Soybean Variety Tests in Tennessee
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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	10/20-21/2023	140000	Maury Silt Loam/ Huntington Silt Loam
Greeneville	Northeast Tennessee	Non-irrigated	5/12/2023	November 7, 2023	140000	Decatur Silty Clay
Knoxville	East Tennessee	Irrigated	May 4, 2023	9/26/2023	140000	Shady Loam
Milan	Milan	Irrigated			140000	Loring
Milan	Milan	Non-irrigated			140000	Grenada Silt Loam
Jackson	West Tennessee	Non-irrigated	5/1/2023	9/27/2023	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	5/12/2023	November 7, 2023	140000	Decatur Silty Clay
Knoxville	East Tennessee	Irrigated	May 4, 2023	9/29/2023	140000	Shady Loam
Milan	Milan	Irrigated			140000	Loring
Milan	Milan	Non-irrigated			140000	Grenada Silt Loam
Jackson	West Tennessee	Non-irrigated	5/1/2023	10/2/2023	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	10/20-21/2023	140000	Maury Silt Loam/ Huntington Silt Loam
Greeneville	Northeast Tennessee	Non-irrigated	5/12/2023	November 7, 2023	140000	Decatur Silty Clay
Knoxville	East Tennessee	Irrigated	May 4, 2023	10/3/2023	140000	Shady Loam
Milan	Milan	Irrigated			140000	Loring
Milan	Milan	Non-irrigated			140000	Grenada Silt Loam
Jackson	West Tennessee	Non-irrigated	5/1/2023	10/2/2023	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	10/20-21/2023	140000	Maury Silt Loam/ Huntington Silt Loam
Greeneville	Northeast Tennessee	Non-irrigated	5/12/2023	November 7, 2023	140000	Decatur Silty Clay
Knoxville	East Tennessee	Irrigated	May 4, 2023	10/18/2023	140000	Shady Loam
Milan	Milan	Irrigated			140000	Loring
Milan	Milan	Non-irrigated			140000	Grenada Silt Loam
Jackson	West Tennessee	Non-irrigated	5/1/2023	10/10/2023	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

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

County	Cooperator	Agent	Planting Date	N	W

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

County	Cooperator	Agent	Planting Date	N	W

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

County	Cooperator	Agent	Planting Date	N	W

Table 3. cont.

Liberty Link/Enlist Early IV (4.0 - 4.5)

County	Cooperator	Agent	Planting Date	N	W

Liberty Link/Enlist Late IV (4.6 - 4.9)

County	Cooperator	Agent	Planting Date	N	W

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 "A group" ranking in both REC and CST trials, number of consecutive years in "A group", then percent of locs with above average yield.

MG 3 (3.0 - 3.9)

	REC			CST		
Variety	REC Yield§	Consecutive Years in A Group‡	Locs. with above avg. yield	CST Yield§	Consecutive Years in A Group‡	Locs. with above avg. yield
Asgrow AG38XF1	76	1	100%			
USG 7394XFS	75	1	100%			
Revere 3908XFS	75	2	71%			
Dyna-Gro S38XF22S	75	2	71%			
Xitavo 3803E	74	1	71%			
AsGrow AG39XF3	74	1	86%			

MG 4 Early (4.0 - 4.4)

	REC			CST		
Variety	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%			

Table 4. cont.

MG 4 Late (4.5 - 4.9)

	REC			CST		
Variety	REC Yield§	Consecutive Years in A Group‡	Locs. with above avg. yield	CST Yield§	Consecutive Years in A Group‡	Locs. with above avg. yield
Dyna-Gro S47XF23S	78	1	100%			
Revere 4795XS	77	5	100%			
Revere 4826XF	77	2	100%			
USG 7461XFS	77	3	100%			
AsGrow AG48XF3	76	1	88%			
AsGrow AG49XF3	76	1	88%			
Revere 4727XF	76	1	88%			
USG 7496XTS	74	3	75%			
USG 7474XFS	74	1	75%			
Progeny 4604XFS	74	3	88%			
Progeny 4691XFS	74	2	63%			
Don Mario DM48F53	73	1	75%			

MG 5 (5.0 - 5.9)

	REC			CST		
Variety	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 52-D6E3	80	2	100%			

§ 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‖ (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 30.
* 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 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 30.
§ 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) 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¶¶ (1-5) 1 yr	Leaf Holding‖ (1-5) 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 30.
§ 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.

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 P	Conv	53 C	63 D	56 D	54 CD	63 F	45 D	41 C	42 D	58 A
Perdue Agribusiness P	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 30.
§ All yields are adjusted to 13% moisture.

Table 7. Yields of eight Late Maturity Group III (3.6 - 3.9) Roundup Ready / Dicamba tolerant soybean varieties in three County Standard Tests in Tennessee during 2023‡.

MS† Avg. Yield	Variety	Avg. Yield§ (bu/*acre*)	Avg. Moisture (%)	Gibs 5/12	Madi 5/18	Weak 5/17
	Average					

‡ 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, Madison, and Weakley

Table 8. Overall average yields, moistures, and test weights of six 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.

		Avg. of REC and CST Tests			REC Tests			CST Tests		
Variety	Herbicide Pkg[†]	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"
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
Average		**#DIV/0!**	**#DIV/0!**		**#DIV/0!**	**#DIV/0!**		**#DIV/0!**	**#DIV/0!**	

‡ For a full description of abbreviated biotech traits, see table 30.
§ All yields are adjusted to 13% moisture.

Table 9. Yields and disease ratings of eight Maturity Group III Roundup Ready Xtend soybean varieties in three County Standard Tests and in small plot trials at two locations in Tennessee during 2023.

Summary from County Tests			Summary from Small Plot Research						
			On-farm Location		Research & Education Center at Milan (RECM)				Soybean
			Yield (bu/ac)		Yield (bu/ac)		Frogeye	Target	Brown	Cyst
MS	Variety	Avg. Yield (bu/ac)	*Treated	Non-treated	*Treated	Non-treated	leaf spot	spot	spot	Nematode
	Average	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				

Yield adjusted to 13% 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 21, and harvested Oct. 5
RECM varieties planted May 31, sprayed July 27, and harvested Sept. 29

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 were unable to be recorded in 2022.
Disease ratings at RECM: Frogeye leaf spot ranged from 0 - 6%, averaged 2%; Target spot from 0 - 18%, averaged 8%; Brown spot from 8 - 18%, averaged 12%

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, USDA Research Plant Pathologist

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 30.
* 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

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 30.
§ 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)	SDS DI††, T (%)	SDS DS††, T (1-9)	SDS DX††, T (DI x DS/9)	Frogeye‡‡ (1-9)	Seed Quality§§, T (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	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 P41MO21	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 30.
§ 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 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 30.
§ All yields are adjusted to 13% moisture.

Table 12. Yields of 16 Maturity Group IV Early (4.0-4.5) Glyphosate / Dicamba tolerant soybean varieties in eight County Standard Tests in Tennessee during 2023‡.

MS† Avg. Yield	Variety	Avg. Yield§ (bu/*acre*)	Avg. Moisture (%)	Croc 5/2	Gibs 5/12	Hard 6/1	Hend 5/18	Henr 6/20	Laud 5/19	Madi 5/18	Warr 4/28
	Average										

‡ 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, Gibson, Hardin, Henderson, Henry, Lauderdale, Madison, and Warren.

Table 13. Yields of nine Maturity Group IV Early (4.0-4.5) Enlist soybean varieties in six County Standard Tests and one AgResearch and Education Center location in Tennessee during 2023‡.

MS† Avg. Yield	Variety	Avg. Yield§ (bu/*acre*)	Avg. Moisture (%)	Call 6/20	Faye 6/13	Fran 5/9	Henr 5/10	Madi 5/18	Smit 5/12
	Average								

‡ 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, Fayette, Franklin, Henry, Madison, Smith

Table 14. Overall average yields, moistures, and test weights of 12 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.

		Avg. of REC and CST Tests			REC Tests			CST Tests		
Variety	Herbicide Pkg[†]	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"
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
Average		**#DIV/0!**	**#DIV/0!**		**#DIV/0!**	**#DIV/0!**		**#DIV/0!**	**#DIV/0!**	

‡ For a full description of abbreviated biotech traits, see table 30.
§ All yields are adjusted to 13% moisture.

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

Summary from County Tests			Summary from Small Plot Research								
			On-farm Location in Jackson (JAX)				Research & Education Center at Milan (RECM)					Soybean Cyst Nematode
			Yield (bu/ac)		Frogeye	Brown	Yield (bu/ac)		Frogeye	Target	Brown	
MS	Variety	Avg. Yield (bu/ac)	*Treated	Non-treated	leaf spot	spot	*Treated	Non-treated	leaf spot	spot	spot	
	Average	#DIV/0!	#DIV/0!	#DIV/0!			#DIV/0!	#DIV/0!				

Yield adjusted to 13% 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. 2, and harvested Oct. 6
RECM varieties planted May 31, sprayed Aug. 3, and harvested Oct. 14

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 - 16%, averaged 3%; Target spot was not observed; Brown spot from 23 - 43%, averaged 31%
Disease ratings at RECM: Frogeye leaf spot ranged from 0 - 26%, averaged 5%; Target spot from 0 - 15%, averaged 3%; Brown spot from 14 - 30%, averaged 22%

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, USDA Research Plant Pathologist

Table 16. Yields and disease ratings of thirteen Maturity Group IV (4.0-4.9) Enlist tolerant soybean varieties in six to eight County Standard Tests and in small plot trials at two locations in Tennessee during 2023.

Summary from County Tests			Summary from Small Plot Research							
			On-farm Location in Jackson (JAX)				Research & Education Center at Milan (RECM)				Soybean Cyst Nematode
		Avg. Yield	Yield (bu/ac)		Frogeye	Brown	Yield (bu/ac)		Frogeye	Brown	
MS	Variety	(bu/ac)	*Treated	Non-treated	leaf spot	spot	*Treated	Non-treated	leaf spot	spot	
	Average	#DIV/0!	#DIV/0!	#DIV/0!			#DIV/0!	#DIV/0!			

Yield adjusted to 13% 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. 2, and harvested Oct. 6
RECM varieties planted May 31, sprayed Aug. 3, and harvested Oct. 10

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 - 10%, averaged 1%; Target spot was not observed; Brown spot from 24 - 48%, averaged 34%
Disease ratings at RECM: Frogeye leaf spot ranged from 0 - 14%, averaged 2%; Target spot was not observed; Brown spot from 11 - 28%, averaged 20%

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, USDA Research Plant Pathologist

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‖ (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 P4	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 30.
* 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

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 30.
§ 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-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

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
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**

† 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,

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

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 30.
§ 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.

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 30.
§ All yields are adjusted to 13% moisture.

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

MS† Avg. Yield	Variety	Avg. Yield§ (bu/*acre*)	Avg. Moisture (%)	Bent 6/6	Croc 7/30	Dyer 6/17	Gibs 5/12	Henr 6/22	Laud 6/22	Madi 6/23	Mari 4/29	Meig 4/29
	Average											

‡ 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.

Table 20. Yields of four Maturity Group IV Late (4.6-5.2) Enlist soybean varieties in eight County Standard Tests in Tennessee during 2023‡.

MS† Avg. Yield	Variety	Avg. Yield§ (bu/*acre*)	Avg. Moisture (%)	Call 6/20	Faye 6/13	Fran 5/9	Henr 5/10	Laud 5/13	Madi 5/18	Maur 5/11	Smit 5/12
	Average										

‡ 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: Fayette, Henry, Lauderdale, Madison, Maury

Table 21. Overall average yields, moistures, and test weights of 13 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.

		Avg. of REC and CST Tests			REC Tests			CST Tests		
Variety	Herbicide Pkg[†]	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"
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
Average		#DIV/0!	#DIV/0!							

‡ For a full description of abbreviated biotech traits, see table 30.
§ All yields are adjusted to 13% moisture.

Table 22. Yields and disease ratings of nineteen Maturity Group 4 Late (4.6-4.9) Glyphosate / Dicamaba tolerant soybean varieties in nine County Standard Tests and twenty varieties in small plot trials at two 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)					Soybean Cyst Nematode
		Yield	Yield (bu/ac)		Frogeye	Brown	Yield (bu/ac)		Frogeye	Target	Brown	
MS	Variety	(bu/ac)	*Treated	Non-treated	leaf spot	spot	*Treated	Non-treated	leaf spot	spot	spot	
	Average	#DIV/0!	#DIV/0!	#DIV/0!			#DIV/0!	#DIV/0!				

Yield adjusted to 13% 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. 2, and harvested Oct. 7
RECM planted May 31, sprayed Aug. 3, 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 - 21%, averaged 5%; Target spot was not observed; Brown spot from 34 - 56%, averaged 48%
Disease ratings at RECM: Frogeye leaf spot ranged from 0 - 27%, averaged 5%; Target spot from 0 - 1%, averaged 0.1%; Brown spot from 22 - 50%, averaged 33%

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, USDA Research Plant Pathologist

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 30.
* 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

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 30.
§ 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 23-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 30.
§ 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.

Table 24. 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 30.
§ All yields are adjusted to 13% moisture.

Table 25. Yields of nine Maturity Group V Early (5.0-5.5) Glyphosate tolerant soybean varieties in five County Standard Tests in Tennessee during 2023‡.

MS† Avg. Yield	Variety	Avg. Yield§ (bu/*acre*)	Avg. Moisture (%)	Croc 7/30	Fran 5/19	Gibs 5/12	Henr 6/22	Madi 5/18
	Average							

‡ 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: Carroll, Crockett, Dyer, Gibson, Giles, Haywood, Madison, and Tipton.

Table 26. Overall average yields, moistures, and test weights of two 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.

		Avg. of CST and REC Tests			REC Tests			CST Tests		
Variety	Herbicide Pkg[†]	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"
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
		#DIV/0!	#DIV/0!							
Average		**#DIV/0!**	**#DIV/0!**		**#DIV/0!**	**#DIV/0!**		**#DIV/0!**	**#DIV/0!**	

‡ For a full description of abbreviated biotech traits, see table 30.
§ All yields are adjusted to 13% moisture.

Table 27. Yields and disease ratings of nine Maturity Group V Glyphosate tolerant soybean varieties in five County Standard Tests and nine varieties in small plot trials at two locations in Tennessee during 2023

Summary from County Tests			Summary from Small Plot Research								
			On-farm Location in Jackson (JAX)					Research & Education Center at Milan (RECM)				Soybean Cyst Nematode
			Yield (bu/ac)		Frogeye	Target	Brown	Yield (bu/ac)		Frogeye	Brown	
MS	Variety	Avg. Yield (bu/ac)	*Treated	Non-treated	leaf spot	spot	spot	*Treated	Non-treated	leaf spot	spot	
	Average	#DIV/0!	#DIV/0!	#DIV/0!				#DIV/0!	#DIV/0!			

Yield adjusted to 13% 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. 12, and harvested Oct. 7
RECM varieties planted May 31, sprayed Aug. 12, 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 2 locations
County data provided by Ryan Blair, Ext. Area Specialist, and County Extension agents
Soybean Cyst Nematode data provided by Dr. Lesley Schumacher, USDA Research Plant Pathologist

Table 28. 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
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	unkno	unknown	tbd
USG 7394XFS	3.9	XFS	HR3, MS14	MR	MR	Ipconazole, Metalaxyl, Imidicloprid
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 29. 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 30. 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