	3.0 B-E	11 C-E	3.3 C-E	1.2 CD	1.3 AB	1.0 A
MO S19-10701	Conv	53 HI	17 D-G	4.3 AB	8 DE	2.7 D-F	1.0 D	1.0 B	1.5 A
Perdue Agribusiness P45XP421	Conv	42 I	58 A	5.3 A	35 A	1.7 EF	1.7 A-C	1.0 B	1.8 A
Average		71	19	2.9	8	3.7	1.5	1.3	1.2
Standard Error		5	6	0.6	4	0.7	0.2	0.1	0.2
L.S.D.·05		13	18	1.6	12	2.0	Sig.	0.3	N.S.
C.V.		11	-	-	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
Ŧ Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
§§ Seed quality was evaluated visually post-harvest using a 1 to 5 scale, with 1 indicating no shriveled or damaged seed.

Table A-11-a. Mean[†] yield and agronomic traits of 30 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials with irrigation at the Highland Rim AgResearch and Education Center in Springfield, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
NK 42-A6E3S	E3	93 A			13 BC			39 B-D			1.2 BC			141 A-C		
Dyna-Gro S41EN72	E3	81 B	65 A	65 A	13 C	12 A	13 A	40 A-D	34 BC	33 A	1.0 C	1.0 A	1.1 A	139 D-F	138 B	137 B
Dyna-Gro S45XF02	XF	76 BC	62 A		13 BC	12 A		38 C-E	33 C		1.0 C	1.0 A		140 B-D	140 A	
Xitavo 4522E	E3	74 B-D			13 C			35 E-G			1.0 C			141 A-C		
NK 44-Q5E3S	E3	72 B-D	58 AB		13 C	12 A		35 E-G	30 D		1.2 BC	1.1 A		141 A-C	139 A	
Asgrow AG45XF3	XF	72 B-D			13 C			43 A			1.0 C			141 A-C		
Revere 4526XFS	XFS	71 B-D	61 A		14 B	12 A		42 AB	38 A		1.0 C	1.0 A		141 A-C	140 A	
Revere 4237XFS	XFS	70 C-E			13 BC			37 D-F			1.0 C			138 FG		
Perdue Agribusiness P41IL022	Conv	69 C-E			13 BC			37 D-F			1.3 A-C			139 EF		
Xitavo 4364E	E3	69 C-E			13 BC			37 D-F			1.2 BC			137 G		
Asgrow AG43XF2	XF	68 C-E	52 B		13 BC	12 A		41 A-C	36 A-C		1.0 C	1.0 A		141 A-C	140 A	
Innvictis B5013E	E3	67 C-E			13 BC			41 A-C			1.2 BC			141 A-C		
Innvictis A4503XF	XF	66 C-E			13 C			38 C-E			1.0 C			138 FG		
Revere 4299XS	R2XS	66 C-E	59 AB	61 A	13 C	12 A	13 A	40 A-D	36 AB	35 A	1.0 C	1.0 A	1.0 A	140 C-E	140 A	139 A
Don Mario DM45F23	XF	65 DE			13 BC			38 C-E			1.3 A-C			141 A-C		
Xitavo 4084E	E3	64 DE			13 BC			38 C-E			1.5 A-C			137 G		
Innvictis A4411XF	XF	60 EF			13 BC			38 C-F			1.5 A-C			138 F		
Perdue Agribusiness P41MO21	Conv	52 FG			13 C			33 G			1.8 A			137 G		
MO S19-10701	Conv	49 G			13 C			43 A			1.7 AB			142 A		
Perdue Agribusiness P45XP421	Conv	37 H			14 A			34 FG			1.5 A-C			142 AB		
Average		67	60	63	13.1	12.3	13.0	38	35	34	1.2	1.0	1.0	140	139	138
Standard Error		4	13	7	0.2	0.8	0.9	3	5	3	0.2	0.0	0.0	1	1	1
L.S.D.₀₅		11	8	N.S.	0.5	N.S.	N.S.	4	2	N.S.	0.5	N.S.	N.S.	2	2	1
C.V.		9	11	11	2	2	4	6	6	7	-	-	-	1	1	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

‡ For a full description of abbreviated biotech traits, see table 29.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-11-b. Mean[†] yield and agronomic traits of 30 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials with irrigation at the Highland Rim AgResearch and Education Center in Springfield, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††] (%)	SDS DS[††] (1-9)	SDS DX[††] (DI x DS/9)	Frogeye[‡‡] (1-9)	Leaf Holding[‖] (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
NK 42-A6E3S	E3	93 A	3 D	1.0 E	0 D	1.0 F	1.0
Dyna-Gro S41EN72	E3	81 B	17 CD	1.7 DE	4 CD	2.3 C-F	1.0
Dyna-Gro S45XF02	XF	76 BC	3 D	1.0 E	0 D	1.3 EF	1.0
Xitavo 4522E	E3	74 B-D	8 D	1.0 E	1 CD	3.7 B-D	1.0
NK 44-Q5E3S	E3	72 B-D	0 D	1.0 E	0 D	1.0 F	1.0
Asgrow AG45XF3	XF	72 B-D	5 D	2.3 C-E	2 CD	6.3 A	1.0
Revere 4526XFS	XFS	71 B-D	7 D	2.7 B-D	3 CD	6.7 A	1.0
Revere 4237XFS	XFS	70 C-E	18 B-D	2.3 C-E	8 B-D	6.0 A	1.0
Perdue Agribusiness P41IL022	Conv	69 C-E	3 D	1.0 E	0 D	2.7 C-F	1.0
Xitavo 4364E	E3	69 C-E	0 D	1.0 E	0 D	5.3 AB	1.0
Asgrow AG43XF2	XF	68 C-E	7 D	2.0 DE	2 CD	5.0 AB	1.0
Innvictis B5013E	E3	67 C-E	12 D	1.0 E	1 CD	4.0 BC	1.0
Innvictis A4503XF	XF	66 C-E	37 A-C	3.7 A-C	15 BC	2.7 C-F	1.0
Revere 4299XS	R2XS	66 C-E	5 D	1.7 DE	1 CD	3.0 C-E	1.0
Don Mario DM45F23	XF	65 DE	45 A	3.7 A-C	20 AB	1.3 EF	1.0
Xitavo 4084E	E3	64 DE	2 D	1.3 DE	0 D	1.0 F	1.0
Innvictis A4411XF	XF	60 EF	38 A-C	4.3 A	21 AB	4.0 BC	1.0
Perdue Agribusiness P41MO21	Conv	52 FG	12 D	1.3 DE	2 CD	2.7 C-F	1.0
MO S19-10701	Conv	49 G	42 AB	4.0 AB	21 AB	2.0 D-F	1.0
Perdue Agribusiness P45XP421	Conv	37 H	58 A	4.3 A	30 A	1.0 F	1.0
Average		67	16	2.1	7	3.2	1.0
Standard Error		4	10	0.5	5	0.6	0.0
L.S.D.₀₅		11	25	1.3	14	1.8	N.E.
C.V.		9	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-12-a. Mean[†] yield and agronomic traits of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials without irrigation at the Highland Rim AgResearch and Education Center in Springfield, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
NK 42-A6E3S	E3	89 A			13 B-G			37 D-G			1.0			141 A-D		
Dyna-Gro S41EN72	E3	84 AB	65 A	55 A	12 FG	12 A	13 A	41 A-E	34 B	30 A	1.0	1.0	1.0	141 B-E	138 A	135 A
Revere 4299XS	R2XS	81 A-C	61 A	55 A	13 B-G	12 A	13 A	42 AB	37 A	32 A	1.0	1.0	1.0	141 A-D	138 A	136 A
NK 44-Q5E3S	E3	79 A-C	57 A		13 B	12 A		32 H	27 C		1.0	1.0		141 B-E	140 A	
Xitavo 4522E	E3	79 A-D			13 E-G			37 D-G			1.0			141 A-D		
Dyna-Gro S45XF02	XF	79 A-D	65 A		13 B-E	13 A		39 B-F	34 B		1.0	1.0		140 C-E	140 A	
Innvictis B5013E	E3	79 A-D			13 C-G			42 AB			1.0			142 A-C		
Innvictis A4411XF	XF	77 B-D			13 B-D			38 C-G			1.0			141 A-D		
Innvictis A4503XF	XF	77 B-D			12 G			36 FG			1.0			140 DE		
Asgrow AG43XF2	XF	76 B-D	57 A		13 B-F	12 A		40 B-E	35 AB		1.0	1.0		141 B-E	138 A	
Xitavo 4084E	E3	76 B-D			13 B			36 FG			1.0			137 G		
Perdue Agribusiness P41IL022	Conv	76 B-E			13 D-G			37 E-G			1.0			139 EF		
Asgrow AG45XF3	XF	75 B-E			13 B-D			41 A-C			1.0			141 B-E		
Xitavo 4364E	E3	75 B-E			13 B-G			35 GH			1.0			138 FG		
Don Mario DM45F23	XF	74 B-E			13 B			38 C-G			1.0			141 A-D		
Revere 4237XFS	XFS	71 C-F			13 B-G			35 F-H			1.0			136 G		
Revere 4526XFS	XFS	69 D-F	58 A		13 BC	12 A		41 A-D	36 AB		1.0	1.0		140 DE	140 A	
MO S19-10701	Conv	66 E-G			13 B-G			44 A			1.5			142 AB		
Perdue Agribusiness P41MO21	Conv	63 FG			13 B-G			40 B-E			1.3			136 G		
Perdue Agribusiness P45XP421	Conv	58 G			14 A			42 AB			1.2			143 A		
Average		75	61	55	12.7	12.3	12.7	39	34	31	1.1	1.0	1.0	140	139	136
Standard Error		3	18	14	0.1	0.4	0.6	1	5	6	0.0	0.0	0.0	1	2	3
L.S.D.[.05]		10	N.S.	N.S.	0.2	N.S.	N.S.	4	2	N.S.	N.E.	N.E.	N.E.	2	N.S.	N.S.
C.V.		8	10	12	1	2	3	6	6	10	-	-	-	1	1	0

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

‡ For a full description of abbreviated biotech traits, see table 29.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-12-b. Mean† yield and agronomic traits of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials without irrigation at the Highland Rim AgResearch and Education Center in Springfield, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac) 1 yr	SDS DI††, T (%) 1 yr	SDS DS††, T (1-9) 1 yr	SDS DX††, T (DI x DS/9) 1 yr	Frogeye‡‡, T (%) 1 yr	Leaf Holding|| (1-5) 1 yr
NK 42-A6E3S	E3	89 A	5 A	5.0 E	1 A-C	1.3 FG	1.0
Dyna-Gro S41EN72	E3	84 AB	8 A	8.3 E	1 AB	1.0 G	1.0
Revere 4299XS	R2XS	81 A-C	3 A	c B-E	1 A-C	3.0 B-E	1.0
NK 44-Q5E3S	E3	79 A-C	5 A	5.0 E	1 AB	1.0 G	1.0
Xitavo 4522E	E3	79 A-D	10 A	10.0 DE	2 BC	1.3 FG	1.0
Dyna-Gro S45XF02	XF	79 A-D	5 A	5.0 E	1 AB	1.3 FG	1.0
Innvictis B5013E	E3	79 A-D	0 A	0.0 E	0 C	4.0 A-C	1.0
Innvictis A4411XF	XF	77 B-D	8 A	8.3 A-D	2 A-C	3.7 A-D	1.0
Innvictis A4503XF	XF	77 B-D	43 A	43.3 A	14 A	2.0 D-G	1.0
Asgrow AG43XF2	XF	76 B-D	2 A	1.7 DE	0 BC	3.7 A-D	1.0
Xitavo 4084E	E3	76 B-D	2 A	1.7 E	0 BC	2.7 D-G	1.0
Perdue Agribusiness P41IL022	Conv	76 B-E	3 A	3.3 E	0 BC	2.7 C-F	1.0
Asgrow AG45XF3	XF	75 B-E	2 A	1.7 C-E	1 BC	5.3 AB	1.0
Xitavo 4364E	E3	75 B-E	0 A	0.0 E	0 C	5.3 A-C	1.0
Don Mario DM45F23	XF	74 B-E	27 A	26.7 AB	9 A	1.7 E-G	1.0
Revere 4237XFS	XFS	71 C-F	10 A	10.0 B-E	2 A-C	5.3 AB	1.0
Revere 4526XFS	XFS	69 D-F	2 A	1.7 E	0 BC	6.0 A	1.0
MO S19-10701	Conv	66 E-G	10 A	10.0 DE	2 A-C	1.3 FG	1.0
Perdue Agribusiness P41MO21	Conv	63 FG	8 A	8.3 C-E	2 AB	1.7 E-G	1.0
Perdue Agribusiness P45XP421	Conv	58 G	30 A	30.0 A-C	15 AB	1.3 FG	1.0
Average		75	9	1.5	3	2.8	1.0
Standard Error		3	7	0.4	3	0.7	0.0
L.S.D..05		10	N.S.	Sig.	Sig.	Sig.	N.E.
C.V.		8	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
|| Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-13-a. Mean[†] yield and agronomic traits of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials without irrigation at the Middle Tennessee AgResearch and Education Center in Spring Hill, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
NK 42-A6E3S	E3	83 A			13 BC			34 A-F			1.0			144 AB		
Xitavo 4084E	E3	71 B			12 E-G			33 A-F			1.0			138 FG		
Asgrow AG45XF3	XF	70 B			13 BC			35 A-C			1.0			144 AB		
Revere 4237XFS	XFS	70 BC			13 B-E			34 A-D			1.0			138 FG		
Dyna-Gro S41EN72	E3	70 B-D	56 A	58 A	12 G	13 A	13 A	31 C-G	28 CD	29 B	1.0	1.0	1.2	141 CD	137 C	139 B
Revere 4299XS	R2XS	70 B-D	55 A	59 A	12 B-F	13 A	13 A	34 A-F	31 AB	31 A	1.0	1.0	1.2	143 A-C	141 B	143 A
NK 44-Q5E3S	E3	70 B-D	56 A		12 FG	13 A		30 E-G	27 D		1.0	1.0		144 AB	142 AB	
Innvictis A4503XF	XF	69 B-D			12 D-G			34 A-F			1.0			140 DE		
Xitavo 4522E	E3	69 B-D			12 B-F			31 D-G			1.0			143 BC		
Xitavo 4364E	E3	68 B-D			12 B-F			32 B-G			1.0			139 EF		
Innvictis B5013E	E3	67 B-D			13 BC			37 A			1.0			143 AB		
Asgrow AG43XF2	XF	67 B-D	52 A		13 B-D	13 A		32 B-F	29 BC		1.0	1.0		144 AB	142 AB	
Don Mario DM45F23	XF	66 B-D			12 C-F			33 A-F			1.0			141 DE		
Innvictis A4411XF	XF	66 B-D			12 B-F			34 A-E			1.0		1.0	141 DE		
Perdue Agribusiness P41IL022	Conv	64 B-D			13 B			30 FG			1.0			139 EF		
Revere 4526XFS	XFS	63 CD	59 A		12 C-F	13 A		36 AB	33 A		1.0	1.0		144 AB	142 AB	
Dyna-Gro S45XF02	XF	63 D	53 A		13 BC	13 A		34 A-F	30 BC		1.0	1.0		145 A	143 A	
Perdue Agribusiness P41MO21	Conv	56 E			12 B-F			31 C-G			1.0			137 G		
MO S19-10701	Conv	52 E			12 B-F			32 B-G			1.3			143 A-C		
Perdue Agribusiness P45XP421	Conv	50 E			15 A			28 G			1.0			143 BC		
Average		66	55	58	12.5	13.0	13.4	33	30	30	1.0	1.0	1.1	142	141	141
Standard Error		3	12	9	0.1	0.7	0.6	2	3	2	0.0	0.0	0.0	1	3	3
L.S.D..05		7	N.S.	N.S.	0.4	N.S.	N.S.	4	2	1	N.E.	N.E.	N.E.	2	2	2
C.V.		6	11	11	2	4	4	8	6	4	-	-	-	1	1	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signicant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-13-b. Mean† yield and agronomic traits of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials without irrigation at the Middle Tennessee AgResearch and Education Center in Spring Hill, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)	SDS DI†† (%)	SDS DS†† (1-9)	SDS DX†† (DI x DS/9)	Frogeye‡‡ (%)	Leaf Holding‖ (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
NK 42-A6E3S	E3	83 A	0	1.0	0	1.0 F	1.0 C
Xitavo 4084E	E3	71 B	0	1.0	0	1.0 F	1.2 BC
Asgrow AG45XF3	XF	70 B	0	1.0	0	5.7 A	1.0 C
Revere 4237XFS	XFS	70 BC	0	1.0	0	4.0 BC	1.0 C
Dyna-Gro S41EN72	E3	70 B-D	0	1.0	0	1.0 F	1.2 BC
Revere 4299XS	R2XS	70 B-D	0	1.0	0	1.7 EF	1.0 C
NK 44-Q5E3S	E3	70 B-D	0	1.0	0	1.0 F	1.0 C
Innvictis A4503XF	XF	69 B-D	0	1.0	0	2.0 D-F	1.0 C
Xitavo 4522E	E3	69 B-D	0	1.0	0	3.3 B-D	1.2 BC
Xitavo 4364E	E3	68 B-D	0	1.0	0	3.3 B-D	1.0 C
Innvictis B5013E	E3	67 B-D	0	1.0	0	4.7 AB	1.0 C
Asgrow AG43XF2	XF	67 B-D	0	1.0	0	4.0 BC	1.0 C
Don Mario DM45F23	XF	66 B-D	0	1.0	0	1.3 EF	1.2 BC
Innvictis A4411XF	XF	66 B-D	0	1.0	0	3.7 BC	1.5 AB
Perdue Agribusiness P41IL022	Conv	64 B-D	0	1.0	0	2.7 C-E	1.0 C
Revere 4526XFS	XFS	63 CD	0	1.0	0	5.7 A	1.0 C
Dyna-Gro S45XF02	XF	63 D	0	1.0	0	2.0 D-F	1.0 C
Perdue Agribusiness P41MO21	Conv	56 E	0	1.0	0	2.7 C-E	1.0 C
MO S19-10701	Conv	52 E	0	1.0	0	2.0 D-F	1.7 A
Perdue Agribusiness P45XP421	Conv	50 E	0	1.0	0	1.0 F	1.2 BC
Average		66	0	1.0	0	2.7	1.1
Standard Error		3	0	0.0	0	0.6	0.1
L.S.D..05		7	N.E.	N.E.	N.E.	1.6	0.4
C.V.		6	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-14-a. Mean[†] yield and agronomic traits of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials with irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Asgrow AG45XF3	XF	84 A			12 A			46 A-C			1.0 E			138 C-E		
NK 42-A6E3S	E3	74 B			12 A			46 A-D			1.0 E			137 C-E		
Revere 4526XFS	XFS	73 BC	72 A		13 A	11 A		48 AB	48 A		1.3 DE	1.5 B		142 A-E	140 A	
Revere 4299XS	R2XS	73 B-D	70 AB	68 A	13 A	11 A	12 A	49 A	47 A	44 A	1.7 C-E	1.3 B	1.3 B	141 A-E	140 A	138 A
Innvictis A4503XF	XF	69 B-E			12 A			43 C-G			1.3 DE			140 A-E		
Xitavo 4522E	E3	68 B-E			13 A			42 D-G			1.0 E			140 A-E		
Revere 4237XFS	XFS	68 B-E			12 A			47 AB			1.0 E			135 E		
Asgrow AG43XF2	XF	67 B-E	65 BC		12 A	11 A		45 A-E	44 BC		1.3 DE	1.2 B		135 E	135 BC	
Innvictis B5013E	E3	66 B-E			14 A			48 AB			1.3 DE			143 A-E		
Innvictis A4411XF	XF	65 B-F			13 A			46 A-D			2.3 B-D			144 A-D		
NK 44-Q5E3S	E3	65 C-F	67 A-C		13 A	11 A		41 G	39 D		1.7 C-E	1.8 AB		136 DE	136 BC	
Dyna-Gro S45XF02	XF	64 D-G	62 C		13 A	11 A		45 B-F	46 AB		1.7 C-E	1.8 AB		141 A-E	138 AB	
Xitavo 4364E	E3	64 E-G			12 A			41 FG			2.7 A-C			139 B-E		
Don Mario DM45F23	XF	63 E-G			13 A			45 A-E			1.7 C-E			148 A		
Dyna-Gro S41EN72	E3	61 E-H	61 C	63 A	13 A	11 A	12 A	42 E-G	43 C	41 A	2.3 B-D	2.3 A	2.6 A	135 E	134 C	135 B
MO S19-10701	Conv	57 F-I			13 A			45 A-E			2.0 B-E			145 A-C		
Perdue Agribusiness P41MO21	Conv	57 G-J			13 A			46 A-D			3.0 AB			135 E		
Xitavo 4084E	E3	54 H-J			14 A			41 FG			2.7 A-C			135 E		
Perdue Agribusiness P45XP421	Conv	51 IJ			14 A			39 G			2.7 A-C			147 AB		
Perdue Agribusiness P41IL022	Conv	48 J			12 A			40 G			3.7 A			135 E		
Average		65	66	66	12.8	11.1	11.6	44	44	43	1.9	1.7	1.9	140	137	137
Standard Error		4	2	2	0.4	1.8	1.1	1	1	2	0.6	0.3	0.2	3	2	1
L.S.D.[.05]		9	6	N.S.	N.S.	N.S.	N.S.	4	3	N.S.	1.2	0.7	0.5	8	3	3
C.V.		8	8	9	5	7	8	5	5	6	40	34	24	3	2	2

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-14-b. Mean[†] yield and agronomic traits of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials with irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac) 1 yr	SDS DI[††, T] (%) 1 yr	SDS DS[††, T] (1-9) 1 yr	SDS DX[††, T] (DI x DS/9) 1 yr	Frogeye[‡‡] (%) 1 yr
Asgrow AG45XF3	XF	84 A	0 C	1.0 C	0 D	1.7 A
NK 42-A6E3S	E3	74 B	2 BC	1.0 C	0 CD	1.0 A
Revere 4526XFS	XFS	73 BC	0 C	1.0 C	0 D	3.0 A
Revere 4299XS	R2XS	73 B-D	5 A-C	1.3 BC	1 A-D	1.3 A
Innvictis A4503XF	XF	69 B-E	7 BC	1.3 BC	1 B-D	1.7 A
Xitavo 4522E	E3	68 B-E	5 A-C	1.0 C	1 A-D	1.0 A
Revere 4237XFS	XFS	68 B-E	7 AB	1.7 BC	1 A-C	1.3 A
Asgrow AG43XF2	XF	67 B-E	3 A-C	2.0 BC	1 A-D	2.0 A
Innvictis B5013E	E3	66 B-E	2 BC	1.3 BC	0 CD	1.7 A
Innvictis A4411XF	XF	65 B-F	8 AB	2.0 B	2 AB	1.3 A
NK 44-Q5E3S	E3	65 C-F	3 BC	1.0 C	0 CD	1.7 A
Dyna-Gro S45XF02	XF	64 D-G	0 C	1.0 C	0 D	1.0 A
Xitavo 4364E	E3	64 E-G	2 BC	1.3 BC	0 CD	2.3 A
Don Mario DM45F23	XF	63 E-G	7 A-C	1.7 BC	1 A-D	1.7 A
Dyna-Gro S41EN72	E3	61 E-H	0 C	1.0 C	0 D	1.0 A
MO S19-10701	Conv	57 F-I	25 AB	2.7 AB	11 A-C	2.0 A
Perdue Agribusiness P41MO21	Conv	57 G-J	3 A-C	1.7 BC	1 A-D	1.3 A
Xitavo 4084E	E3	54 H-J	0 C	1.0 C	0 D	1.0 A
Perdue Agribusiness P45XP421	Conv	51 IJ	20 A	4.0 A	9 A	1.0 A
Perdue Agribusiness P41IL022	Conv	48 J	2 BC	2.0 BC	1 B-D	1.3 A
Average		65	5	1.6	2	1.5
Standard Error		4	6	0.4	2	0.5
L.S.D.·.05		9	Sig.	Sig.	Sig.	N.S.
C.V.		8	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
|| Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-15-a. Mean[†] yield and agronomic traits of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials without irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Revere 4237XFS	XFS	74 A			13 BC			46 B			1.0 E			134 E		
NK 42-A6E3S	E3	74 AB			13 B			44 B-D			1.2 E			134 E		
Asgrow AG45XF3	XF	72 A-C			13 CD			44 B-D			1.0 E			138 B-E		
Xitavo 4522E	E3	70 A-D			13 B-D			39 G-I			1.0 E			138 B-E		
Innvictis A4503XF	XF	69 A-D			12 D			42 C-F			1.0 E			134 E		
Asgrow AG43XF2	XF	69 A-D	60 A		13 BC	11 A		44 B-D	38 CD		1.0 E	1.0 A		135 DE	134 A	
Revere 4299XS	R2XS	68 A-D	59 A	62 A	13 B-D	11 A	11 A	49 A	42 A	42 A	1.0 E	1.0 A	1.1 A	138 B-E	137 A	136 A
NK 44-Q5E3S	E3	68 A-D	57 A		12 CD	11 A		38 HI	34 E		1.0 E	1.0 A		134 E	134 A	
Revere 4526XFS	XFS	67 A-D	66 A		12 CD	11 A		46 B	41 AB		1.0 E	1.0 A		136 C-E	136 A	
Dyna-Gro S45XF02	XF	66 A-D	62 A		13 BC	11 A		43 C-E	40 BC		1.0 E	1.0 A		134 E	134 A	
Dyna-Gro S41EN72	E3	66 A-D	59 A	59 A	12 D	11 A	11 A	42 C-F	37 D	37 B	1.3 DE	1.2 A	1.6 A	138 B-E	135 A	135 B
Xitavo 4084E	E3	65 B-D			12 CD			40 E-H			1.3 DE			133 E		
Xitavo 4364E	E3	65 B-D			12 CD			39 F-H			1.0 E			134 E		
Innvictis A4411XF	XF	64 CD			13 B-D			45 BC			1.7 CD			141 BC		
Innvictis B5013E	E3	62 DE			12 CD			46 B			1.0 E			141 B-D		
Don Mario DM45F23	XF	62 DE			13 BC			42 D-G			2.0 BC			143 AB		
MO S19-10701	Conv	55 E			13 BC			49 A			2.3 AB			148 A		
Perdue Agribusiness P41MO21	Conv	54 E			13 B-D			39 F-H			2.7 A			136 C-E		
Perdue Agribusiness P41IL022	Conv	54 E			12 CD			38 HI			1.0 E			136 C-E		
Perdue Agribusiness P45XP421	Conv	39 F			14 A			36 I			1.0 E			135 DE		
Average		64	60	61	12.7	10.8	11.2	43	39	40	1.3	1.0	1.3	137	135	136
Standard Error		3	7	5	0.2	1.7	1.0	1	5	3	0.2	0.1	0.3	2	1	1
L.S.D.·.05		9	N.S.	N.S.	0.6	N.S.	N.S.	3	2	2	0.5	N.S.	N.S.	6	N.S.	1
C.V.		8	12	9	3	4	6	4	5	5	-	-	-	3	2	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

‡ For a full description of abbreviated biotech traits, see table 29.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-15-b. Mean[†] yield and agronomic traits of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials without irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††] (%)	SDS DS[††] (1-9)	SDS DX[††] (DI x DS/9)	Frogeye[‡‡] (%)
		1 yr	1 yr	1 yr	1 yr	1 yr
Revere 4237XFS	XFS	74 A	20 C	1.7 CD	4 C	2.0 A
NK 42-A6E3S	E3	74 AB	7 C-E	1.0 D	1 C	1.0 A
Asgrow AG45XF3	XF	72 A-C	3 E	1.3 D	1 C	1.3 A
Xitavo 4522E	E3	70 A-D	5 DE	1.3 D	1 C	1.0 A
Innvictis A4503XF	XF	69 A-D	43 B	2.7 BC	14 B	1.7 A
Asgrow AG43XF2	XF	69 A-D	8 C-E	1.3 D	1 C	1.0 A
Revere 4299XS	R2XS	68 A-D	7 C-E	1.0 D	1 C	1.0 A
NK 44-Q5E3S	E3	68 A-D	5 DE	1.3 D	1 C	1.0 A
Revere 4526XFS	XFS	67 A-D	8 C-E	2.0 B-D	2 C	2.0 A
Dyna-Gro S45XF02	XF	66 A-D	18 CD	2.0 B-D	5 C	1.3 A
Dyna-Gro S41EN72	E3	66 A-D	13 C-E	1.3 D	2 C	1.0 A
Xitavo 4084E	E3	65 B-D	3 E	1.7 CD	1 C	2.0 A
Xitavo 4364E	E3	65 B-D	7 C-E	1.7 CD	2 C	2.3 A
Innvictis A4411XF	XF	64 CD	13 C-E	1.3 D	2 C	1.7 A
Innvictis B5013E	E3	62 DE	0 E	1.0 D	0 C	1.7 A
Don Mario DM45F23	XF	62 DE	10 C-E	1.7 CD	2 C	1.0 A
MO S19-10701	Conv	55 E	47 B	3.0 B	16 B	1.0 A
Perdue Agribusiness P41MO21	Conv	54 E	2 E	1.0 D	0 C	1.3 A
Perdue Agribusiness P41IL022	Conv	54 E	18 CD	2.0 B-D	5 C	1.3 A
Perdue Agribusiness P45XP421	Conv	39 F	87 A	5.0 A	48 A	1.0 A
Average		64	16	1.8	5	1.4
Standard Error		3	6	0.4	2	0.3
L.S.D..05		9	15	1.1	6	N.S.
C.V.		8	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

‡ For a full description of abbreviated biotech traits, see table 29.

§ All yields are adjusted to 13% moisture.

†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.

‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.

‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-16-a. Mean† yield and agronomic traits of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials without irrigation at the West Tennessee AgResearch and Education Center in Jackson, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging‖ (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
NK 42-A6E3S	E3	81 A			15 A-E			42 A-D			1.0 D			137 A-C		
Dyna-Gro S45XF02	XF	69 B	62 A		16 A-C	14 A		42 A-E	37 BC		1.0 D	1.0 B		140 A	139 A	
Dyna-Gro S41EN72	E3	68 B	57 A	60 A	14 EF	14 A	13 B	40 C-F	36 CD	36 A	2.3 B	1.8 A	1.6 A	131 G	130 B	129 A
Revere 4299XS	R2XS	65 BC	59 A	62 A	16 A-C	15 A	14 A	40 C-G	39 AB	38 A	1.0 D	1.2 B	1.2 A	133 D-G	135 A	133 A
Don Mario DM45F23	XF	65 BC			16 AB			40 C-G			2.3 B			140 A		
Innvictis A4503XF	XF	65 BC			14 EF			38 F-H			1.0 D			133 E-G		
Xitavo 4522E	E3	64 B-D			15 A-F			40 C-G			1.0 D			134 D-F		
Asgrow AG43XF2	XF	63 B-D	53 A		14 D-F	14 A		41 B-F	38 BC		1.0 D	1.0 B		135 C-E	136 A	
NK 44-Q5E3S	E3	62 B-E	55 A		15 A-F	14 A		35 H	33 D		1.0 D	1.0 B		140 A	137 A	
Asgrow AG45XF3	XF	62 B-E			14 D-F			43 A-C			1.0 D			138 AB		
Revere 4237XFS	XFS	60 B-E			15 A-E			39 D-G			1.3 CD			127 H		
Revere 4526XFS	XFS	59 C-E	57 A		15 A-D	14 A		45 A	41 A		1.0 D	1.0 B		136 B-D	136 A	
Innvictis A4411XF	XF	58 C-E			15 A-E			38 F-H			1.0 D			132 FG		
Xitavo 4084E	E3	57 C-E			16 A			38 E-H			3.7 A			123 I		
Xitavo 4364E	E3	57 C-E			15 A-D			39 C-G			1.0 D			132 FG		
Innvictis B5013E	E3	56 D-F			14 D-F			44 AB			1.3 CD			140 A		
MO S19-10701	Conv	54 EF			15 B-F			41 B-F			2.0 BC			134 D-F		
Perdue Agribusiness P41IL022	Conv	48 FG			14 F			37 GH			3.7 A			133 E-G		
Perdue Agribusiness P45XP421	Conv	43 GH			15 A-F			30 I			1.7 B-D			140 A		
Perdue Agribusiness P41MO21	Conv	38 H			15 C-F			38 F-H			4.3 A			133 D-G		
Average		60	57	61	14.9	14.1	13.5	39	37	37	1.7	1.2	1.4	135	136	131
Standard Error		4	8	6	0.4	1.0	1.0	1	3	2	0.4	0.2	0.3	1	1	2
L.S.D.·.05		9	N.S.	N.S.	1.2	N.S.	0.7	3	3	N.S.	0.9	0.6	N.S.	3	4	N.S.
C.V.		9	12	9	5	5	5	5	6	7	-	-	-	1	3	3

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-16-b. Mean[†] yield and agronomic traits of 20 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials without irrigation at the West Tennessee AgResearch and Education Center in Jackson, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††, T] (%)	SDS DS[††] (1-9)	SDS DX[††, T] (DI x DS/9)	Frogeye[‡‡] (%)	Leaf Holding[ǁ] (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
NK 42-A6E3S	E3	81 A	17 A	1.7 A	5 A	4.0 C-F	1.3
Dyna-Gro S45XF02	XF	69 B	18 A	3.3 A	6 A	3.7 D-F	1.0
Dyna-Gro S41EN72	E3	68 B	20 A	1.3 A	3 A	2.7 F	1.0
Revere 4299XS	R2XS	65 BC	22 A	1.7 A	4 A	3.3 EF	1.0
Don Mario DM45F23	XF	65 BC	35 A	2.7 A	11 A	2.7 F	1.0
Innvictis A4503XF	XF	65 BC	42 A	3.3 A	14 A	5.0 B-F	1.0
Xitavo 4522E	E3	64 B-D	17 A	2.0 A	5 A	3.0 F	1.0
Asgrow AG43XF2	XF	63 B-D	27 A	2.0 A	6 A	5.7 B-E	1.0
NK 44-Q5E3S	E3	62 B-E	3 A	1.7 A	1 A	2.7 F	1.0
Asgrow AG45XF3	XF	62 B-E	2 A	2.0 A	1 A	6.7 AB	1.0
Revere 4237XFS	XFS	60 B-E	12 A	2.0 A	3 A	5.7 B-E	1.0
Revere 4526XFS	XFS	59 C-E	2 A	2.3 A	1 A	8.3 A	1.0
Innvictis A4411XF	XF	58 C-E	28 A	2.3 A	9 A	5.0 B-F	1.0
Xitavo 4084E	E3	57 C-E	20 A	1.7 A	5 A	2.7 F	1.7
Xitavo 4364E	E3	57 C-E	23 A	1.7 A	5 A	6.0 A-D	1.0
Innvictis B5013E	E3	56 D-F	0 A	1.0 A	0 A	6.3 A-C	1.3
MO S19-10701	Conv	54 EF	17 A	2.3 A	6 A	2.7 F	1.7
Perdue Agribusiness P41IL022	Conv	48 FG	22 A	1.3 A	4 A	4.3 B-F	1.0
Perdue Agribusiness P45XP421	Conv	43 GH	52 A	4.7 A	29 A	2.7 F	2.3
Perdue Agribusiness P41MO21	Conv	38 H	25 A	1.3 A	6 A	5.0 B-F	1.3
Average		60	20	2.1	6	4.4	1.2
Standard Error		4	12	0.7	6	0.9	0.0
L.S.D..05		9	N.S.	N.S.	N.S.	2.5	N.E.
C.V.		9	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
ǁ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-17-a. Mean[†] yield and agronomic traits of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials without irrigation at the Northeast Tennessee AgResearch and Education Center in Greeneville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Asgrow AG49XF3	XF	119 A			8.1 B-E			49 A			2.3 E-G			152 A		
Progeny 4691XFS*	XFS	118 AB	89 A		8.1 B-E	10.8 AB		48 AB	46 AB		2.3 E-G	1.7 B-D		152 A	143 A	
USG 7461XFS**	XFS	116 A-C	87 A	88 A	7.8 F-I	10.5 CD	10.8 C	48 A-D	45 A-D	44 A	2.5 EF	2.0 A	2.0 A	151 A	143 A	-
Don Mario DM48F53	XF	111 A-D			7.9 E-I			40 FG			2.3 E-G			153 A		
Revere 4795XS****	R2XS	111 A-E	82 A	82 A	8.0 C-G	10.8 AB	11.0 AB	48 AB	44 A-F	42 AB	2.2 F-H	1.6 CD	1.6 BC	155 A	145 A	-
Progeny 4775E3S	E3S	110 A-F	87 A		8.1 B-F	10.8 AB		48 A-C	46 A		2.5 EF	1.8 A-C		154 A	144 A	
Revere 4826XF*	XF	107 A-G	84 A		8.2 A-D	10.8 AB		45 B-E	43 C-F		2.0 GH	1.6 CD		155 A	144 A	
Revere 4727XF	XF	105 A-H	80 A		7.5 J	10.3 D		44 C-F	42 EF		1.8 H	1.4 D		155 A	144 A	
Progeny 4604XFS**	XFS	105 A-H	85 A	88 A	7.9 E-I	10.5 B-D	10.8 BC	48 A-D	45 A-E	44 A	2.5 EF	1.9 AB	2.0 A	152 A	143 A	-
Dyna-Gro S47XF23S	XFS	103 B-H	80 A		8.3 A-C	10.7 A-C		45 B-E	41 F		2.2 F-H	1.6 CD		157 A	145 A	
USG 7463XF	XF	103 B-H	82 A		8.0 B-G	10.6 A-D		46 A-E	44 A-F		2.2 F-H	1.6 CD		148 A	141 A	
USG 7496XTS**	R2XS	101 C-I	81 A	85 A	8.2 B-E	10.9 A	11.1 A	48 A-D	45 A-C	44 A	2.0 GH	1.7 B-D	1.9 AB	153 A	143 A	
Revere 4934XF	XF	101 C-I			8.2 A-D			40 FG			2.7 DE			157 A		
Progeny 4806XFS	XFS	101 D-I	79 A	79 A	7.7 H-J	10.4 CD	10.7 C	45 A-E	43 B-F	40 B	2.0 GH	1.5 D	1.4 C	151 A	143 A	-
Dyna-Gro S48EN73	E3	100 D-J	76 A		8.3 A-D	10.9 A		44 C-F	41 F		2.0 GH	1.5 D		151 A	142 A	
USG 7494ETS	E3S	100 D-J			8.2 A-D			47 A-D			2.3 E-G			153 A		
Progeny 4798XF	XF	100 D-J	80 A		8.0 D-H	10.5 B-D		43 E-G	41 F		2.7 DE	1.8 A-C		154 A	144 A	
Asgrow AG47XF2	XF	97 D-J	78 A		8.2 A-D	10.6 A-D		46 A-E	43 B-F		2.7 DE	1.8 A-C		154 A	144 A	
USG 7474XFS	XFS	96 E-J			8.2 A-D			44 D-G			2.0 GH			154 A		
Asgrow AG48XF3	XF	95 F-J			8.0 B-G			46 A-E			1.8 H			158 A		
Innvictis A4862XF	XF	95 F-J	76 A		8.1 B-F	10.7 A-C		45 A-E	42 D-F		2.7 DE	1.8 A-C		154 A	144 A	
Xitavo 4653E	E3	92 G-J			7.8 F-I			45 B-E			2.0 GH			151 A		
Innvictis B4903E	E3	92 G-J			7.8 G-J			43 E-G			2.3 E-G			152 A		
Revere 4731XF	XF	91 H-J			8.2 A-D			44 C-F			3.0 CD			154 A		
Dyna-Gro S49XF43S	XFS	91 H-J	78 A		8.0 C-G	10.5 B-D		40 G	38 G		2.0 GH	1.5 D		154 A	144 A	
Xitavo 4894E	E3	87 IJ			8.3 AB			44 B-E			2.2 F-H			150 A		
Innvictis B4603E	E3	85 J			7.7 IJ			45 A-E			3.3 C			155 A		
MO S18-17644	Conv	61 K			8.5 A			49 A			4.3 A			155 A		
Perdue Agribusiness P48MO21	Conv	56 K			8.0 C-G			46 A-E			3.8 B			159 A		
TN Exp TN18-4110b	Conv.	54 K			7.7 IJ			47 A-D			4.2 AB			159 A		
Average		97	81	84	8.0	10.6	10.9	45	43	43	2.5	1.7	1.8	154	143	-
Standard Error		5	23	14	0.1	2.6	1.6	1	3	2	0.2	0.6	0.3	3	10	-
L.S.D..05		16	N.S.	N.S.	0.3	0.3	0.2	4	3	3	0.5	0.3	0.3	N.S.	N.S.	-
C.V.		10	12	12	2	3	2	5	6	6	-	-	-	3	2	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-17-b. Mean[†] yield and agronomic traits of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials without irrigation at the Northeast Tennessee AgResearch and Education Center in Greeneville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac) 1 yr	SDS DI[††] (%) 1 yr	SDS DS[††] (1-9) 1 yr	SDS DX[††] (DI x DS/9) 1 yr	Frogeye[‡‡] (%) 1 yr	Leaf Holding[ǁ] (1-5) 1 yr
Asgrow AG49XF3	XF	119 A	0	1.0	0	1.0	1.5
Progeny 4691XFS*	XFS	118 AB	0	1.0	0	1.3	1.5
USG 7461XFS**	XFS	116 A-C	0	1.0	0	1.0	1.5
Don Mario DM48F53	XF	111 A-D	0	1.0	0	1.0	1.5
Revere 4795XS****	R2XS	111 A-E	0	1.0	0	1.7	1.5
Progeny 4775E3S	E3S	110 A-F	3	1.3	1	1.0	1.7
Revere 4826XF*	XF	107 A-G	0	1.0	0	1.0	1.5
Revere 4727XF	XF	105 A-H	0	1.0	0	1.7	1.8
Progeny 4604XFS**	XFS	105 A-H	0	1.0	0	1.0	1.5
Dyna-Gro S47XF23S	XFS	103 B-H	0	1.0	0	1.7	1.5
USG 7463XF	XF	103 B-H	0	1.0	0	1.0	1.5
USG 7496XTS**	R2XS	101 C-I	0	1.0	0	1.0	1.5
Revere 4934XF	XF	101 C-I	0	1.0	0	1.0	1.5
Progeny 4806XFS	XFS	101 D-I	0	1.0	0	1.0	1.5
Dyna-Gro S48EN73	E3	100 D-J	0	1.0	0	1.0	1.5
USG 7494ETS	E3S	100 D-J	0	1.0	0	1.0	1.5
Progeny 4798XF	XF	100 D-J	2	1.3	0	1.0	1.5
Asgrow AG47XF2	XF	97 D-J	0	1.0	0	1.7	1.7
USG 7474XFS	XFS	96 E-J	0	1.0	0	1.0	1.5
Asgrow AG48XF3	XF	95 F-J	3	1.3	1	1.7	1.5
Innvictis A4862XF	XF	95 F-J	0	1.0	0	1.0	1.5
Xitavo 4653E	E3	92 G-J	0	1.0	0	1.0	1.7
Innvictis B4903E	E3	92 G-J	2	1.0	0	1.0	1.5
Revere 4731XF	XF	91 H-J	0	1.0	0	1.0	1.7
Dyna-Gro S49XF43S	XFS	91 H-J	0	1.0	0	1.0	1.5
Xitavo 4894E	E3	87 IJ	0	1.0	0	1.0	1.8
Innvictis B4603E	E3	85 J	0	1.0	0	1.0	1.7
MO S18-17644	Conv	61 K	0	1.0	0	1.0	1.5
Perdue Agribusiness P48MO21	Conv	56 K	0	1.0	0	2.0	1.8
TN Exp TN18-4110b	Conv.	54 K	2	1.0	0	1.0	2.0
Average		97	0	1.0	0	1.2	1.6
Standard Error		5	0	0.0	0	0.0	0.0
L.S.D..₀₅		16	N.E.	N.E.	N.E.	N.E.	N.E.
C.V.		10	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
ǁ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-18-a. Mean[†] yield and agronomic traits of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials with irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
USG 7474XFS	XFS	84 A			14 E-G			41 A-F			2.0 C-H			147 B-H		
Asgrow AG48XF3	XF	83 AB			14 B-G			43 A-D			2.7 A-F			147 A-G		
Revere 4727XF	XF	83 A-C	75 A		13 GH	12 FG		39 B-G	42 D-F		1.3 GH	1.4 E		142 IJ	143 C-E	
Dyna-Gro S47XF23S	XFS	83 A-C	73 AB		14 B-G	13 C-E		42 A-E	43 B-E		1.7 E-H	1.6 DE		147 A-G	143 B-D	
Revere 4795XS****	R2XS	78 A-D	73 AB	78 A	14 D-G	13 E-G	13 B	39 B-G	41 D-F	38 B	2.2 B-H	1.8 B-E	1.7 B	148 A-E	143 B-D	143 BC
USG 7496XTS**	R2XS	77 A-E	73 AB	77 A	14 B-F	14 A	14 A	45 A	47 A	43 A	2.2 B-H	2.2 A-E	1.9 AB	148 A-F	147 A	146 A
Progeny 4604XFS**	XFS	75 A-F	73 AB	74 A	14 E-G	13 D-F	13 AB	43 A-C	46 AB	43 A	3.2 A-C	2.5 A-C	2.3 A	146 C-H	142 D-F	141 C
USG 7461XFS**	XFS	75 A-F	70 A-D	75 A	14 D-G	13 D-F	13 B	37 F-H	42 D-F	39 B	2.2 B-H	1.9 A-E	1.8 B	144 F-J	143 C-E	141 BC
Xitavo 4894E	E3	75 A-F			14 B-G			42 A-E			1.8 D-H			146 C-H		
Revere 4826XF*	XF	74 A-G	72 A-C		14 B-G	13 DE		37 F-H	42 D-F		1.8 D-H	1.7 DE		147 B-G	142 D-F	
Dyna-Gro S48EN73	E3	73 B-H	67 B-E		14 B-G	13 DE		38 C-H	39 F		3.2 A-C	2.6 AB		151 A	146 AB	
USG 7494ETS	E3S	72 C-H			14 A-F			42 A-E			1.7 E-H			144 F-J		
Revere 4731XF	XF	71 D-H			15 A-C			38 C-H			2.8 A-E			141 J		
Dyna-Gro S49XF43S	XFS	69 D-I	67 B-E		14 A-F	13 B-D		38 E-H	39 F		3.5 A	2.7 A		149 A-D	146 A-C	
Asgrow AG49XF3	XF	68 D-I			14 B-G			43 A-D			1.7 E-H			150 AB		
Xitavo 4653E	E3	68 D-I			14 B-G			40 B-G			1.4 GH			141 J		
Revere 4934XF	XF	68 D-I			14 A-E			38 D-H			3.3 AB			145 D-I		
Asgrow AG47XF2	XF	68 D-I	67 B-E		15 A	14 AB		41 A-F	42 D-F		1.2 H	1.7 DE		141 J	139 G	
Progeny 4691XFS*	XFS	68 D-I	67 B-E		15 A-D	14 AB		43 AB	46 A		2.2 B-H	1.8 B-E		142 IJ	139 FG	
Progeny 4798XF	XF	66 E-J	67 B-E		13 H	12 G		36 G-I	40 EF		2.0 C-H	1.8 B-E		148 A-F	143 B-D	
Progeny 4775E3S	E3S	66 F-J	64 C-E		15 AB	14 A-C		41 A-F	46 A-C		3.0 A-D	2.3 A-D		145 E-I	142 D-F	
Progeny 4806XFS	XFS	66 F-J	62 E	68 B	14 A-F	13 C-E	13 B	39 B-H	40 EF	38 B	2.2 B-H	1.7 DE	1.6 B	147 B-H	144 B-D	144 AB
USG 7463XF	XF	64 F-K	64 C-E		14 A-F	13 B-D		43 A-D	44 A-D		1.5 F-H	1.8 C-E		142 IJ	139 E-G	
Innvictis A4862XF	XF	63 G-K	63 DE		14 E-G	13 DE		41 A-F	43 C-E		1.5 F-H	1.7 DE		148 A-F	143 B-D	
Don Mario DM48F53	XF	62 H-K			14 B-G			38 C-H			2.2 B-H			143 H-J		
MO S18-17644	Conv	59 I-K			14 A-F			28 J			2.0 C-H			149 A-C		
Innvictis B4603E	E3	56 JK			14 C-G			34 HI			2.5 A-G			144 G-J		
Innvictis B4903E	E3	55 JK			14 B-G			39 B-G			2.3 A-G			149 A-E		
Perdue Agribusiness P48MO21	Conv	54 K			14 B-G			32 IJ			3.0 A-D			150 AB		
TN Exp TN18-4110b	Conv.	36 L			14 F-H			22 K			1.2 H			151 A		
Average		69	69	74	14.1	13.0	13.2	39	43	40	2.2	1.9	1.9	146	143	143
Standard Error		4	4	5	0.3	1.0	0.6	2	3	4	0.4	0.3	0.3	2	3	2
L.S.D..05		11	8	6	0.7	0.5	0.6	5	3	3	1.2	0.8	0.4	4	3	3
C.V.		10	10	8	3	3	5	8	7	7	-	-	-	2	2	2

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-18-b. Mean[†] yield and quality of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials with irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Protein[¶] (%)			Oil[¶] (%)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
USG 7474XFS	XFS	84 A			34.2 A-G			24.0 B-H		
Asgrow AG48XF3	XF	83 AB			33.6 D-I			24.7 A-C		
Revere 4727XF	XF	83 A-C	75 A		33.7 C-H	33.5 DE		24.1 B-G	23.9 BC	
Dyna-Gro S47XF23S	XFS	83 A-C	73 AB		32.8 H-J	32.8 F		24.2 A-E	23.9 BC	
Revere 4795XS****	R2XS	78 A-D	73 AB	78 A	34.6 A-E	34.2 BC	34.2 B	23.6 D-J	23.5 D-F	23.6 AB
USG 7496XTS**	R2XS	77 A-E	73 AB	77 A	34.2 A-G	34.8 AB	35.1 A	23.5 E-J	23.0 G	23.1 C
Progeny 4604XFS**	XFS	75 A-F	73 AB	74 A	32.6 I-K	33.0 EF	33.1 CD	23.8 C-J	23.6 C-E	23.7 AB
USG 7461XFS**	XFS	75 A-F	70 A-D	75 A	33.6 C-I	33.5 DE	33.6 BC	23.7 D-J	23.6 C-F	23.5 B
Xitavo 4894E	E3	75 A-F			35.1 A			23.6 D-J		
Revere 4826XF*	XF	74 A-G	72 A-C		33.5 E-I	33.7 CD		23.8 D-J	23.7 CD	
Dyna-Gro S48EN73	E3	73 B-H	67 B-E		34.8 A-C	34.7 AB		23.3 F-J	23.2 E-G	
USG 7494ETS	E3S	72 C-H			34.3 A-G			23.8 D-J		
Revere 4731XF	XF	71 D-H			34.3 A-G			23.5 E-J		
Dyna-Gro S49XF43S	XFS	69 D-I	67 B-E		34.5 A-E	33.9 CD		24.4 A-D	24.5 A	
Asgrow AG49XF3	XF	68 D-I			33.8 C-H			23.2 IJ		
Xitavo 4653E	E3	68 D-I			33.8 C-H			23.8 D-J		
Revere 4934XF	XF	68 D-I			32.1 JK			24.8 AB		
Asgrow AG47XF2	XF	68 D-I	67 B-E		33.9 B-H	33.8 CD		23.9 B-I	23.9 BC	
Progeny 4691XFS*	XFS	68 D-I	67 B-E		34.5 A-F	34.3 BC		23.4 F-J	23.2 E-G	
Progeny 4798XF	XF	66 E-J	67 B-E		32.6 I-K	32.5 F		24.0 B-I	23.9 BC	
Progeny 4775E3S	E3S	66 F-J	64 C-E		35.1 A	35.2 A		23.2 H-J	22.9 G	
Progeny 4806XFS	XFS	66 F-J	62 E	68 B	32.0 JK	32.5 F	33.0 D	24.7 A-C	24.2 AB	24.0 A
USG 7463XF	XF	64 F-K	64 C-E		35.0 AB	34.7 AB		23.2 G-J	23.2 FG	
Innvictis A4862XF	XF	63 G-K	63 DE		33.4 F-I	33.9 CD		24.1 B-F	23.8 CD	
Don Mario DM48F53	XF	62 H-K			31.5 K			25.0 A		
MO S18-17644	Conv	59 I-K			33.1 G-J			23.2 F-J		
Innvictis B4603E	E3	56 JK			34.6 A-D			23.7 D-J		
Innvictis B4903E	E3	55 JK			35.2 A			23.0 J		
Perdue Agribusiness P48MO21	Conv	54 K			35.0 AB			21.1 K		
TN Exp TN18-4110b	Conv.	36 L			34.0 B-G			20.2 K		
Average		69	69	74	33.9	33.8	33.8	23.6	23.6	23.6
Standard Error		4	4	5	0.4	0.2	0.3	0.3	0.2	0.2
L.S.D..05		11	8	6	1.1	0.7	0.6	0.8	0.4	0.4
C.V.		10	10	8	2	2	2	2	2	2

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

‡ For a full description of abbreviated biotech traits, see table 29.

§ All yields are adjusted to 13% moisture.

¶ Protein and oil were measured post-harvest using NIRS and are reported on a dry weight basis.

Table A-18-c. Mean[†] yield and quality of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials with irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac) 1 yr	SDS DI[††] (%) 1 yr	SDS DS[††] (1-9) 1 yr	SDS DX[††, T] (DI x DS/9) 1 yr	Frogeye[‡‡] (%) 1 yr	Seed Quality[§§, T] (1-5) 1 yr	Purple Stain[¶¶] (1-5) 1 yr	Leaf Holding[‖] (1-5) 1 yr
USG 7474XFS	XFS	84 A	2 E	1.0 D	0.2 CD	2.7 B-F	1.3 C-E	1.2 BC	2.0 B-E
Asgrow AG48XF3	XF	83 AB	3 DE	2.0 A-D	0.9 A-D	4.0 A-C	1.2 DE	1.3 AB	1.7 C-F
Revere 4727XF	XF	83 A-C	13 C-E	1.7 B-D	3.0 A-C	3.7 A-D	1.5 CD	1.5 A	1.0 F
Dyna-Gro S47XF23S	XFS	83 A-C	0 E	1.0 D	0.0 D	3.0 A-F	1.0 E	1.2 BC	1.2 EF
Revere 4795XS****	R2XS	78 A-D	7 DE	2.3 A-C	2.6 A-C	3.3 A-E	1.3 C-E	1.0 C	1.5 D-F
USG 7496XTS**	R2XS	77 A-E	8 C-E	2.7 AB	3.1 A-C	2.7 B-F	1.3 C-E	1.5 A	2.3 A-D
Progeny 4604XFS**	XFS	75 A-F	8 C-E	1.7 B-D	1.9 A-D	2.3 B-F	1.3 C-E	1.0 C	1.8 B-F
USG 7461XFS**	XFS	75 A-F	7 DE	2.0 A-D	2.0 A-C	1.7 D-F	1.3 C-E	1.5 A	1.8 B-F
Xitavo 4894E	E3	75 A-F	0 E	1.0 D	0.0 D	3.0 A-F	1.7 BC	1.2 BC	1.3 EF
Revere 4826XF*	XF	74 A-G	0 E	1.0 D	0.0 D	2.0 C-F	1.3 C-E	1.2 BC	1.3 EF
Dyna-Gro S48EN73	E3	73 B-H	2 E	1.0 D	0.2 CD	4.3 AB	1.7 BC	1.3 AB	1.5 D-F
USG 7494ETS	E3S	72 C-H	2 E	1.3 CD	0.4 B-D	3.7 A-D	1.7 BC	1.3 AB	1.0 F
Revere 4731XF	XF	71 D-H	23 A-C	2.7 AB	9.3 A	1.3 EF	1.3 C-E	1.0 C	1.2 EF
Dyna-Gro S49XF43S	XFS	69 D-I	33 AB	2.7 AB	10.2 A	2.3 B-F	1.3 C-E	1.5 A	1.7 C-F
Asgrow AG49XF3	XF	68 D-I	0 E	1.0 D	0.0 D	4.3 AB	1.3 C-E	1.3 AB	1.2 EF
Xitavo 4653E	E3	68 D-I	5 DE	1.3 CD	0.7 A-D	2.3 B-F	1.5 CD	1.0 C	1.3 EF
Revere 4934XF	XF	68 D-I	10 C-E	2.7 AB	3.0 A	1.0 F	1.2 DE	1.0 C	2.0 B-E
Asgrow AG47XF2	XF	68 D-I	5 DE	3.0 A	1.7 AB	2.7 B-F	1.0 E	1.0 C	1.3 EF
Progeny 4691XFS*	XFS	68 D-I	35 A	2.7 AB	13.0 A	2.7 B-F	1.2 DE	1.5 A	1.8 B-F
Progeny 4798XF	XF	66 E-J	3 DE	1.7 B-D	0.7 A-D	3.3 A-E	1.0 E	1.0 C	1.3 EF
Progeny 4775E3S	E3S	66 F-J	5 DE	1.3 CD	0.7 A-D	3.3 A-E	1.5 CD	1.3 AB	1.3 EF
Progeny 4806XFS	XFS	66 F-J	15 C-E	3.0 A	4.8 A	3.3 A-E	1.5 CD	1.2 BC	1.2 EF
USG 7463XF	XF	64 F-K	5 DE	2.0 A-D	1.1 A-C	3.7 A-D	1.2 DE	1.0 C	1.3 EF
Innvictis A4862XF	XF	63 G-K	8 C-E	3.0 A	2.8 A	1.3 EF	1.2 DE	1.5 A	1.5 D-F
Don Mario DM48F53	XF	62 H-K	13 C-E	2.7 AB	4.8 A	1.3 EF	1.0 E	1.2 BC	1.2 EF
MO S18-17644	Conv	59 I-K	2 E	1.0 D	0.2 CD	1.7 D-F	1.0 E	1.0 C	2.7 AB
Innvictis B4603E	E3	56 JK	3 DE	1.3 CD	0.6 A-D	1.3 EF	2.2 AB	1.5 A	2.0 B-E
Innvictis B4903E	E3	55 JK	18 B-D	2.3 A-C	6.1 A-C	5.0 A	2.3 A	1.3 AB	1.7 C-F
Perdue Agribusiness P48MO21	Conv	54 K	3 DE	1.0 D	0.4 A-D	1.3 EF	1.0 E	1.2 BC	3.0 A
TN Exp TN18-4110b	Conv.	36 L	0 E	1.0 D	0.0 D	1.3 EF	1.0 E	1.0 C	2.5 A-C
Average		69	8	1.8	2	2.7	1.3	1.2	1.6
Standard Error		4	6	0.5	2	0.8	0.2	0.1	0.3
L.S.D..05		11	16	1.3	Sig.	2.0	Sig.	0.3	0.9
C.V.		10	-	-	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
§§ Seed quality was evaluated visually post-harvest using a 1 to 5 scale, with 1 indicating no shriveled or damaged seed.
¶¶ Purple stain was evaluated visually post-harvest using a 1 to 5 scale, with 1 indicating no purple stain.

Table A-19-a. Mean† yield and agronomic traits of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials with irrigation at the Highland Rim AgResearch and Education Center in Springfield, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging‖ (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Dyna-Gro S47XF23S	XFS	74 A	65 AB		13.6 CD	12.7 A		38 B-G	36 A-F		1.2 CD	1.1 A		146 C-G	143 CD	
Revere 4826XF*	XF	73 A	65 A-C		13.5 D	12.4 A		37 E-H	35 D-F		1.0 D	1.0 A		147 C-F	145 AB	
USG 7474XFS	XFS	72 A			13.6 CD			37 E-H			1.2 CD			148 BC		
Dyna-Gro S49XF43S	XFS	72 A	65 A		13.7 B-D	13.1 A		39 A-G	34 EF		1.0 D	1.0 A		147 B-E	146 AB	
Revere 4795XS****	R2XS	71 A	64 A-C	67 A	13.5 CD	12.4 A	12.5 B	43 A	37 A-E	37 A	1.2 CD	1.1 A	1.2 A	146 C-F	145 AB	143 AB
Dyna-Gro S48EN73	E3	69 AB	61 A-D		13.6 CD	12.3 A		39 A-G	36 B-F		1.7 AB	1.3 A		147 B-E	145 AB	
Asgrow AG48XF3	XF	67 AB			14.3 B			42 AB			1.2 CD			147 B-D		
Innvictis B4603E	E3	67 AB			13.7 B-D			39 A-G			1.1 CD			145 D-H		
Asgrow AG49XF3	XF	66 AB			15.5 A			42 A-D			1.2 CD			149 AB		
Xitavo 4894E	E3	66 AB			13.3 D			42 A-C			1.2 CD			146 C-G		
USG 7496XTS**	R2XS	66 AB	63 A-D	66 A	13.7 B-D	13.1 A	13.3 A	40 A-F	39 A	38 A	1.0 D	1.0 A	1.0 A	147 B-E	146 A	144 A
Revere 4727XF	XF	66 AB	58 CD		13.2 D	12.0 A		37 D-H	34 F		1.0 D	1.0 A		146 C-G	145 BC	
Progeny 4604XFS**	XFS	66 AB	62 A-D	64 A	13.6 CD	12.5 A	12.8 AB	41 A-E	39 AB	39 A	1.0 D	1.0 A	1.1 A	146 C-G	145 AB	143 AB
Progeny 4691XFS*	XFS	65 AB	60 A-D		14.2 BC	12.6 A		40 A-F	38 A-D		1.0 D	1.0 A		145 E-I	143 D	
Xitavo 4653E	E3	65 AB			13.6 CD			39 A-G			1.0 D			144 HI		
USG 7463XF	XF	64 AB	59 A-D		13.5 CD	12.1 A		39 A-G	36 C-F		1.0 D	1.0 A		144 HI	143 D	
Asgrow AG47XF2	XF	63 A-C	62 A-D		13.6 CD	12.4 A		38 C-H	35 C-F		1.0 D	1.0 A		145 F-I	143 D	
USG 7461XFS**	XFS	62 A-C	60 A-D	64 A	13.4 D	12.4 A	12.7 B	42 A-C	39 A	39 A	1.0 D	1.0 A	1.1 A	146 C-G	145 AB	144 A
Progeny 4798XF	XF	61 A-D	58 A-D		13.4 D	12.8 A		36 GH	34 EF		1.2 CD	1.1 A		146 C-G	145 AB	
Innvictis A4862XF	XF	60 A-E	58 B-D		13.5 CD	12.6 A		42 A-D	36 A-F		1.3 B-D	1.2 A		146 C-F	145 AB	
Progeny 4775E3S	E3S	60 A-E	56 D		13.5 CD	12.5 A		41 A-F	38 A-C		1.2 CD	1.1 A		145 E-I	144 CD	
Don Mario DM48F53	XF	59 A-E			13.2 D			33 H			1.0 D			144 G-I		
Perdue Agribusiness P48MO21	Conv	55 B-F			13.8 B-D			36 GH			1.7 AB			148 BC		
USG 7494ETS	E3S	55 B-F			13.6 CD			40 A-G			1.2 CD			146 C-G		
Revere 4934XF	XF	55 B-F			13.4 D			36 F-H			1.0 D			146 C-G		
Innvictis B4903E	E3	48 C-F			13.6 CD			39 A-G			1.5 BC			143 I		
MO S18-17644	Conv	47 D-F			13.9 B-D			33 H			2.0 A			148 BC		
Revere 4731XF	XF	47 D-F			13.6 CD			40 A-G			1.5 BC			144 G-I		
TN Exp TN18-4110b	Conv.	46 EF			13.8 B-D			23 I			1.2 CD			150 A		
Progeny 4806XFS	XFS	42 F	46 E	52 B	13.5 D	12.7 A	12.9 AB	39 A-G	35 C-F	36 A	1.0 D	1.0 A	1.0 A	144 G-I	144 CD	143 B
Average		62	60	63	13.7	12.5	12.8	38	36	38	1.2	1.1	1.1	146	144	144
Standard Error		5	5	4	0.2	1.1	0.6	3	3	2	0.2	0.1	0.1	1	1	2
L.S.D..05		15	7	5	0.7	N.S.	0.4	4	3	N.S.	0.4	N.S.	N.S.	2	1	1
C.V.		15	10	9	3	5	4	7	7	7	-	-	-	1	1	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-19-b. Mean† yield and agronomic traits of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials with irrigation at the Highland Rim AgResearch and Education Center in Springfield, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)	SDS DI††, T (%)	SDS DS††, T (1-9)	SDS DX††, T (DI x DS/9)	Frogeye‡‡ (%)	Leaf Holding‖ (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
Dyna-Gro S47XF23S	XFS	74 A	0 H	1.0 F	0 D	3.3 BC	1.0
Revere 4826XF*	XF	73 A	7 F-H	1.3 EF	1 D	2.7 C	1.0
USG 7474XFS	XFS	72 A	12 F-H	1.7 EF	3 D	2.7 C	1.0
Dyna-Gro S49XF43S	XFS	72 A	17 E-H	2.7 C-F	5 CD	1.3 D	1.0
Revere 4795XS****	R2XS	71 A	17 E-H	3.0 C-F	6 CD	3.3 BC	1.0
Dyna-Gro S48EN73	E3	69 AB	2 H	1.3 EF	0 D	3.3 C	1.0
Asgrow AG48XF3	XF	67 AB	23 D-H	3.0 C-F	10 CD	4.0 BC	1.0
Innvictis B4603E	E3	67 AB	25 D-H	2.3 D-F	10 CD	1.0 D	1.0
Asgrow AG49XF3	XF	66 AB	3 GH	1.0 F	0 D	5.0 AB	1.0
Xitavo 4894E	E3	66 AB	2 H	1.0 F	0 D	4.0 BC	1.0
USG 7496XTS**	R2XS	66 AB	25 D-H	3.0 C-F	13 B-D	3.7 BC	1.0
Revere 4727XF	XF	66 AB	15 E-H	2.7 C-F	5 CD	3.0 C	1.0
Progeny 4604XFS**	XFS	66 AB	37 B-F	2.7 C-F	13 B-D	4.0 BC	1.0
Progeny 4691XFS*	XFS	65 AB	27 D-H	2.7 C-F	11 B-D	4.0 BC	1.0
Xitavo 4653E	E3	65 AB	7 F-H	2.0 D-F	2 D	3.0 C	1.0
USG 7463XF	XF	64 AB	5 GH	1.0 F	1 D	5.3 AB	1.0
Asgrow AG47XF2	XF	63 A-C	7 F-H	2.0 D-F	2 D	1.0 D	1.0
USG 7461XFS**	XFS	62 A-C	23 D-H	3.3 B-E	9 CD	3.0 C	1.0
Progeny 4798XF	XF	61 A-D	10 F-H	1.7 EF	3 D	3.0 C	1.0
Innvictis A4862XF	XF	60 A-E	15 E-H	2.3 D-F	4 CD	1.0 D	1.0
Progeny 4775E3S	E3S	60 A-E	28 D-H	1.7 EF	6 CD	4.0 BC	1.0
Don Mario DM48F53	XF	59 A-E	50 A-D	4.7 A-C	35 AB	1.0 D	1.0
Perdue Agribusiness P48MO21	Conv	55 B-F	12 F-H	2.7 C-F	3 D	1.0 D	1.0
USG 7494ETS	E3S	55 B-F	33 C-G	2.7 C-F	12 B-D	5.0 AB	1.0
Revere 4934XF	XF	55 B-F	45 B-E	4.0 B-D	28 A-C	1.0 D	1.0
Innvictis B4903E	E3	48 C-F	60 A-C	5.3 AB	50 A	3.7 BC	1.0
MO S18-17644	Conv	47 D-F	23 D-H	3.3 B-E	12 B-D	1.0 D	1.0
Revere 4731XF	XF	47 D-F	65 AB	6.3 A	51 A	1.0 D	1.0
TN Exp TN18-4110b	Conv.	46 EF	7 F-H	2.3 D-F	3 D	1.0 D	1.3
Progeny 4806XFS	XFS	42 F	80 A	5.3 AB	50 A	7.0 A	1.0
Average		62	23	2.7	12	2.9	1.2
Standard Error		5	14	0.9	10	0.6	0.0
L.S.D..05		15	31	2.2	24	Sig.	N.E.
C.V.		15	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-20-a. Mean[†] yield and agronomic traits of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials without irrigation at the Highland Rim AgResearch and Education Center in Springfield, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Asgrow AG48XF3	XF	88 A			12.3 A			42 B-E			1.0 D			146 F-H		
USG 7496XTS**	R2XS	85 AB	67 A	61 A	12.6 A	13.6 B	13.4 A	45 AB	39 A	35 A	1.0 D	1.0 A	1.0	147 B-F	146 AB	142 A
Don Mario DM48F53	XF	85 AB			12.1 A			37 F-H			1.0 D			146 F-H		
Innvictis B4903E	E3	85 AB			12.0 A			41 B-F			1.0 D			146 D-H		
Revere 4826XF*	XF	83 A-C	66 AB		12.1 A	12.4 B-D		39 C-H	34 C-F		1.2 CD	1.1 A		146 D-H	144 CD	
USG 7461XFS**	XFS	82 A-D	64 A-D	57 AB	12.2 A	12.0 CD	12.4 A	42 B-F	36 BC	33 BC	1.0 D	1.0 A	1.0	147 B-F	145 BC	142 AB
Progeny 4604XFS**	XFS	81 A-E	66 AB	59 A	12.0 A	13.4 BC	13.3 A	44 BC	38 AB	34 AB	1.0 D	1.0 A	1.0	148 B-D	146 AB	142 A
Dyna-Gro S47XF23S	XFS	81 A-E	62 B-E		12.0 A	11.9 D		40 B-G	36 B-D		1.0 D	1.0 A		146 F-H	143 D-F	
Revere 4934XF	XF	80 A-F			12.0 A			38 E-H			1.2 CD			147 B-G		
Asgrow AG49XF3	XF	80 A-G			11.7 A			45 AB			1.0 D			148 B-E		
Revere 4731XF	XF	79 A-G			12.0 A			38 E-H			1.2 CD			146 D-H		
Xitavo 4894E	E3	79 B-G			12.4 A			43 B-D			1.0 D			148 A-C		
Asgrow AG47XF2	XF	78 B-G	60 D-F		12.0 A	11.8 D		38 E-H	32 EF		1.0 D	1.0 A		145 GH	142 G	
Dyna-Gro S48EN73	E3	78 B-G	61 C-E		12.1 A	11.8 D		38 D-H	33 D-F		1.2 CD	1.1 A		147 B-F	145 BC	
Xitavo 4653E	E3	78 B-G			11.9 A			38 E-H			1.2 CD			146 E-H		
Revere 4727XF	XF	78 B-G	62 A-E		12.1 A	11.4 D		40 C-G	35 C-E		1.2 CD	1.1 A		145 H	143 E-G	
USG 7474XFS	XFS	77 B-G			12.1 A			39 D-H			1.0 D			146 E-H		
USG 7463XF	XF	77 B-G	66 A-C		12.2 A	11.8 D		40 C-H	36 B-D		1.0 D	1.0 A		146 F-H	143 D-F	
Revere 4795XS****	R2XS	77 B-G	60 D-F	54 B	12.5 A	12.1 CD	12.4 A	42 B-F	35 CD	31 CD	1.0 D	1.0 A	1.0	148 B-D	144 B-D	141 B
Progeny 4775E3S	E3S	76 B-G	60 DE		12.6 A	12.3 B-D		43 B-D	37 A-C		1.2 CD	1.1 A		147 C-H	144 C-E	
Innvictis B4603E	E3	76 B-G			12.0 A			40 C-G			1.3 C			146 F-H		
Progeny 4691XFS*	XFS	75 C-H	63 A-D		12.3 A	12.0 D		43 B-E	38 AB		1.0 D	1.0 A		146 F-H	142 FG	
Innvictis A4862XF	XF	75 C-H	61 B-E		12.0 A	11.6 D		40 B-G	35 C-E		1.0 D	1.0 A		147 B-F	144 CD	
Dyna-Gro S49XF43S	XFS	73 D-H	57 EF		12.7 A	16.1 A		35 GH	31 F		1.0 D	1.0 A		149 AB	146 A	
USG 7494ETS	E3S	72 E-H			11.8 A			39 D-H			1.0 D			149 AB		
Progeny 4798XF	XF	71 GH	58 EF		12.2 A	12.8 B-D		41 B-F	36 BC		1.2 CD	1.1 A		147 B-F	145 BC	
MO S18-17644	Conv	70 F-I			12.9 A			50 A			2.7 A			148 B-D		
Progeny 4806XFS	XFS	66 HI	55 F	48 C	11.9 A	12.1 CD	12.7 A	40 B-G	35 C-E	30 D	1.0 D	1.0 A	1.0	146 E-H	144 C-E	141 B
TN Exp TN18-4110b	Conv.	60 IJ			12.0 A			35 H			1.2 CD			150 A		
Perdue Agribusiness P48MO21	Conv	57 J			12.2 A			37 F-H			2.3 B			149 AB		
Average		77	62	56	12.2	12.4	12.8	40	35	33	1.2	1.0	1.0	147	144	142
Standard Error		4	15	11	0.2	0.5	0.4	2	5	5	0.1	0.1	0.0	1	3	4
L.S.D..05		9	6	4	N.S.	1.4	N.S.	5	3	3	0.3	N.S.	N.E.	2	1	1
C.V.		7	8	8	3	10	7	8	7	8	16	11	-	1	1	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-20-b. Mean† yield and agronomic traits of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials without irrigation at the Highland Rim AgResearch and Education Center in Springfield, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac) 1 yr	SDS DI††,T (%) 1 yr	SDS DS††,T (1-9) 1 yr	SDS DX††,T (DI x DS/9) 1 yr	Frogeye‡‡,T (%) 1 yr	Leaf Holding‖ (1-5) 1 yr
Asgrow AG48XF3	XF	88 A	8 A	1.3 A	2 A	4.0 B-E	1.0
USG 7496XTS**	R2XS	85 AB	0 A	1.0 A	0 A	1.7 F-H	1.0
Don Mario DM48F53	XF	85 AB	3 A	1.0 A	0 A	1.0 H	1.0
Innvictis B4903E	E3	85 AB	5 A	1.7 A	2 A	3.7 C-E	1.0
Revere 4826XF*	XF	83 A-C	0 A	1.0 A	0 A	4.3 A-D	1.0
USG 7461XFS**	XFS	82 A-D	3 A	1.0 A	0 A	2.3 E-H	1.0
Progeny 4604XFS**	XFS	81 A-E	7 A	1.0 A	1 A	5.0 A-C	1.0
Dyna-Gro S47XF23S	XFS	81 A-E	3 A	1.0 A	0 A	2.7 D-H	1.0
Revere 4934XF	XF	80 A-F	10 A	1.3 A	2 A	1.0 H	1.0
Asgrow AG49XF3	XF	80 A-G	7 A	1.3 A	1 A	5.7 AB	1.0
Revere 4731XF	XF	79 A-G	17 A	1.3 A	3 A	1.3 GH	1.0
Xitavo 4894E	E3	79 B-G	2 A	1.0 A	0 A	2.7 D-H	1.0
Asgrow AG47XF2	XF	78 B-G	8 A	2.0 A	2 A	1.3 GH	1.0
Dyna-Gro S48EN73	E3	78 B-G	13 A	1.0 A	1 A	1.7 F-H	1.0
Xitavo 4653E	E3	78 B-G	7 A	1.0 A	1 A	1.3 GH	1.0
Revere 4727XF	XF	78 B-G	2 A	1.0 A	0 A	1.7 F-H	1.0
USG 7474XFS	XFS	77 B-G	7 A	1.3 A	1 A	4.0 B-E	1.0
USG 7463XF	XF	77 B-G	5 A	1.7 A	1 A	3.3 C-F	1.0
Revere 4795XS****	R2XS	77 B-G	2 A	1.0 A	0 A	3.7 C-E	1.0
Progeny 4775E3S	E3S	76 B-G	0 A	1.0 A	0 A	4.0 B-E	1.0
Innvictis B4603E	E3	76 B-G	8 A	3.0 A	3 A	2.7 D-H	1.0
Progeny 4691XFS*	XFS	75 C-H	5 A	1.0 A	1 A	4.0 B-E	1.0
Innvictis A4862XF	XF	75 C-H	20 A	1.7 A	6 A	1.3 GH	1.0
Dyna-Gro S49XF43S	XFS	73 D-H	17 A	1.7 A	4 A	1.0 H	1.0
USG 7494ETS	E3S	72 E-H	0 A	1.0 A	0 A	6.0 A	1.0
Progeny 4798XF	XF	71 GH	10 A	1.0 A	1 A	2.3 E-H	1.0
MO S18-17644	Conv	70 F-I	3 A	1.3 A	1 A	1.0 H	1.0
Progeny 4806XFS	XFS	66 HI	28 A	1.7 A	6 A	3.0 D-G	1.0
TN Exp TN18-4110b	Conv.	60 IJ	5 A	1.7 A	2 A	1.0 H	1.0
Perdue Agribusiness P48MO21	Conv	57 J	3 A	1.0 A	0 A	1.0 H	1.0
Average		77	7	1.3	1	2.7	1.0
Standard Error		4	7	0.5	2	0.7	0.0
L.S.D.₀₅		9	N.S.	N.S.	N.S.	1.8	N.E.
C.V.		7	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-21-a. Mean[†] yield and agronomic traits of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials without irrigation at the Middle Tennessee AgResearch and Education Center in Spring Hill, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
USG 7461XFS**	XFS	71 A	63 B-D	63 A	12.9 E-J	12.9 B	13.1 AB	38 A-E	34 B-E	33 B	1.0	1.0	1.0	144 B-E	144 A-C	146 A
Progeny 4806XFS	XFS	71 A	62 B-D	59 A	13.0 E-J	13.0 B	13.2 AB	37 B-G	32 EF	30 C	1.0	1.0	1.0	145 BC	144 B-D	146 A
Innvictis A4862XF	XF	71 AB	63 B-D		13.1 D-G	12.9 B		35 G-J	31 F		1.0	1.0		144 B-E	142 FG	
USG 7496XTS**	R2XS	70 A-C	66 A-C	66 A	13.1 C-F	13.2 AB	13.7 A	40 A	37 A	36 A	1.0			147 A	146 A	148 A
Revere 4795XS****	R2XS	70 A-C	67 AB	63 A	12.9 F-K	12.8 B	13.2 AB	36 D-I	33 C-F	30 C	1.0	1.0	1.0	145 B	144 B-F	145 A
Dyna-Gro S49XF43S	XFS	69 A-D	71 A		12.9 F-K	13.2 AB		35 E-I	32 EF		1.0	1.0		145 B	145 AB	
Revere 4727XF	XF	68 A-D	63 B-D		12.6 K	12.2 C		33 I-K	32 EF		1.0	1.0		144 B-E	143 B-F	
Progeny 4604XFS**	XFS	68 A-E	62 B-D	61 A	12.7 JK	12.8 B	12.6 B	38 A-D	35 A-C	34 B	1.0	1.0	1.0	144 B-E	144 B-F	146 A
Innvictis B4903E	E3	67 A-E			12.9 F-K			34 H-J			1.0			145 BC		
Asgrow AG48XF3	XF	67 A-E			13.2 B-F			38 A-E			1.0			145 B-D		
Dyna-Gro S47XF23S	XFS	67 A-E	62 B-D		13.0 D-H	12.8 B		35 G-I	32 D-F		1.0	1.0		144 B-E	142 E-G	
Dyna-Gro S48EN73	E3	66 A-E	62 B-D		12.8 G-K	12.8 B		36 C-I	32 EF		1.0	1.0		145 BC	144 B-F	
Revere 4934XF	XF	66 A-F			13.2 B-F			32 J-L			1.0			144 B-E		
USG 7494ETS	E3S	66 A-F			13.3 B-E			39 A-C			1.0			144 C-E		
Revere 4826XF*	XF	65 A-F	64 A-D		12.9 F-K	13.0 B		35 G-I	31 EF		1.0	1.0		144 C-E	142 D-G	
Progeny 4798XF	XF	65 A-F	58 D		12.9 E-J	12.1 C		35 G-J	31 F		1.0	1.0		145 B	144 B-E	
Don Mario DM48F53	XF	65 B-F			13.1 C-F			30 L			1.0			144 B-E		
Asgrow AG49XF3	XF	65 B-F			12.7 H-K			40 AB			1.0			148 A		
USG 7463XF	XF	65 B-F	57 D		13.1 D-G	13.0 B		34 I-K	31 EF		1.0	1.0		139 G	139 I	
Xitavo 4894E	E3	65 B-F			13.1 C-F			38 A-F			1.0			144 B-E		
Progeny 4775E3S	E3S	64 C-F	61 B-D		13.2 C-F	13.6 A		40 AB	36 AB		1.0	1.0		144 B-E	143 C-G	
Innvictis B4603E	E3	64 D-F			12.9 F-K			35 G-J			1.3			143 D-F		
USG 7474XFS	XFS	63 D-F			13.0 D-I			35 F-I			1.0			144 B-E		
Revere 4731XF	XF	63 D-F			13.5 B			35 G-I			1.7			140 G		
Asgrow AG47XF2	XF	62 EF	58 CD		13.5 BC	13.2 AB		34 H-K	31 F		1.0	1.0		143 EF	141 GH	
Progeny 4691XFS*	XFS	62 EF	59 CD		13.1 D-F	13.2 AB		37 C-H	35 A-D		1.0	1.0		142 F	140 HI	
Xitavo 4653E	E3	60 FG			13.0 E-J			35 G-J			1.0			143 D-F		
MO S18-17644	Conv	54 GH			14.0 A			31 KL			1.7			144 B-E		
Perdue Agribusiness P48MO21	Conv	52 H			13.4 B-D			29 L			1.7			144 B-E		
TN Exp TN18-4110b	Conv.	43 I			12.7 I-K			22 M			1.0		1.0	145 B-D		
Average		64	62	62	13.1	12.9	13.2	35	33	33	1.1	1.0	1.0	144	143	146
Standard Error		2	6	4	0.1	0.2	0.3	1	3	3	0.0	0.0	0.0	1	1	2
L.S.D..05		6	8	N.S.	0.4	0.5	0.7	3	2	2	N.E.	N.E.	N.E.	1	2	N.S.
C.V.		6	11	9	2	3	5	5	6	7	-	-	-	1	1	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-21-b. Mean[†] yield and agronomic traits of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials without irrigation at the Middle Tennessee AgResearch and Education Center in Spring Hill, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††] (%)	SDS DS[††] (1-9)	SDS DX[††] (DI x DS/9)	Frogeye[‡‡] (%)	Leaf Holding[‖] (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
USG 7461XFS**	XFS	71 A	0	1.0	0	2.7 D-F	1.7
Progeny 4806XFS	XFS	71 A	0	1.0	0	3.7 B-D	1.5
Innvictis A4862XF	XF	71 AB	0	1.0	0	1.0 G	1.0
USG 7496XTS**	R2XS	70 A-C	0	1.0	0	3.0 C-E	1.0
Revere 4795XS****	R2XS	70 A-C	0	1.0	0	2.0 E-G	1.0
Dyna-Gro S49XF43S	XFS	69 A-D	0	1.0	0	1.0 G	1.0
Revere 4727XF	XF	68 A-D	0	1.0	0	1.3 FG	1.0
Progeny 4604XFS**	XFS	68 A-E	0	1.0	0	2.7 D-F	1.0
Innvictis B4903E	E3	67 A-E	0	1.0	0	2.0 E-G	1.0
Asgrow AG48XF3	XF	67 A-E	0	1.0	0	3.7 B-D	1.0
Dyna-Gro S47XF23S	XFS	67 A-E	0	1.0	0	3.3 C-E	1.0
Dyna-Gro S48EN73	E3	66 A-E	0	1.0	0	3.0 C-E	1.3
Revere 4934XF	XF	66 A-F	0	1.0	0	1.0 G	1.3
USG 7494ETS	E3S	66 A-F	0	1.0	0	5.3 A	1.0
Revere 4826XF*	XF	65 A-F	0	1.0	0	4.0 A-D	1.0
Progeny 4798XF	XF	65 A-F	0	1.0	0	4.0 A-D	1.0
Don Mario DM48F53	XF	65 B-F	0	1.0	0	1.0 G	1.0
Asgrow AG49XF3	XF	65 B-F	0	1.0	0	5.0 AB	1.0
USG 7463XF	XF	65 B-F	0	1.0	0	2.7 D-F	1.0
Xitavo 4894E	E3	65 B-F	0	1.0	0	3.7 B-D	1.0
Progeny 4775E3S	E3S	64 C-F	0	1.0	0	3.7 B-D	1.0
Innvictis B4603E	E3	64 D-F	0	1.0	0	1.0 G	1.0
USG 7474XFS	XFS	63 D-F	0	1.0	0	2.7 D-F	1.0
Revere 4731XF	XF	63 D-F	0	1.0	0	1.0 G	1.0
Asgrow AG47XF2	XF	62 EF	0	1.0	0	1.0 G	1.0
Progeny 4691XFS*	XFS	62 EF	0	1.0	0	3.3 C-E	1.0
Xitavo 4653E	E3	60 FG	0	1.0	0	4.3 A-C	1.0
MO S18-17644	Conv	54 GH	0	1.0	0	1.0 G	1.2
Perdue Agribusiness P48MO21	Conv	52 H	0	1.0	0	1.0 G	1.3
TN Exp TN18-4110b	Conv.	43 I	0	1.0	0	1.0 G	1.0
Average		64	0	1.0	0	2.5	1.1
Standard Error		2	0	0.0	0	0.6	0.0
L.S.D..05		6	N.E.	N.E.	N.E.	1.5	N.E.
C.V.		6	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-22-a. Mean[†] yield and agronomic traits of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials with irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Revere 4727XF	XF	84 A	75 A-D		10 A	11 A		41 J-L	40 H		1.0 E	1.2 A		136 L	138 E-G	
Revere 4795XS****	R2XS	83 AB	78 A	77 A	10 A	12 A	12 C	45 F-H	45 C-F	43 B	1.0 E	1.2 A	1.1 A	145 B-F	141 C-E	141 B
Revere 4826XF*	XF	80 A-C	78 AB		10 A	12 A		45 F-I	44 D-G		1.0 E	1.2 A		137 KL	137 E-G	
Asgrow AG48XF3	XF	79 A-D			11 A			49 A-D			1.0 E			144 C-H		
USG 7461XFS**	XFS	78 A-D	76 A-C	74 A	10 A	12 A		51 A	50 A	47 A	1.3 DE	1.2 A	1.1 A	144 C-G	141 B-E	140 B
Progeny 4691XFS*	XFS	77 A-E	72 A-D		11 A	12 A		49 A-C	48 AB		2.0 B-D	1.8 A		139 G-L	138 E-G	
Progeny 4798XF	XF	77 A-E	73 A-D		10 A	12 A		45 F-H	45 C-E		1.0 E	1.5 A		148 A-D	144 A-C	
Dyna-Gro S47XF23S	XFS	77 A-E	74 A-D		12 A	12 A		44 F-J	43 E-G		1.0 E	1.2 A		137 KL	136 G	
USG 7474XFS	XFS	76 A-E			10 A			46 C-G			1.3 DE			142 E-K		
Progeny 4604XFS**	XFS	75 A-F	73 A-D	73 A	10 A	12 A	12 C	49 A-C	48 AB	46 A	1.3 DE	1.3 A	1.3 A	146 B-F	143 A-D	141 B
Don Mario DM48F53	XF	75 A-F			11 A			41 J-L			1.3 DE			143 C-I		
Asgrow AG49XF3	XF	75 A-F			10 A			50 AB			1.0 E			149 A-C		
Xitavo 4894E	E3	74 A-G			10 A			45 F-H			1.3 DE			143 D-J		
Dyna-Gro S48EN73	E3	73 A-G	72 A-D		10 A	12 A		43 H-K	42 F-H		1.0 E	1.7 A		139 G-L	140 D-F	
Xitavo 4653E	E3	73 A-G			10 A			44 F-J			1.0 E			139 G-L		
USG 7463XF	XF	72 A-H	69 C-E		10 A	12 A		46 D-H	46 B-D		1.0 E	1.2 A		139 G-L	139 E-G	
Progeny 4806XFS	XFS	71 B-H	70 B-D	71 A	10 A	12 A	13 AB	46 E-H	44 D-F	43 B	1.0 E	1.2 A	1.1 A	150 A-D	145 A	144 A
USG 7494ETS	E3S	70 C-I			10 A			46 E-H			1.3 DE			147 A-F		
Revere 4934XF	XF	70 C-I			10 A			42 I-L			1.3 DE			148 A-E		
Dyna-Gro S49XF43S	XFS	69 C-I	68 C-E		10 A	12 A		40 L	40 H		1.3 DE	1.5 A		145 B-F	144 A-D	
Innvictis A4862XF	XF	69 C-I	71 A-D		11 A	12 A		45 E-H	44 D-G		2.0 B-D	1.5 A		148 A-D	145 AB	
USG 7496XTS**	R2XS	69 C-I	70 B-D	69 A	12 A	12 A	13 A	48 A-E	48 AB	46 A	1.7 C-E	1.7 A	1.4 A	148 A-D	146 A	146 A
Innvictis B4903E	E3	67 D-I			10 A			45 F-I			2.3 BC			145 B-F		
Asgrow AG47XF2	XF	65 E-I	67 DE		11 A	12 A		43 H-K	42 GH		1.0 E	1.2 A		141 F-L	138 E-G	
Progeny 4775E3S	E3S	63 F-I	62 E		11 A	12 A		47 B-F	47 BC		1.3 DE	1.3 A		138 H-L	137 FG	
Perdue Agribusiness P48MO21	Conv	62 G-I			11 A			39 LM			1.3 DE			151 AB		
Revere 4731XF	XF	59 H-J			12 A			41 KL			2.7 AB			141 F-L		
Innvictis B4603E	E3	57 IJ			10 A			44 G-K			2.7 AB			137 J-L		
MO S18-17644	Conv	57 IJ			11 A			36 M			3.3 A			138 I-L		
TN Exp TN18-4110b	Conv.	47 J			10 A			32 N			1.3 DE			153 A		
Average		71	72	73	10.6	11.9	12.5	44	45	45	1.4	1.4	1.2	143	141	143
Standard Error		5	3	2	0.5	1.3	1.0	1	1	2	0.3	0.2	0.1	2	2	2
L.S.D..05		13	8	N.S.	N.S.	N.S.	0.7	3	3	2	0.8	N.S.	N.S.	6	4	2
C.V.		11	9	8	8	6	6	4	5	5	-	-	-	2	2	2

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-22-b. Mean† yield and agronomic traits of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials with irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac) 1 yr	SDS DI†† (%) 1 yr	SDS DS†† (1-9) 1 yr	SDS DX†† (DI x DS/9) 1 yr	Frogeye‡‡ (%) 1 yr
Revere 4727XF	XF	84 A	7 A	2.0 A	2 A	1.0 D
Revere 4795XS****	R2XS	83 AB	5 A	1.0 A	1 A	1.7 B-D
Revere 4826XF*	XF	80 A-C	2 A	1.7 A	1 A	2.3 B
Asgrow AG48XF3	XF	79 A-D	3 A	1.7 A	1 A	1.3 CD
USG 7461XFS**	XFS	78 A-D	7 A	1.3 A	1 A	1.3 CD
Progeny 4691XFS*	XFS	77 A-E	2 A	2.0 A	1 A	1.7 B-D
Progeny 4798XF	XF	77 A-E	3 A	1.0 A	0 A	1.7 B-D
Dyna-Gro S47XF23S	XFS	77 A-E	0 A	1.0 A	0 A	1.0 D
USG 7474XFS	XFS	76 A-E	2 A	1.0 A	0 A	1.3 CD
Progeny 4604XFS**	XFS	75 A-F	3 A	1.3 A	1 A	1.0 D
Don Mario DM48F53	XF	75 A-F	5 A	2.3 A	2 A	1.3 CD
Asgrow AG49XF3	XF	75 A-F	3 A	1.0 A	0 A	1.3 CD
Xitavo 4894E	E3	74 A-G	3 A	1.0 A	0 A	3.7 A
Dyna-Gro S48EN73	E3	73 A-G	0 A	1.0 A	0 A	1.7 B-D
Xitavo 4653E	E3	73 A-G	5 A	1.3 A	1 A	1.7 B-D
USG 7463XF	XF	72 A-H	10 A	1.0 A	1 A	1.3 CD
Progeny 4806XFS	XFS	71 B-H	3 A	1.0 A	0 A	1.3 CD
USG 7494ETS	E3S	70 C-I	3 A	1.7 A	1 A	1.3 CD
Revere 4934XF	XF	70 C-I	5 A	1.0 A	1 A	1.0 D
Dyna-Gro S49XF43S	XFS	69 C-I	0 A	1.0 A	0 A	2.0 BC
Innvictis A4862XF	XF	69 C-I	5 A	1.7 A	1 A	2.3 B
USG 7496XTS**	R2XS	69 C-I	5 A	1.0 A	1 A	1.0 D
Innvictis B4903E	E3	67 D-I	8 A	2.7 A	4 A	1.0 D
Asgrow AG47XF2	XF	65 E-I	3 A	1.3 A	1 A	1.7 B-D
Progeny 4775E3S	E3S	63 F-I	0 A	1.0 A	0 A	1.0 D
Perdue Agribusiness P48MO21	Conv	62 G-I	7 A	2.3 A	3 A	1.0 D
Revere 4731XF	XF	59 H-J	2 A	1.3 A	0 A	1.3 CD
Innvictis B4603E	E3	57 IJ	3 A	1.3 A	1 A	1.0 D
MO S18-17644	Conv	57 IJ	12 A	1.7 A	4 A	1.7 B-D
TN Exp TN18-4110b	Conv.	47 J	8 A	1.3 A	1 A	1.3 CD
Average		71	4	1.4	1	1.5
Standard Error		5	4	0.5	1	0.3
L.S.D..05		13	N.S.	N.S.	N.S.	1.0
C.V.		11	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
|| Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-23-a. Mean† yield and agronomic traits of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials without irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging‖ (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr
Asgrow AG49XF3	XF	74 A			11 B-F			49 AB			1.0			145 A-D		
Innvictis A4862XF	XF	70 AB	64 A-C		12 A-C	12 C-F		44 G-L	39 D		1.0	1.0		141 B-H	141 B-D	
Dyna-Gro S47XF23S	XFS	69 A-C	62 A-D		11 E-G	12 E-G		45 F-K	40 D		1.0	1.0		136 G-I	136 E-G	
Revere 4795XS****	R2XS	69 A-C	66 AB	64 A	11 C-G	12 D-G	12 C	45 E-J	40 D	40 B	1.0	1.0	1.0	146 A-C	142 BC	141 B
Asgrow AG48XF3	XF	69 A-C			11 A-F			47 B-G			1.0			142 B-G		
Progeny 4604XFS**	XFS	68 A-D	63 A-D	63 A	11 B-G	12 C-F	12 BC	48 A-D	44 AB	44 A	1.0	1.0	1.0	138 E-I	139 D-F	138 B
Dyna-Gro S48EN73	E3	68 A-E	60 B-D		11 B-F	13 B-E		39 OP	36 G		1.0	1.0		135 HI	139 C-F	
USG 7461XFS**	XFS	68 A-D	67 A	68 A	11 A-D	13 A-C	12 AB	48 A-E	43 AB	44 A	1.0	1.0	1.0	140 D-I	139 C-E	139 B
Revere 4826XF*	XF	68 A-E	67 A		11 B-F	12 C-G		43 I-M	39 DE		1.0	1.0		136 G-I	137 E-G	
Progeny 4806XFS	XFS	66 A-E	59 CD	62 A	11 A-F	13 A-C	13 A	44 G-K	41 CD	41 B	1.0	1.0	1.0	147 AB	145 AB	144 A
Progeny 4691XFS*	XFS	66 A-E	61 A-D		12 A	13 A		50 A	45 A		1.0	1.0		135 I	136 FG	
Dyna-Gro S49XF43S	XFS	66 A-E	61 A-D		12 A-C	12 C-F		40 M-P	37 FG		1.0	1.0		141 C-H	142 BC	
Xitavo 4894E	E3	66 A-E			11 A-D			46 C-H			1.0			138 E-I		
USG 7494ETS	E3S	65 B-E			12 A-D			43 I-M			1.0			144 B-E		
Revere 4727XF	XF	64 B-E	58 CD		11 FG	12 FG		41 L-O	39 D-F		1.0	1.0		135 I	136 E-G	
Don Mario DM48F53	XF	64 B-E			11 A-D			38 P			1.7			142 B-G		
Progeny 4798XF	XF	64 B-E	59 CD		11 C-G	12 G		44 H-L	40 CD		1.0	1.0		147 AB	144 AB	
USG 7474XFS	XFS	64 B-E			11 B-F			44 G-K			1.0			142 B-F		
Revere 4731XF	XF	63 B-F			12 AB			41 M-O			2.7			137 F-I		
Revere 4934XF	XF	63 B-F			11 A-D			42 J-M			1.0			146 A-C		
USG 7463XF	XF	63 B-F	64 A-C		11 A-D	13 B-E		46 D-I	42 BC		1.0	1.0		136 G-I	136 E-G	
Asgrow AG47XF2	XF	61 B-H	57 D		12 AB	13 AB		42 J-M	37 E-G		1.0	1.0		142 B-H	138 C-G	
USG 7496XTS**	R2XS	61 C-G	58 CD	63 A	11 A-D	13 B-D	13 A	49 A-C	44 A	44 A	1.0			147 AB	146 A	145 A
Progeny 4775E3S	E3S	61 D-H	59 CD		12 A-D	13 BC		47 B-F	44 AB		1.0	1.0		134 I	134 G	
Innvictis B4903E	E3	60 E-H			11 C-G			42 K-N			1.3			136 G-I		
Xitavo 4653E	E3	60 E-H			11 A-E			43 I-M			1.0			140 D-I		
Innvictis B4603E	E3	56 F-H			11 D-G			43 J-M			1.3			134 I		
MO S18-17644	Conv	54 GH			12 AB			42 J-M			3.0			145 A-D		
Perdue Agribusiness P48MO21	Conv	53 HI			11 C-G			39 N-P			2.3			150 A		
TN Exp TN18-4110b	Conv.	46 I			10 G			29 Q			1.7		1.0	146 A-C		
Average		64	62	64	11.2	12.5	12.4	43	41	43	1.2	1.0	1.0	141	139	141
Standard Error		3	5	3	0.3	1.3	0.9	1	4	3	0.2	0.0	0.0	2	1	1
L.S.D..05		8	7	N.S.	0.8	0.5	0.4	3	2	2	0.5	N.E.	N.E.	6	3	3
C.V.		8	9	9	4	3	4	4	5	5	26	-	-	2	2	2

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-23-b. Mean[†] yield and quality of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials without irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††, T] (%)	SDS DS[††, T] (1-9)	SDS DX[††, T] (DI x DS/9)	Frogeye[‡‡] (%)
		1 yr	1 yr	1 yr	1 yr	1 yr
Asgrow AG49XF3	XF	74 A	0 A	1.0 D	0 A	1.7 A
Innvictis A4862XF	XF	70 AB	2 A	1.0 D	0 A	1.0 A
Dyna-Gro S47XF23S	XFS	69 A-C	2 A	1.7 B-D	0 A	1.3 A
Revere 4795XS****	R2XS	69 A-C	2 A	1.0 D	0 A	2.3 A
Asgrow AG48XF3	XF	69 A-C	2 A	1.3 CD	0 A	1.7 A
Progeny 4604XFS**	XFS	68 A-D	3 A	1.3 CD	1 A	1.3 A
Dyna-Gro S48EN73	E3	68 A-E	3 A	1.0 D	0 A	1.3 A
USG 7461XFS**	XFS	68 A-D	2 A	1.0 D	0 A	2.0 A
Revere 4826XF*	XF	68 A-E	2 A	1.0 D	0 A	3.3 A
Progeny 4806XFS	XFS	66 A-E	5 A	1.0 D	1 A	3.0 A
Progeny 4691XFS*	XFS	66 A-E	5 A	1.3 CD	1 A	2.0 A
Dyna-Gro S49XF43S	XFS	66 A-E	28 A	2.0 A-C	6 A	1.3 A
Xitavo 4894E	E3	66 A-E	3 A	1.0 D	0 A	1.7 A
USG 7494ETS	E3S	65 B-E	0 A	1.0 D	0 A	1.7 A
Revere 4727XF	XF	64 B-E	5 A	1.3 CD	1 A	1.3 A
Don Mario DM48F53	XF	64 B-E	3 A	1.3 CD	1 A	1.3 A
Progeny 4798XF	XF	64 B-E	2 A	1.0 D	0 A	2.0 A
USG 7474XFS	XFS	64 B-E	3 A	1.3 CD	1 A	1.3 A
Revere 4731XF	XF	63 B-F	38 A	2.7 AB	11 A	1.7 A
Revere 4934XF	XF	63 B-F	0 A	1.0 D	0 A	1.0 A
USG 7463XF	XF	63 B-F	2 A	1.0 D	0 A	1.7 A
Asgrow AG47XF2	XF	61 B-H	0 A	1.0 D	0 A	2.3 A
USG 7496XTS**	R2XS	61 C-G	3 A	2.0 A-C	1 A	1.7 A
Progeny 4775E3S	E3S	61 D-H	3 A	1.0 D	0 A	2.0 A
Innvictis B4903E	E3	60 E-H	7 A	1.3 CD	1 A	2.0 A
Xitavo 4653E	E3	60 E-H	0 A	1.0 D	0 A	1.7 A
Innvictis B4603E	E3	56 F-H	8 A	1.7 B-D	1 A	1.7 A
MO S18-17644	Conv	54 GH	0 A	1.0 D	0 A	1.3 A
Perdue Agribusiness P48MO21	Conv	53 HI	7 A	1.3 CD	1 A	1.3 A
TN Exp TN18-4110b	Conv.	46 I	25 A	2.7 A	8 A	1.3 A
Average		64	6	1.3	1	1.7
Standard Error		3	4	0.3	1	0.6
L.S.D.₀₅		8	N.S.	Sig.	N.S.	N.S.
C.V.		8	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
|| Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-24-a. Mean[†] yield and agronomic traits of 30 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials without irrigation at the West Tennessee AgResearch and Education Center in Jackson, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)			Moisture at Harvest (%)			Plant Height (in.)			Lodging[‖] (1-5)			Maturity (DAP)		
		1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr	2 yr	3 yr	1 yr[T]	2 yr	3 yr	1 yr	2 yr	3 yr
Dyna-Gro S47XF23S	XFS	69 A	62 A		13.5 A-F	11.8 D-F		40 EF	39 CD		1.0 D	1.0 A		138 EF	137 CD	
Revere 4934XF	XF	68 AB			13.8 A-D			40 EF			1.0 D			141 B-D		
Revere 4826XF*	XF	67 A-C	60 A		13.6 A-E	12.0 C-F		41 D-F	38 D		1.0 D	1.0 A		138 EF	137 CD	
Don Mario DM48F53	XF	67 A-C			13.5 A-F			39 F			1.0 D			137 F		
USG 7496XTS**	R2XS	66 A-D	59 AB	61 A	14.0 A-C	13.2 A	13.3 A	41 D-F	42 A-C	42 AB	1.0 D	1.0 B	1.0 A	142 BC	143 A	141 A
Asgrow AG47XF2	XF	65 A-E	60 A		13.7 A-E	12.9 AB		40 EF	39 CD		1.0 D	1.0 A		138 EF	138 B-D	
USG 7463XF	XF	64 A-F	61 A		13.7 A-E	12.4 A-E		46 A-C	42 A-C		1.0 D	1.0 A		138 EF	136 D	
Innvictis A4862XF	XF	63 A-G	59 AB		13.6 A-E	12.0 B-F		42 C-F	41 A-D		1.0 D	1.0 A		140 C-E	139 B-D	
Dyna-Gro S49XF43S	XFS	62 A-G	56 A-C		13.2 C-H	12.1 B-F		38 FG	37 D		1.0 D	1.0 A		140 C-E	141 AB	
Progeny 4798XF	XF	62 A-G	55 A-D		13.7 A-E	12.0 C-F		45 A-E	41 A-D		1.3 CD	1.5 A		141 B-D	139 B-D	
USG 7474XFS	XFS	62 A-G			13.4 B-G			41 D-F			1.0 D			139 D-F		
USG 7461XFS**	XFS	62 A-H	56 A-D	60 A	13.1 C-H	12.1 B-F	12.2 BC	46 A-C	44 A	44 A	1.0 D	1.0 A	1.0 A	140 C-E	140 A-C	138 B
Asgrow AG48XF3	XF	61 A-H			12.9 D-H			45 A-D			1.0 D			142 BC		
Revere 4731XF	XF	60 A-H			13.4 B-G			39 F			2.3 AB			137 F		
Progeny 4691XFS*	XFS	60 B-H	58 AB		13.7 A-D	12.7 A-D		45 A-E	43 AB		1.3 CD	1.2 A		137 F	137 CD	
Revere 4795XS****	R2XS	60 B-I	61 A	63 A	12.4 H	11.5 F	11.7 C	39 F	40 B-D	39 B	1.0 D	1.0 A	1.1 A	139 D-F	139 B-D	138 B
Asgrow AG49XF3	XF	59 B-I			13.2 C-H			49 A			1.0 D			143 BC		
USG 7494ETS	E3S	59 B-I			14.2 AB			42 C-F			1.0 D			140 C-E		
Innvictis B4903E	E3	58 C-J			13.2 C-H			41 D-F			1.7 BC			140 C-E		
Revere 4727XF	XF	57 D-J	55 A-D		12.5 GH	11.6 EF		42 C-F	40 B-D		2.0 BC	1.5 A		141 B-E	139 B-D	
Progeny 4604XFS**	XFS	56 D-J	52 B-D	57 A	13.3 C-H	12.1 B-F	12.7 AB	44 B-E	43 AB	42 A	1.0 D	1.0 A	1.0 A	139 D-F	138 B-D	137 B
Dyna-Gro S48EN73	E3	56 E-J	55 A-D		13.9 A-C	12.2 B-F		42 C-F	38 D		1.3 CD	1.2 A		139 D-F	138 B-D	
Xitavo 4653E	E3	56 F-J			13.6 A-E			41 D-F			1.0 D			138 EF		
Progeny 4775E3S	E3S	54 G-J	48 D		14.3 A	12.8 A-C		47 AB	44 A		1.0 D	1.0 A		137 F	137 CD	
Innvictis B4603E	E3	53 H-K			12.8 E-H			40 EF			2.7 AB			139 D-F		
Xitavo 4894E	E3	50 I-L			13.7 A-E			44 A-E			1.3 CD			140 C-E		
Progeny 4806XFS	XFS	50 J-L	50 CD	55 A	12.6 F-H	11.9 D-F	12.1 BC	42 C-F	39 B-D	39 B	1.0 D	1.0 A	1.0 A	138 EF	137 CD	136 B
TN Exp TN18-4110b	Conv.	44 KL			13.9 A-C			26 I			1.3 CD			149 A		
MO S18-17644	Conv	44 KL			13.8 A-D			34 GH			3.3 A			147 A		
Perdue Agribusiness P48MO21	Conv	41 L			13.9 A-C			33 H			3.3 A			143 B		
Average		59	57	59	13.5	12.2	12.4	41	40	41	1.4	1.1	1.0	140	138	138
Standard Error		3	5	5	0.3	1.3	0.6	2	3	1	0.4	0.1	0.0	1	1	1
L.S.D..05		9	7	N.S.	0.9	0.9	0.7	5	4	3	Sig.	N.S.	N.S.	3	3	2
C.V.		10	11	10	4	6	6	7	9	7	-	-	-	1	2	2

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-24-b. Mean[†] yield and quality of 56 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials without irrigation at the West Tennessee AgResearch and Education Center in Jackson, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac) 1 yr	SDS DI[††] (%) 1 yr	SDS DS[††] (1-9) 1 yr	SDS DX[††] (DI x DS/9) 1 yr	Frogeye[‡‡] (%) 1 yr	Leaf Holding[‖] (1-5) 1 yr
Dyna-Gro S47XF23S	XFS	69 A	3 EF	1.3 EF	1 E	5.3 B-F	1.0 C
Revere 4934XF	XF	68 AB	27 B-E	4.0 A-C	12 B-E	1.7 J	1.0 C
Revere 4826XF*	XF	67 A-C	7 EF	2.7 B-F	4 DE	5.0 B-G	1.0 C
Don Mario DM48F53	XF	67 A-C	22 B-F	2.7 B-F	8 B-E	2.3 IJ	1.0 C
USG 7496XTS**	R2XS	66 A-D	17 C-F	3.3 B-E	6 B-E	4.0 E-I	1.0 C
Asgrow AG47XF2	XF	65 A-E	3 EF	1.3 EF	1 E	2.3 IJ	1.0 C
USG 7463XF	XF	64 A-F	12 D-F	2.7 B-F	5 C-E	6.0 A-E	1.0 C
Innvictis A4862XF	XF	63 A-G	12 D-F	2.3 C-F	3 DE	3.0 G-J	1.0 C
Dyna-Gro S49XF43S	XFS	62 A-G	37 B-D	3.7 B-D	20 B	3.0 G-J	1.0 C
Progeny 4798XF	XF	62 A-G	15 D-F	2.3 C-F	4 DE	4.3 D-I	2.3 B
USG 7474XFS	XFS	62 A-G	3 EF	2.3 C-F	1 E	5.3 B-F	1.3 C
USG 7461XFS**	XFS	62 A-H	17 C-F	2.7 B-F	4 DE	3.7 F-J	1.3 C
Asgrow AG48XF3	XF	61 A-H	18 C-F	1.7 D-F	4 DE	5.3 B-F	1.0 C
Revere 4731XF	XF	60 A-H	45 AB	3.0 B-F	17 B-D	2.7 H-J	1.0 C
Progeny 4691XFS*	XFS	60 B-H	42 A-C	3.0 B-F	13 B-E	6.3 A-D	1.0 C
Revere 4795XS****	R2XS	60 B-I	8 EF	3.3 B-E	3 DE	5.0 B-G	1.0 C
Asgrow AG49XF3	XF	59 B-I	7 EF	1.7 D-F	2 DE	7.0 AB	1.3 C
USG 7494ETS	E3S	59 B-I	0 F	1.0 F	0 E	6.7 A-C	1.7 B
Innvictis B4903E	E3	58 C-J	18 C-F	3.0 B-F	8 B-E	4.3 D-I	1.7 B
Revere 4727XF	XF	57 D-J	18 C-F	3.0 B-F	7 B-E	4.3 D-I	2.3 B
Progeny 4604XFS**	XFS	56 D-J	2 EF	1.3 EF	0 E	4.3 D-I	1.3 C
Dyna-Gro S48EN73	E3	56 E-J	3 EF	2.7 B-F	1 E	5.3 B-F	1.3 C
Xitavo 4653E	E3	56 F-J	15 D-F	3.0 B-F	6 B-E	4.7 C-H	1.0 C
Progeny 4775E3S	E3S	54 G-J	7 EF	2.0 C-F	2 DE	6.3 A-D	1.3 C
Innvictis B4603E	E3	53 H-K	22 B-F	3.7 B-D	13 B-E	3.7 F-J	1.0 C
Xitavo 4894E	E3	50 I-L	7 EF	1.0 F	1 E	6.0 A-E	1.7 B
Progeny 4806XFS	XFS	50 J-L	63 A	6.0 A	42 A	7.7 A	1.0 C
TN Exp TN18-4110b	Conv.	44 KL	5 EF	1.7 D-F	1 E	1.7 J	4.0 A
MO S18-17644	Conv	44 KL	37 B-D	4.7 AB	20 BC	4.0 E-I	3.7 A
Perdue Agribusiness P48MO21	Conv	41 L	12 D-F	1.7 D-F	4 DE	3.0 G-J	3.7 A
Average		59	17	2.6	7	4.5	1.5
Standard Error		3	10	0.8	5	0.7	0.3
L.S.D..05		9	26	2.2	15	2.0	0.8
C.V.		10	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were significant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-25-a. Mean† yield and agronomic traits of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials without irrigation at the Northeast Tennessee AgResearch and Education Center in Greenevill, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)		Moisture at Harvest (%)		Plant Height (in.)		Lodging (1-5)		Maturity (DAP)	
		1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr
USG 7503XF	XF	112 A		8.3 AB		44 D-F		2.5 C-E		163 A	
Innvictis A5503XF	XF	111 AB		8.5 A		49 AB		2.2 DE		160 A	
Revere 5029XF	XF	99 A-C	77 A	8.1 B-D	10.6 A	49 A-C	49 A	2.8 BC	2.4 B	161 A	153 A
USG 7534GT	GT	98 A-C		8.2 A-C		51 A		2.7 B-D		159 A	
NK 52-D6E3*	E3	95 A-C	76 A	7.8 D	10.2 A	43 D-F	42 B	2.0 E	1.5 D	161 A	152 A
Innvictis A5003XF	XF	92 A-C		7.9 CD		42 F		2.5 C-E		159 A	
Asgrow AG53XF2	XF	91 A-C	74 A	8.3 AB	10.4 A	46 C-E	46 A	2.0 E	1.8 CD	160 A	152 A
Progeny 5056XFS	XFS	89 B-D	74 A	8.0 B-D	10.6 A	48 A-C	48 A	2.8 BC	2.3 BC	160 A	152 A
Innvictis A5813XF	XF	79 C-E		8.3 AB		45 D-F		2.7 B-D		160 A	
USG 7543XF	XF	69 DE		8.2 A-C		46 B-D		3.2 B		163 A	
MO S18-6013	Conv	67 DE		8.2 A-C		43 EF		3.8 A		161 A	
MO S18-6328	Conv	64 E	52 B	7.9 CD	10.6 A	42 F	39 B	4.0 A	3.7 A	161 A	153 A
Average		89	70	8.2	10.5	46	45	2.8	2.3	161	152
Standard Error		8	18	0.1	2.4	1	1	0.2	0.4	1	8
L.S.D..05		22	13	0.3	N.S.	3	3	0.5	0.5	N.S.	N.S.
C.V.		15	15	2	3	4	6	-	-	1	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
ǁ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-25-b. Mean yield and agronomic traits of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials without irrigation at the Northeast Tennessee AgResearch and Education Center in Greeneville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††] (%)	SDS DS[††] (1-9)	SDS DX[††] (DI x DS/9)	Frogeye[‡‡] (%)	Leaf Holding[ǁ] (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
USG 7503XF	XF	112 A	5	2.3	2	1.3	1.5 A
Innvictis A5503XF	XF	111 AB	0	1.0	0	1.0	1.5 A
Revere 5029XF	XF	99 A-C	0	1.0	0	1.0	1.5 A
USG 7534GT	GT	98 A-C	0	1.0	0	1.0	1.5 A
NK 52-D6E3*	E3	95 A-C	0	1.0	0	1.0	1.5 A
Innvictis A5003XF	XF	92 A-C	0	1.0	0	1.0	1.5 A
Asgrow AG53XF2	XF	91 A-C	0	1.0	0	1.0	1.5 A
Progeny 5056XFS	XFS	89 B-D	0	1.0	0	1.0	1.5 A
Innvictis A5813XF	XF	79 C-E	0	1.0	0	1.0	1.5 A
USG 7543XF	XF	69 DE	0	1.0	0	1.0	1.5 A
MO S18-6013	Conv	67 DE	0	1.0	0	1.0	1.7 A
MO S18-6328	Conv	64 E	0	1.0	0	1.0	1.5 A
Average		89	0	1.1	0	1.0	1.5
Standard Error		8	1	0.0	0	0.0	0.0
L.S.D.$_{.05}$		22	2	N.E.	N.E.	N.E.	N.S.
C.V.		15	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
ǁ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-26-a. Mean[†] yield and agronomic traits of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials with irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)		Moisture at Harvest (%)		Plant Height (in.)		Lodging[‖] (1-5)		Maturity (DAP)	
		1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr
Innvictis A5003XF	XF	80 A		17.0 AB		36 C		1.8 CD		151 C	
USG 7503XF	XF	79 A		16.4 C-E		39 BC		2.3 B-D		151 C	
NK 52-D6E3*	E3	77 A	82 A	16.2 DE	14.1 B	40 BC	44 AB	1.7 CD	2.3 BC	151 C	147 A
Progeny 5056XFS	XFS	75 A	74 AB	17.1 A	15.3 A	40 B	47 A	2.7 BC	2.6 AB	151 C	150 A
MO S18-6328	Conv	72 A	61 C	16.0 E	14.2 B	29 D	33 C	3.0 AB	3.3 A	151 C	149 A
Revere 5029XF	XF	71 A	64 BC	16.6 A-D	14.6 B	41 B	46 A	2.5 B-D	2.6 AB	151 C	149 A
MO S18-6013	Conv	71 A		16.1 DE		23 E		1.8 CD		156 B	
USG 7534GT	GT	70 A		16.7 A-D		47 A		4.0 A		151 C	
Asgrow AG53XF2	XF	67 A	62 C	16.8 A-C	14.5 B	37 BC	41 B	1.7 CD	1.6 C	151 C	149 A
Innvictis A5813XF	XF	66 A		16.5 B-D		36 C		1.5 D		160 A	
Innvictis A5503XF	XF	64 A		16.9 A-C		37 BC		1.5 D		151 C	
USG 7543XF	XF	61 A		16.1 DE		46 A		3.2 AB		158 AB	
Average		71	69	16.5	14.5	37	42	2.3	2.5	153	149
Standard Error		6	6	0.2	2.0	2	5	0.4	0.3	1	1
L.S.D..05		N.S.	12	0.5	0.6	4	4	1.1	0.8	2	N.S.
C.V.		14	15	2	3	6	7	-	-	1	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-26-b. Mean yield and quality of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials with irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)		Protein[¶] (%)		Oil[¶] (%)	
		1 yr	2 yr	1 yr	2 yr	1 yr	2 yr
Innvictis A5003XF	XF	80 A		32.7 F		25.7 A	
USG 7503XF	XF	79 A		32.0 G		24.5 B-D	
NK 52-D6E3*	E3	77 A	82 A	33.5 E	33.6 C	24.4 CD	23.8 AB
Progeny 5056XFS	XFS	75 A	74 AB	33.7 E	34.4 B	24.2 D	23.7 B
MO S18-6328	Conv	72 A	61 C	35.0 C	35.2 A	23.2 E	22.8 C
Revere 5029XF	XF	71 A	64 BC	33.8 DE	34.2 BC	24.5 B-D	24.0 AB
MO S18-6013	Conv	71 A		34.2 DE		24.2 D	
USG 7534GT	GT	70 A		36.7 A		22.2 F	
Asgrow AG53XF2	XF	67 A	62 C	31.6 G	32.3 D	24.9 B	24.2 A
Innvictis A5813XF	XF	66 A		35.9 B		22.0 F	
Innvictis A5503XF	XF	64 A		31.6 G		24.7 BC	
USG 7543XF	XF	61 A		34.4 CD		23.4 E	
Average		71	69	33.8	33.9	24.0	23.7
Standard Error		6	6	0.2	0.5	0.2	0.6
L.S.D..05		N.S.	12	0.6	0.7	0.4	0.5
C.V.		14	15	1	2	1	2

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

‡ For a full description of abbreviated biotech traits, see table 29.

§ All yields are adjusted to 13% moisture.

¶ Protein and oil were measured post-harvest using NIRS and are reported on a dry weight basis.

Table A-26-c. Mean yield and quality of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials with irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)	SDS DI†† (%)	SDS DS†† (1-9)	SDS DX†† (DI x DS/9)	Frogeye‡‡ (%)	Seed Quality§§ (1-5)	Purple Stain¶¶ (1-5)	Leaf Holding‖ (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
Innvictis A5003XF	XF	80 A	13 A	2.3 A	4 A	1.7 B	1.0 C	1.3 A	1.5 E
USG 7503XF	XF	79 A	5 AB	1.0 D	1 A-C	1.3 B	1.3 B	1.0 A	2.2 BC
NK 52-D6E3*	E3	77 A	0 D	1.0 D	0 E	1.0 B	1.8 A	1.0 A	1.8 C-E
Progeny 5056XFS	XFS	75 A	2 CD	1.3 CD	0 DE	1.3 B	1.2 BC	1.2 A	2.0 CD
MO S18-6328	Conv	72 A	0 D	1.0 D	0 E	1.3 B	1.0 C	1.0 A	2.8 A
Revere 5029XF	XF	71 A	0 D	1.0 D	0 E	1.7 B	1.0 C	1.5 A	2.8 A
MO S18-6013	Conv	71 A	0 D	1.0 D	0 E	1.3 B	1.0 C	1.0 A	1.8 C-E
USG 7534GT	GT	70 A	3 A-C	1.3 CD	1 B-D	1.0 B	1.2 BC	1.3 A	2.7 A
Asgrow AG53XF2	XF	67 A	7 AB	1.7 BC	1 AB	1.0 B	1.0 C	1.2 A	1.7 DE
Innvictis A5813XF	XF	66 A	5 AB	1.0 D	1 A-C	4.3 A	1.0 C	1.2 A	2.0 CD
Innvictis A5503XF	XF	64 A	20 A	2.0 AB	4 A	1.3 B	1.0 C	1.2 A	1.7 DE
USG 7543XF	XF	61 A	3 BC	1.0 D	0 CD	1.0 B	1.0 C	1.0 A	2.5 AB
Average		71	5	1.3	1	1.5	1.1	1.2	2.1
Standard Error		6	3	0.2	1	0.5	0.1	0.1	0.2
L.S.D..05		N.S.	Sig.	Sig.	Sig.	Sig.	0.3	N.S.	0.5
C.V.		14	-	-	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were significant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
Ŧ Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
§§ Seed quality was evaluated visually post-harvest using a 1 to 5 scale, with 1 indicating no shriveled or damaged seed.
¶¶ Purple stain was evaluated visually post-harvest using a 1 to 5 scale, with 1 indicating no purple stain.

Table A-27-a. Mean[†] yield and agronomic traits of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials with irrigation at the Highland Rlm Tennessee AgResearch and Education Center in Springfield, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)		Moisture at Harvest (%)		Plant Height (in.)		Lodging[‖] (1-5)		Maturity (DAP)	
		1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr
NK 52-D6E3*	E3	83 A	73 A	12 A	13 A	44 A	40 A	1.3 A	1.2 A	152 C	149 BC
MO S18-6013	Conv	66 B		12 A		32 E		1.3 A		155 B	
Revere 5029XF	XF	65 B	62 B	12 A	13 A	42 A-C	40 A	1.3 A	1.2 A	152 C	149 BC
MO S18-6328	Conv	62 BC	60 B	12 A	12 A	40 A-D	36 A	1.5 A	1.3 A	155 B	151 A
Progeny 5056XFS	XFS	60 B-D	58 B	12 A	12 A	42 A-C	39 A	1.2 A	1.1 A	152 C	150 B
Innvictis A5503XF	XF	57 B-E		12 A		38 B-D		1.2 A		151 CD	
USG 7503XF	XF	55 B-F		12 A		40 A-D		1.5 A		151 CD	
Asgrow AG53XF2	XF	52 B-F	55 B	12 A	13 A	36 C-E	37 A	1.0 A	1.0 A	151 CD	149 C
USG 7534GT	GT	51 C-F		12 A		41 A-D		1.3 A		150 D	
USG 7543XF	XF	47 D-F		13 A		42 AB		1.8 A		154 B	
Innvictis A5003XF	XF	44 EF		12 A		36 DE		1.0 A		150 CD	
Innvictis A5813XF	XF	41 F		33.6ᵃ A		38 B-D		1.5 A		157 A	
Average		57	62	12.1	12.8	39	38	1.3	1.1	152	150
Standard Error		5	4	0.3	0.7	3	3	0.3	0.1	1	3
L.S.D..05		14	7	N.S.	N.S.	6	N.S.	N.S.	N.S.	2	1
C.V.		14	10	3	8	8	7	-	-	1	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.
a Not included in analysis due to being an extreme outlier. All three reps had similar values, mean is reported here, but was not included in ANOVA.

Table A-27-b. Mean yield and quality of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials with irrigation at the Highland Rim Tennessee AgResearch and Education Center in Springfield, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††] (%)	SDS DS[††] (1-9)	SDS DX[††] (DI x DS/9)	Frogeye[‡‡, T] (%)	Leaf Holding[||] (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
NK 52-D6E3*	E3		2 D	1.0 E	0 A	1.0 D	0.0
MO S18-6013	Conv		7 CD	1.3 DE	1 A	1.0 D	0.0
Revere 5029XF	XF		10 B-D	1.7 DE	3 A	1.7 BC	0.5
MO S18-6328	Conv		5 D	1.3 DE	1 A	1.0 D	0.0
Progeny 5056XFS	XFS		8 CD	1.7 DE	2 A	2.3 B	0.8
Innvictis A5503XF	XF		23 A-D	2.3 CD	7 A	1.0 D	0.0
USG 7503XF	XF		32 AB	4.0 AB	19 A	1.3 CD	0.2
Asgrow AG53XF2	XF		28 A-C	4.0 AB	13 A	1.0 D	0.0
USG 7534GT	GT		28 A-C	3.0 BC	12 A	1.0 D	0.0
USG 7543XF	XF		23 A-D	4.3 A	13 A	1.0 D	0.0
Innvictis A5003XF	XF		43 A	3.3 A-C	21 A	1.3 CD	0.2
Innvictis A5813XF	XF		23 A-D	3.3 A-C	9 A	5.0 A	1.5
Average			19	2.6	8	1.6	0.3
Standard Error			13	0.7	7	0.5	0.0
L.S.D.·05			23	1.3	N.S.	Sig.	N.E.
C.V.			-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
|| Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-28-a. Mean[†] yield and agronomic traits of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials without irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)		Moisture at Harvest (%)		Plant Height (in.)		Lodging[‖] (1-5)		Maturity (DAP)	
		1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr
NK 52-D6E3*	E3	91 A	69 A	13 B-D	13 A	41 CD	36 A	1.2 C	1.1 B	152 CD	149 BC
Revere 5029XF	XF	81 B	65 AB	14 A-D	14 A	45 A-C	38 A	1.2 C	1.1 B	152 CD	149 BC
USG 7543XF	XF	81 B		14 AB		46 AB		1.8 BC		157 A	
Innvictis A5003XF	XF	78 BC		14 A-C		40 D		1.7 BC		153 B	
Progeny 5056XFS	XFS	78 BC	62 A-C	15 A	14 A	46 AB	39 A	1.5 BC	1.3 B	154 B	151 A
Innvictis A5503XF	XF	77 B-D		13 B-D		44 A-D		1.0 C		152 CD	
Asgrow AG53XF2	XF	76 B-D	56 C	13 CD	13 A	42 B-D	37 A	1.0 C	1.0 B	151 D	148 C
MO S18-6013	Conv	72 B-D		14 A-D		41 CD		2.2 AB		156 A	
USG 7534GT	GT	71 B-D		13 D		48 A		1.3 BC		151 D	
USG 7503XF	XF	71 CD		13 B-D		42 CD		1.5 BC		153 BC	
MO S18-6328	Conv	67 D	58 BC	13 B-D	13 A	41 D	37 A	3.0 A	2.0 A	154 B	150 AB
Innvictis A5813XF	XF	51 E		39[a]		45 A-C		1.5 BC		157 A	
Average		75	62	13.3	13.3	43	37	1.6	1.3	153	149
Standard Error		3	17	0.4	0.8	1	6	0.4	0.3	1	3
L.S.D.$_{.05}$		10	8	1.2	N.S.	4	N.S.	0.9	0.6	1	1
C.V.		8	11	5	9	6	7	-	-	1	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

‡ For a full description of abbreviated biotech traits, see table 29.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

a Not included in analysis due to being an extreme outlier. All three reps had similar values, mean is reported here, but was not included in ANOVA.

Table A-28-b. Mean yield and quality of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials without irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††] (%)	SDS DS[††] (1-9)	SDS DX[††] (DI x DS/9)	Frogeye[‡‡, T] (%)	Leaf Holding[‖] (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
NK 52-D6E3*	E3	91 A	0 A	1.0 A	0 A	1.0 B	1.0
Revere 5029XF	XF	81 B	8 A	1.7 A	2 A	1.3 B	1.0
USG 7543XF	XF	81 B	15 A	1.7 A	3 A	1.0 B	1.3
Innvictis A5003XF	XF	78 BC	10 A	1.7 A	2 A	1.0 B	1.0
Progeny 5056XFS	XFS	78 BC	3 A	1.0 A	0 A	3.7 A	1.0
Innvictis A5503XF	XF	77 B-D	7 A	1.3 A	1 A	1.0 B	1.0
Asgrow AG53XF2	XF	76 B-D	3 A	1.0 A	0 A	1.0 B	1.0
MO S18-6013	Conv	72 B-D	3 A	1.0 A	0 A	1.0 B	1.5
USG 7534GT	GT	71 B-D	13 A	1.7 A	3 A	1.3 B	1.0
USG 7503XF	XF	71 CD	3 A	1.7 A	1 A	1.0 B	1.0
MO S18-6328	Conv	67 D	0 A	1.0 A	0 A	1.7 B	1.0
Innvictis A5813XF	XF	51 E	2 A	1.3 A	0 A	4.7 A	3.0
Average		75	6	1.3	1	1.6	1.2
Standard Error		3	4	0.3	1	0.6	0.0
L.S.D..05		10	N.S.	N.S.	N.S.	Sig.	N.E.
C.V.		8	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-29-a. Mean[†] yield and agronomic traits of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials without irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)		Moisture at Harvest (%)		Plant Height (in.)		Lodging[‖] (1-5)		Maturity (DAP)	
		1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr
NK 52-D6E3*	E3	75 A	75 A	12 CD	12 C	40 B-D	36 A	1.0 A	1.0 A	146 B	145 A
Progeny 5056XFS	XFS	72 AB	73 AB	12 AB	12 AB	43 A	38 A	1.3 A	1.2 A	146 B	147 A
Revere 5029XF	XF	71 A-C	72 AB	12 A-C	12 A	41 A-C	37 A	1.0 A	1.0 A	146 B	146 A
Innvictis A5003XF	XF	70 A-C		12 CD		37 DE		1.3 A		147 B	
Innvictis A5503XF	XF	67 B-D		12 B-D		39 B-E		1.0 A		146 B	
Asgrow AG53XF2	XF	67 B-D	64 BC	12 AB	12 B	41 A-C	36 A	1.0 A	1.0 A	146 B	144 A
USG 7503XF	XF	64 CD		12 B-D		38 C-E		1.0 A		144 C	
USG 7534GT	GT	64 C-E		12 A-C		41 A-C		2.0 A		146 B	
USG 7543XF	XF	63 DE		12 D		42 AB		1.3 A		152 A	
MO S18-6013	Conv	62 DE		12 A-C		28 F		1.0 A		151 A	
Innvictis A5813XF	XF	57 EF		12 A-C		36 E		1.0 A			
MO S18-6328	Conv	52 F	63 C	12 A	12 AB	31 F	31 B	1.7 A	1.4 A	146 B	145 A
Average		65	70	12.0	12.2	38	36	1.2	1.1	147	145
Standard Error		2	3	0.1	0.2	1	4	0.2	0.1	0	1
L.S.D..05		7	9	0.3	0.3	3	4	N.S.	N.S.	1	N.S.
C.V.		6	10	2	2	5	8	-	-	0	1

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-29-b. Mean yield and quality of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials without irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††] (%)	SDS DS[††] (1-9)	SDS DX[††] (DI x DS/9)	Frogeye[‡‡] (%)	Leaf Holding[‖] (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
NK 52-D6E3*	E3	75 A	2	1.0	1	1.0 C	1.0 D
Progeny 5056XFS	XFS	72 AB	0	1.0	0	1.3 BC	1.3 B-D
Revere 5029XF	XF	71 A-C	0	1.0	0	2.0 B	1.7 A-C
Innvictis A5003XF	XF	70 A-C	0	1.0	0	1.0 C	1.0 D
Innvictis A5503XF	XF	67 B-D	0	1.0	0	1.3 BC	1.0 D
Asgrow AG53XF2	XF	67 B-D	0	1.0	0	1.0 C	1.0 D
USG 7503XF	XF	64 CD	0	1.0	0	1.3 BC	1.2 CD
USG 7534GT	GT	64 C-E	0	1.0	0	1.0 C	1.7 A-C
USG 7543XF	XF	63 DE	0	1.0	0	1.3 BC	2.0 AB
MO S18-6013	Conv	62 DE	0	1.0	0	1.0 C	2.0 A
Innvictis A5813XF	XF	57 EF	0	1.0	0	3.7 A	
MO S18-6328	Conv	52 F	0	1.0	0	1.3 BC	1.3 B-D
Average		65	0	1.0	0	1.4	1.4
Standard Error		2	0	0.0	0	0.2	0.2
L.S.D.$_{.05}$		7	N.E.	N.E.	N.E.	0.7	0.6
C.V.		6	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-30-a. Mean[†] yield and agronomic traits of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials with irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)		Moisture at Harvest (%)		Plant Height (in.)		Lodging[‖] (1-5)		Maturity (DAP)	
		1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr
Revere 5029XF	XF	83 A	79 A	12 BC	12 AB	49 AB	47 AB	1.3 C	1.5 B	151 B	148 A
NK 52-D6E3*	E3	81 A	73 AB	12 B-D	11 BC	46 CD	45 B	1.7 BC	2.5 A	142 D	143 B
Progeny 5056XFS	XFS	76 AB	73 AB	12 BC	12 A	50 A	48 A	1.0 C	1.3 B	151 B	148 A
MO S18-6013	Conv	76 A-C		12 B		42 EF		1.0 C		157 A	
Innvictis A5503XF	XF	75 A-D		12 B-E		48 A-C		1.0 C		148 BC	
USG 7503XF	XF	73 A-D		12 B-D		47 B-D		1.3 C		144 CD	
USG 7543XF	XF	67 B-E		12 C-E		50 A		1.3 C		150 B	
Asgrow AG53XF2	XF	64 C-E	66 BC	12 B-D	11 C	50 A	48 A	1.0 C	1.0 B	147 BC	145 B
Innvictis A5003XF	XF	64 DE		11 DE		42 F		2.3 AB		147 B-D	
USG 7534GT	GT	61 E		12 A		49 AB		1.3 C		147 BC	
Innvictis A5813XF	XF	61 E		11 E		45 DE		1.0 C		156 A	
MO S18-6328	Conv	61 E	60 C	12 A	12 A	38 G	37 C	2.7 A	2.3 A	151 B	148 A
Average		70	70	11.8	11.6	46	45	1.4	1.7	149	146
Standard Error		4	4	0.1	0.3	1	2	0.3	0.3	2	2
L.S.D..05		12	9	0.4	0.3	3	3	0.8	0.8	5	3
C.V.		10	11	2	2	4	5	-	-	2	2

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-30-b. Mean yield and quality of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials with irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)	SDS DI†† (%)	SDS DS†† (1-9)	SDS DX†† (DI x DS/9)	Frogeye‡‡ (%)
		1 yr	1 yr	1 yr	1 yr	1 yr
Revere 5029XF	XF		5 BC	1.3 B	1 BC	2.0 A
NK 52-D6E3*	E3		2 C	1.0 B	0 C	1.3 A
Progeny 5056XFS	XFS		2 C	1.0 B	0 C	1.0 A
MO S18-6013	Conv		0 C	1.0 B	0 C	1.0 A
Innvictis A5503XF	XF		10 B	1.7 B	2 B	1.7 A
USG 7503XF	XF		7 BC	1.7 B	1 BC	1.3 A
USG 7543XF	XF		22 A	3.0 A	7 A	1.0 A
Asgrow AG53XF2	XF		0 C	1.0 B	0 C	1.0 A
Innvictis A5003XF	XF		5 BC	1.7 B	1 BC	2.0 A
USG 7534GT	GT		3 BC	1.3 B	1 BC	1.0 A
Innvictis A5813XF	XF		2 C	1.3 B	0 C	1.3 A
MO S18-6328	Conv		0 C	1.0 B	0 C	2.0 A
Average			5	1.4	1	1.4
Standard Error			3	0.3	1	0.3
L.S.D..05			8	0.8	2	N.S.
C.V.			-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
|| Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-31-a. Mean[†] yield and agronomic traits of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials without irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)		Moisture at Harvest (%)		Plant Height (in.)		Lodging[‖] (1-5)		Maturity (DAP)	
		1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr
Revere 5029XF	XF	70 A	68 A	12 A-C	12 A	50 A	44 A	1.0	1.0	148 BC	145 A
Progeny 5056XFS	XFS	70 A	66 AB	12 A-D	12 A	47 A	42 AB	1.0	1.0	148 BC	145 A
USG 7503XF	XF	69 AB		12 A-E		48 A		1.0		141 E	
NK 52-D6E3*	E3	67 A-C	59 BC	12 A-D	11 B	47 A	40 B	1.3	1.3	146 CD	145 A
Innvictis A5503XF	XF	64 A-C		11 E		47 A		1.0		152 AB	
USG 7543XF	XF	63 A-C		11 E		48 A		1.0		148 A-C	
Innvictis A5003XF	XF	62 A-C		12 A-E		45 AB		1.0		142 DE	
Asgrow AG53XF2	XF	61 BC	54 CD	12 C-E	11 B	49 A	43 AB	1.0	1.0	150 A-C	145 A
MO S18-6013	Conv	60 C		12 A		38 CD		1.0		152 AB	
Innvictis A5813XF	XF	59 CD		12 DE		41 BC		1.0		152 AB	
MO S18-6328	Conv	51 DE	48 D	12 B-E	11 AB	36 D	32 C	2.3	1.7	153 A	148 A
USG 7534GT	GT	45 E		12 AB		46 AB		1.0		150 A-C	
Average		62	59	11.9	11.5	45	40	1.1	1.2	148	146
Standard Error		3	5	0.2	0.5	2	6	0.0	0.1	2	3
L.S.D.·.05		8	8	0.6	0.4	5	3	N.E.	N.E.	5	N.S.
C.V.		8	11	3	3	7	6	-	-	2	2

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.

C.V. is only reported for variables evaluated on a ratio scale.

L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.

‡ For a full description of abbreviated biotech traits, see table 29.

* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.

§ All yields are adjusted to 13% moisture.

‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).

T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-31-b. Mean yield and quality of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials without irrigation at the AgResearch and Education Center at Milan in Milan, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)	SDS DI[††] (%)	SDS DS[††] (1-9)	SDS DX[††] (DI x DS/9)	Frogeye[‡‡] (%)
		1 yr	1 yr	1 yr	1 yr	1 yr
Revere 5029XF	XF		3 D	1.3 BC	1 DE	1.7 A
Progeny 5056XFS	XFS		0 D	1.0 C	0 E	1.7 A
USG 7503XF	XF		22 BC	2.3 AB	5 B-D	1.7 A
NK 52-D6E3*	E3		8 CD	1.7 BC	2 DE	1.0 A
Innvictis A5503XF	XF		12 CD	2.0 A-C	2 DE	1.7 A
USG 7543XF	XF		37 AB	3.0 A	12 A	1.3 A
Innvictis A5003XF	XF		40 A	1.7 BC	8 AB	1.3 A
Asgrow AG53XF2	XF		15 CD	1.7 BC	3 C-E	1.3 A
MO S18-6013	Conv		3 D	1.7 BC	1 DE	1.3 A
Innvictis A5813XF	XF		17 CD	2.0 A-C	4 B-E	1.0 A
MO S18-6328	Conv		2 D	1.0 C	0 E	1.7 A
USG 7534GT	GT		37 AB	1.7 BC	7 BC	1.7 A
Average			16	1.8	4	1.4
Standard Error			6	0.3	2	0.4
L.S.D.·₀₅			17	1.0	5	N.S.
C.V.			-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were significant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
|| Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-32-a. Mean[†] yield and agronomic traits of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials without irrigation at the East Tennessee AgResearch and Education Center in Knoxville, Tennessee during 2023.

Variety	Herbicide Pkg[†]	Avg. Yield[§] (bu/ac)		Moisture at Harvest (%)		Plant Height (in.)		Lodging[‖] (1-5)		Maturity (DAP)	
		1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr	1 yr	2 yr
NK 52-D6E3*	E3	66 A	62 A	12.5 B	11.9 B	45 A	39 B	1.3 A	1.7 A	145 B	144 A
Progeny 5056XFS	XFS	56 B	58 AB	13.8 A	13.2 A	48 A	46 A	1.3 A	1.2 A	146 B	145 A
MO S18-6013	Conv	55 B		14.0 A		38 B-D		1.0 A		150 A	
Innvictis A5503XF	XF	52 BC		12.5 B		42 AB		1.0 A		145 BC	
Asgrow AG53XF2	XF	51 BC	48 C	13.1 AB	12.3 B	43 AB	41 B	1.0 A	1.0 A	146 B	143 A
USG 7503XF	XF	51 BC		13.1 AB		44 AB		1.0 A		141 C	
Revere 5029XF	XF	51 BC	53 A-C	13.7 A	13.1 A	47 A	44 AB	1.3 A	1.2 A	148 AB	146 A
USG 7534GT	GT	45 CD		13.4 AB		45 A		2.0 A		146 B	
Innvictis A5003XF	XF	44 CD		12.6 B		39 BC		2.7 A		147 AB	
USG 7543XF	XF	42 D		12.5 B		47 A		2.3 A		145 BC	
MO S18-6328	Conv	41 D	51 BC	13.6 A	12.5 AB	33 D	34 C	2.7 A	2.0 A	150 A	147 A
Innvictis A5813XF	XF	39 D		13.7 A		36 CD		1.3 A		148 AB	
Average		49	54	13.2	12.6	42	41	1.6	1.4	146	145
Standard Error		3	3	0.3	0.8	2	3	0.5	0.3	2	2
L.S.D..05		8	9	1.0	0.7	6	5	N.S.	N.S.	4	N.S.
C.V.		9	14	4	5	8	10	-	-	1	2

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
‡ For a full description of abbreviated biotech traits, see table 29.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
§ All yields are adjusted to 13% moisture.
‖ Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging).
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.

Table A-32-b. Mean yield and quality of 12 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials without irrigation at the West Tennessee AgResearch and Education Center in Jackson, Tennessee during 2023.

Variety	Herbicide Pkg†	Avg. Yield§ (bu/ac)	SDS DI†† (%)	SDS DS†† (1-9)	SDS DX†† (DI x DS/9)	Frogeye‡‡ (%)	Leaf Holding‖ (1-5)
		1 yr	1 yr	1 yr	1 yr	1 yr	1 yr
NK 52-D6E3*	E3	66 A	2 A	1.3 A	0 A	1.3 B	1.0 D
Progeny 5056XFS	XFS	56 B	3 A	1.3 A	1 A	2.7 B	0.7 D
MO S18-6013	Conv	55 B	17 A	1.3 A	2 A	1.3 B	2.7 AB
Innvictis A5503XF	XF	52 BC	30 A	2.7 A	13 A	2.7 B	1.0 D
Asgrow AG53XF2	XF	51 BC	28 A	4.0 A	14 A	3.0 AB	1.0 D
USG 7503XF	XF	51 BC	22 A	2.7 A	6 A	2.0 B	1.0 D
Revere 5029XF	XF	51 BC	18 A	2.7 A	6 A	2.7 B	1.3 CD
USG 7534GT	GT	45 CD	38 A	2.3 A	10 A	1.3 B	2.0 BC
Innvictis A5003XF	XF	44 CD	38 A	2.7 A	11 A	1.3 B	1.3 CD
USG 7543XF	XF	42 D	33 A	2.7 A	10 A	2.0 B	1.3 CD
MO S18-6328	Conv	41 D	5 A	2.0 A	1 A	1.7 B	3.3 A
Innvictis A5813XF	XF	39 D	22 A	1.7 A	4 A	4.7 A	3.3 A
Average		49	21	2.3	7	2.2	1.7
Standard Error		3	10	0.6	4	0.6	0.3
L.S.D..05		8	N.S.	N.S.	N.S.	1.7	0.9
C.V.		9	-	-	-	-	-

† Varieties that have any MS letter in common are not significantly different at the 5% level of probability. Values highlighted in light orange are above average for a given trait, MS letters highlighted in dark orange are in the "A group", indicating no statistical difference from the top-performing variety, for a given trait.
C.V. is only reported for variables evaluated on a ratio scale.
L.S.D. values are given for ANOVA that were signficant at P<0.05. Variables in which minimal variation was observed were not subjected to ANOVA and are reported as N.E.
* Asterisks after a name indicate the number of preceding consecutive years in the top-performing "A" group.
‡ For a full description of abbreviated biotech traits, see table 29.
§ All yields are adjusted to 13% moisture.
†† SDS was evaluated as disease incidence (percentage), disease severity (1 to 9, with 1 indicating no disease), and disease index (DI x DS/9). Evaluated in mid-September.
‡‡ Frogeye was evaluated using a 1 to 9 scale, with 1 indicating no disease. Evaluated in mid-September.
‖ Leaf holding was evaluated visually at harvest using a 1 to 5 scale, with 1 indicating no leaves at maturity..
T Indicate data that were log transformed to meet assumptions of normality, raw means are reported and mean separation letters are given. L.S.D values are not reported as these would be relative to transformed mean values.