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.