

# 2023 Kentucky Soybean VARIETY PERFORMANCE TRIALS

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The Kentucky Soybean Variety Performance Trials are conducted to provide an unbiased and objective estimate of the relative performance of soybean varieties commercially available in Kentucky. Annual evaluation of soybean varieties provides farmers, seed producers, and other agricultural workers with current information to help them select the varieties best adapted to their locality and individual requirements.

In 2023, 135 soybean varieties were planted in eight trials at six test locations. Trial locations and planting and harvest dates are shown in Table 1.

## Tables

Table 1. Trial location information
Table 2. Source of Seed and Variety Specifications
Table 3. Test site information
<b>Performance Trial Results:</b>
Table 4. State Summary – Early Maturity Group (MG 2.7 – 3.9)
Table 5. State Summary – Medium Maturity Group (MG 4.0 – 4.6)
Table 6. State Summary – Late Maturity Group (MG 4.7 – 5.1)

## Methods

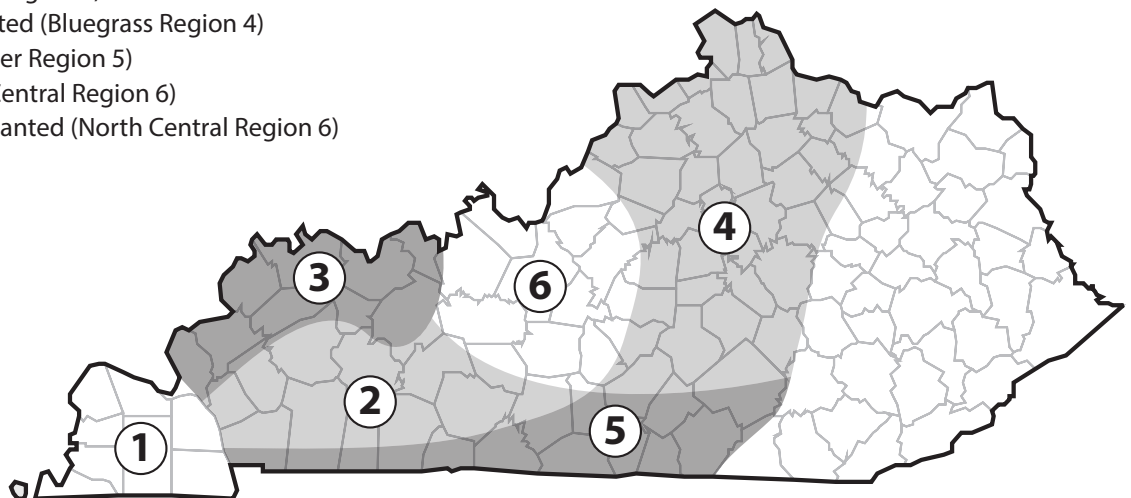
All trials were planted in a randomized complete block design by maturity class with a no-till plot planter (Haldrup SNT-25, 6-rows – Haldrup USA). The trials (Tables 4-6) had three replications (plots) for each variety. The individual plots were 20 feet long and six rows wide with 15 inches between rows. Four to five viable seeds per foot of row were planted at a depth of approximately 1.5 inch. All test sites were treated with fertilizers, lime, and herbicides before planting following current IPM and fertilizer/lime recommendations (UKID-249: *A Comprehensive Guide to Soybean Management in Kentucky*). Seed source and varietal information are located in Table 2. Companies nominated their varieties and could choose to treat their seed with fungicides, insecticides, nematicides, beneficial organisms, and/or germination/growth/systemic acquired resistance enhancers (Table 2). The plots were maintained as weed-free as possible during the growing season. All plots were mechanically end-trimmed during the early vegetative stages (V1 to V3) to a length of 15.5 feet.

Harvesting was done with a research plot combine (Wintersteiger Delta plot combine – Wintersteiger, USA) according to maturity. The four center rows of each plot were harvested.

**Figure 1. 2023 Kentucky Soybean Variety Performance Trials test sites.**

1. Calloway County (Purchase Region 1)
2. Caldwell County (West Coalfield Region 2)
3. Daviess County (Ohio Valley Region 3)
4. Fayette County (Bluegrass Region 4)
5. Fayette County – Late Planted (Bluegrass Region 4)
6. Logan County (Southern Tier Region 5)
7. Woodford County (North Central Region 6)
8. Woodford County – Late Planted (North Central Region 6)

*Agroclimatic regions*



**Yield** is reported in bushels (60 pounds) per acre adjusted to 13% moisture. An electronic weight and moisture monitor (HarvestMaster HM800 GrainGage system, Juniper Systems, Inc., USA) located on the combine was used to record weight and moisture readings for each plot. Data were collected with a field PC using Mirus software (Mirus Harvest Software, Juniper Systems, Inc., USA), and analyzed with Agrobase GEN II statistical software (Agronomix Software Inc., Canada).

**Lodging** was recorded at harvest at all test sites. Lodging was rated on a scale of 1 to 5, where 1 = all plants erect; 2 = all plants over slightly or a few down; 3 = all plants over moderately or 25% down; 4 = all plants over considerably or 50% down; 5 = over 50% to all plants down.

**Maturity date.** Maturity dates were recorded at the Fayette County location. A variety was considered mature when 99% of the pods had turned their normal mature color.

**Plant height** was measured in inches from the soil surface to the tip of the main stem. Plant height was recorded at the Fayette County location, just prior to harvest.

**Seed samples. Protein, oil – whole seed.** Varietal protein and oil concentrations are reported on the basis of 13% moisture. The samples were collected from 3 replicated plots at the Fayette Co. location and were analyzed with a NIR spectrophotometer (DA 7250, Perten Instruments, Sweden).

### *Interpretation*

Performance of soybean varieties is affected by many factors, including year, location, soil type, and time of planting. A particular soybean variety is adapted for full-season growth in a band approximately 100 miles wide from north to south. Thus, the best variety in Northern Kentucky may not be best adapted for southern areas. For this reason, the Kentucky Soybean Variety Performance Trials are conducted at multiple locations in the major soybean-producing areas of the state. The yields as reported in this publication should be used for relative comparisons; actual yields on a grower's farm may be different.

Performance of soybean varieties will vary from year to year and from location to location depending on adaptability, weather conditions, and management practices. Performance of a variety across multiple years and locations is the best indicator of its production potential. The data presented in Tables 4-6 list the yields from the Early, Medium, and Late Maturity trials for each location and the average across locations and years. The average state summary results provide the best estimate of varietal performance. To factor in local environmental factors, growers may also use the average state results in conjunction with data from individual regional trial locations. The state summary data is also recommended for selecting varieties in double-crop systems. Better yielding full-season varieties tend to be better in a double-crop system. The full-season environment that maximizes yield is a better indicator of performance than late-planted soybeans that have reduced yields. This year, two late planted trials were conducted at the Fayette and Woodford locations. This was done to re-evaluate the performance relationship between full season and late planted (double-crop environment) soybeans among modern varieties.

Small differences in yield are usually of little importance. The yield of two varieties at a single location can differ because of chance factors (difference in soil characteristics, fertility, or availability of moisture), although the inherent yielding ability is the same. To decide if an observed yield difference is real, the least significant difference (LSD) values cited at the bottom of each maturity group should be used. The significance level in tables 4-6 is 0.10. If the difference in yield between two varieties is greater than the LSD value, it is reasonable to assume that the varieties differ in yield potential.

Yield is only one factor to consider in selecting a variety for a production system. Secondary characteristics, such as oil and protein content, technology traits, date of maturity, lodging resistance, and disease resistance may also be important components in making variety selection decisions.

In cases of known soybean cyst nematode (SCN) problems, a resistant variety should be used in the production system with a recommended crop rotation program. Planting resistant varieties should be considered as the number of acres affected by SCN in Kentucky has increased. SCN occurs in at least 51 western Kentucky counties. Low levels of SCN show few or no visible symptoms but can cause yield losses of up to 25%. Fields should be tested for SCN regularly. Producers should contact their local University of Kentucky county Extension office for more information on collecting and submitting samples.

### *Growing Conditions – 2023*

Kentucky experienced slightly above normal temperatures and below normal precipitation in April. May had slightly cooler temperatures and continued lower levels of precipitation. June had below normal temperatures and dryer conditions until later in the month which had increased precipitation. The month of July had continued lower than normal temperatures and above average precipitation. August had continued lower than average temperatures until the last week of the month, which was warmer and wetter than normal. September had below average temperatures and precipitation. October was dry and cooler, which favored timely harvest of soybeans. Most soybean varieties matured and dried down quickly and were harvest ready earlier than normal. Detailed weather data for all test locations are presented in Table 3.

## **Kentucky Soybean Production Information**

As of October 12, 2023, soybean production for Kentucky was forecast at 97 million bushels, down slightly from 2022. Yield was estimated at 54 bushels per acre, up 3.0 bushels from a year ago. Acreage for harvest as beans was estimated at 1.79 million acres, down 150,000 acres from the previous year. (Source: October Crop Production, Kentucky – News Release USDA, NASS, Kentucky Field Office, October 12, 2023).

## Acknowledgments

In addition to the collaborators mentioned in Table 1, the authors also would like to thank:

- The Kentucky Soybean Promotion Board for funding the Kentucky Soybean Variety Performance Test program's projects.
- Seed nominators for their continuous support and interest in the Kentucky soybean variety performance trials.
- The University of Kentucky Soybean Science Group, Dale Peck, Jason Strode, the Halcomb family, Simon Szprejda, the UKREC, Woodford and Spindletop farm crews, Megan Taylor, Jason Robertson, and the Murray State farm crew.

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**Table 1. Locations, planting and harvest dates for the 2023 Kentucky Soybean Variety Performance Tests**

REGION		TEST SITE	COLLABORATORS	PLANTING DATES	HARVEST DATES
1	<b>Purchase</b>	Calloway County	Dr. Megan Taylor, Murray State University	5/1/2023	Early: 9/24/23; Medium: 9/27/23; Late: 10/10/23
2	<b>West Coalfield</b>	Caldwell County	Scott Peek and Bobby Orange, University of Kentucky Research and Education Center	4/19/2023	Early: 9/25/03; Medium: 9/25/23; Late: 10/10/23
3	<b>Ohio Valley</b>	Daviess County	Jason Strode, farmer-cooperator	4/26/2023	Early: 10/3/23; Medium: 10/4/23; Late: 10/4/23
4	<b>Bluegrass</b>	Fayette County	Matt Peake, University of Kentucky Spindletop Research Farm	5/4/2023	Early: 10/2/23; Medium: 10/5/23; Late: 10/11/23
		Fayette County - Late Planted		6/17/2023	Early: 10/11/23; Medium: 10/25/23; Late: 10/26/23
5	<b>Southern Tier</b>	Logan County	Sam Halcomb and family, farmer-cooperator	4/20/2023	Early: 9/26/23; Medium: 9/26/23; Late: 10/9/23
6	<b>North Central</b>	Woodford County	Shannon Rudd, University of Kentucky Woodford Research Farm	5/5/2023	Early: 10/1/23; Medium: 10/1/23; Late: 10/11/23
		Woodford County - Late Planted		6/18/2023	Early: 10/10/23; Medium: 10/26/23; Late: 10/25/23

**Table 2. 2023 Kentucky Soybean Variety Trials - Source of Seed and Variety Specifications.<sup>A</sup>**

VARIETY NAME	Maturity Group	Herbicide Technologies <sup>B</sup>	Disease Resistance Traits <sup>C</sup>				Other <sup>C,E</sup>	Seed treatment(s)
			Soybean Cyst Nematode resistance	Phytophthora soja <sup>D</sup>		Sudden death syndrome		
				Resistance gene	Field tolerance			
AgriGold - agrigold.com								
AGRIGOLD G3957E3	3.9	E3	PI88788	1k	MR	MR		AgriShield Max, Saltro
AGRIGOLD G4094XF	4.0	XF	PI88788	1a	MR	MR		AgriShield Max, Saltro
AGRIGOLD G4051E3	4.0	E3	PI88788	1c	MS	MS		AgriShield Max, Saltro
AGRIGOLD G4393E3	4.3	E3	PI88788	1k	MR	MR		AgriShield Max, Saltro
BASF - Xiatavosoybeanseed.com								
XO 3803E	3.8	Enlist E3	3, 14	1c	MR	MS		ObviousPlus, Poncho, Votivo, Ilevo
XO 3922E	3.9	Enlist E3	3, 14	1k	MR	MS		ObviousPlus, Poncho, Votivo, Ilevo
XO 4084E	4.0	Enlist E3	3, 14	1c	MR	MS		ObviousPlus, Poncho, Votivo, Ilevo
XO 4132E	4.1	Enlist E3	3, 14	No gene	MR	MR		ObviousPlus, Poncho, Votivo, Ilevo
XO 4364E	4.3	Enlist E3	3, 14	1k	MR	MR		ObviousPlus, Poncho, Votivo, Ilevo
XO 4522E	4.5	Enlist E3	3, 14	No gene	MR	MR		ObviousPlus, Poncho, Votivo, Ilevo
XO 4653E	4.6	Enlist E3	3, 14	No gene	MR	MR		ObviousPlus, Poncho, Votivo, Ilevo
XO 4894E	4.8	Enlist E3	3, 14	1c	MR	MR		ObviousPlus, Poncho, Votivo, Ilevo
Bayer Asgrow - cropscience.bayer.com								
ASGROW AG27XF3	2.7	XF	R3	1c	5	S		Acceleron F&I
ASGROW AG30XF2	3.0	XF	R3	1c	5	MR		Acceleron F&I
ASGROW AG30XF4	3.0	XF	R3	1c	4	MR		Acceleron F&I
ASGROW AG33XF3	3.3	XF	R3	1c	5	MR		Acceleron F&I
ASGROW AG35XF1	3.5	XF	R3	1c	4	MR		Acceleron F&I
ASGROW AG38XF3	3.8	XF	R3	1c	5	MS		Acceleron F&I
ASGROW AG40XF1	4.0	XF/SR	R3	1c	5	MS		Acceleron F&I
ASGROW AG40XF4	4.0	XF	R3	Susc	5	MS		Acceleron F&I
ASGROW AG42XF4	4.2	XF	R3	1c	5	MR		Acceleron F&I
ASGROW AG43XF2	4.3	XF	R3	1a	4	MR		Acceleron F&I
ASGROW AG44XF4	4.4	XF/SR	R3	1a	4	MR		Acceleron F&I
ASGROW AG45XF3	4.5	XF/SR	R3	1c	5	MR		Acceleron F&I
ASGROW AG46XF3	4.7	XF/SR	R3	1c	5	MR		Acceleron F&I
ASGROW AG48XF3	4.8	XF/SR	R3	1c	5	MR		Acceleron F&I
ASGROW AG49XF3	4.9	XF	R3	1c	5	MR		Acceleron F&I
ASGROW AG49XF4	4.9	XF/SR	R3	Susc	6	S		Acceleron F&I
Channel Seed - channel.com								
CHANNEL 3823RFX	3.8	XTFlex	R	Rps1c	5	4		Acceleron F&I + Ilevo
CHANNEL 3924RFX	3.9	XTFlex	R	Rps1c	6	4		Acceleron F&I + Ilevo
CHANNEL 4023RFX	4.0	XTFlex	R	Rps1c	5	4		Acceleron F&I + Ilevo
Dyna-Gro Seed - nutrienagsolutions.com								
Dyna-Gro S38XF22S	3.8	XTFlex/STS	MR3	1a	MT	MR	FLS - MR	Equity VIP, Saltro, Vayantis
Dyna-Gro S40EN54	4.0	Enlist E3	R3, MR14	Rps1c	MT	MR	FLS - MR	Equity VIP, Saltro, Vayantis
Dyna-Gro S41EN72	4.1	Enlist E3	R3, MR14	None	MT	MR-MS	FLS - MR	Equity VIP, Saltro, Vayantis
Dyna-Gro S45XF02	4.5	XTFlex	MR3	1k	MT	MR	FLS - MR	Equity VIP, Saltro, Vayantis
Dyna-Gro S47XF23S	4.7	XTFlex/STS	R3	1c	MT	MR-MS	FLS - MS	Equity VIP, Saltro, Vayantis
Dyna-Gro S48EN73	4.8	Enlist E3	R3	None	MT	MR-MS	FLS - MS	Equity VIP, Saltro, Vayantis
Dyna-Gro S49XF43S	4.9	XTFlex/STS	MR3	Rps 1k	T	MS	FLS - R	Equity VIP, Saltro, Vayantis

*continued*

**Table 2. (continued)**

VARIETY NAME	Maturity Group	Herbicide Technologies <sup>B</sup>	Disease Resistance Traits <sup>C</sup>				Other <sup>C,E</sup>	Seed treatment(s)
			Soybean Cyst Nematode resistance	Phytophthora soja <sup>D</sup>		Sudden death syndrome		
				Resistance gene	Field tolerance			
GDM Seeds - gdmseeds.com								
GDM V4921S	4.9	CONV	None	Rps 1k	T	MR		Cruiser Maxx, Vibrance
Golden Harvest - goldenharvestseeds.com								
Golden Harvest GH3994E3	3.9	E3	MR3, MR14	Rps 1c	3	3	FLS -2	Cruiser Maxx APX, Saltro
Golden Harvest GH4093E3	4.0	E3	MR3, MR14	Rps 1c	3	3	FLS -4	Cruiser Maxx APX, Saltro
Golden Harvest GH4214E3S	4.2	E3/STS	MR3	Rps 1c	2	2	FLS-2	Cruiser Maxx APX, Saltro
Golden Harvest GH4222XF	4.2	XTFlex	MR3		3	2	FLS-4	Cruiser Maxx APX, Saltro
Golden Harvest GH4433E3S	4.4	E3/STS	MR3, MR14	Rps 1c	MT	MT	FLS - T	Cruiser Maxx APX, Saltro
Golden Harvest GH4663XFS	4.6	XTFlex/STS	R3	Rps 1k	3	5	FLS-4	Cruiser Maxx APX, Saltro
Great Heart Seed - greatheartseed.com								
GT-4320ES	4.3	Enlist/STS	MR3, MR14	Rps 1k	MR	MR		Great Start Max Plus
GT-4366XFS	4.3	XTFlex/STS	MR3, MR14	Rps 1c	M	MR		Great Start Max Plus
GROWMARK, INC - FS HiSoy Soybean Brand - growmarkfs.com								
HS 32E30	3.2	E3/Enlist	PI88788	1k	MT	MR		Acceleron I&F, Saltro
HS 35E10	3.5	E3/Enlist	PI88788	None	MT	MT	STEM CANCKER - R	Acceleron I&F, Saltro
HS 38F20	3.8	XTFlex	PI88788	None	MT	MR	STEM CANCKER - R	Acceleron I&F, Saltro
HS 39F30	3.9	XTFlex	PI88788	1c	MT	MT		Acceleron I&F, Saltro
HS 40E30	4.0	E3/Enlist	PI88788	1c	MT	MR		Acceleron I&F, Saltro
HS 41E20	4.1	E3/Enlist	PI88788	None	MT	MR	STEM CANCKER - R	Acceleron I&F, Saltro
HS 42E10	4.2	E3/Enlist	PI88788	None	MT	MT	STEM CANCKER - R	Acceleron I&F, Saltro
HS 44F30	4.4	XTFlex	PI88788	1k	MT	MT		Acceleron I&F, Saltro
HS 47E30	4.7	E3/Enlist	PI88788	None	MT	MT		Acceleron I&F, Saltro
HS 48E10	4.8	E3/Enlist	PI88788	None	MT	MT		Acceleron I&F, Saltro
HS 48F30	4.8	XTFlex	PI88788	None	MT	MT		Acceleron I&F, Saltro
Innkvictis Seed Solutions - www.innkvictisseed.com								
Innkvictis A3992XF	3.9	XTFlex	PI88788	Rps 1c	MR	R	IDC, FLS, BSR	Fungicide/Insecticide
Innkvictis A4103XF	4.1	XTFlex	PI88788	Rps 1c	R	R	SC-R	Fungicide/Insecticide
Innkvictis A4503XF	4.5	XTFlex	PI88788	Rps 1k	MR	MT	IDC, FLS, BSR	Fungicide/Insecticide
Innkvictis B4603E	4.6	Enlist E3	PI88788	Rps 1k	R	R	FLS, SC_R	Fungicide/Insecticide
Innkvictis A4862XF	4.8	XTFlex	PI88788	None	R	MR	IDC, FLS, BSR, SC-R	Fungicide/Insecticide
Innkvictis A5003XF	5.0	XTFlex	PI88788	Rps 1k	R	R	FLS, SC_R	Fungicide/Insecticide
Revere Seed - RevereSeed.com								
Innotech 3750E3S	3.7	E3/STS	R3 + MR14	Rps 1k	2	MR		Radius Premium
Revere 3908XFS	3.9	XTFlex/STS	MR3	MR3		MT		Radius Premium
Innotech 3961E3S	3.9	E3/STS						Radius Premium
Revere 4237XFS	4.2	Xtend/STS						Radius Premium
Innotech 4233E3S	4.2	E3/STS						Radius Premium
Revere 4299XS	4.2	Xtend/STS	R3 + MR14	Rps 1c	3	MR		Radius Premium
Innotech 4545E3S	4.5	E3/STS						Radius Premium
Revere 4526XFS	4.5	XTFlex/STS	R3 + MR14	Rps 1c	4	MT		Radius Premium
Revere 4795XS	4.7	Xtend/STS	R3 + MR14	Rps 1c	2	MR		Radius Premium
Revere 4826XF	4.8	XTFlex	R3 + MR14	Rps 1c	2	MT		Radius Premium
Innotech 4983E3S	4.9	E3/STS						Radius Premium

continued

**Table 2. (continued)**

VARIETY NAME	Maturity Group	Herbicide Technologies <sup>B</sup>	Disease Resistance Traits <sup>C</sup>				Other <sup>C,E</sup>	Seed treatment(s)
			Soybean Cyst Nematode resistance	Phytophthora soja <sup>D</sup>		Sudden death syndrome		
				Resistance gene	Field tolerance			
Revere 5029XF	5.0	XTFlex	R3 + MR14	Rps 1c	3	MT	Radius Premium	
Innotech 5143E3	5.1	E3					Radius Premium	
NuTech Seed - nutechseed.com								
NuTech 33N04E	3.3	E3	PI88788	1k	MT	MR	Luminesa, Gaucho, llevo	
NuTech 34N02E	3.4	E3	PEKING	1k	MT	MR	Luminesa, Gaucho, llevo	
NuTech 36N04E	3.6	E3	PI88788	1a	MT	MR	Luminesa, Gaucho, llevo	
NuTech 37N03E	3.7	E3	PI88788	1k	MT	MR	Luminesa, Gaucho, llevo	
NuTech 39N07E	3.9	E3	PI88788	1k	MT	MR	Luminesa, Gaucho, llevo	
NuTech 42N05E	4.2	E3	PI88788	1c	MT	MR	Luminesa, Gaucho, llevo	
NuTech 45N09E	4.5	E3	PI88788		MT	MR	Luminesa, Gaucho, llevo	
NuTech 47N04E	4.7	E3	PI88788		MT	MR	Luminesa, Gaucho, llevo	
Partners Brand Seed - partnersbrandseed.com								
PB 3323 E3 S	3.3	E3, STS	PI88788	Rps 1k	MR	MR	Alert 3030, Nvincible	
PB 3923 E3 S	3.9	E3, STS	R3, MR14	Rps 1k	MR	MR	Alert 3030, Nvincible	
PB 4124 E3 S	4.1	E3, STS	R3, MR14	Rps 1c	MR	MR	Alert 3030, Nvincible	
PB 4424 E3 S	4.4	E3, STS	R3, MR14	Rps 1k	MR	MR	Alert 3030, Nvincible	
Perdue Agribusiness, LLC - perdueagribusiness.com								
P38MOO23	3.8	CONV					Fungicide & Insecticide	
P41ILO21	4.1	CONV					Fungicide & Insecticide	
P41IMO21	4.1	CONV					Fungicide & Insecticide	
P45XP421	4.5	CONV					Fungicide & Insecticide	
P48MO21	4.8	CONV					Fungicide & Insecticide	
Pioneer Hi-Bred International, Inc. - pioneer.com								
PIONEER P37A18E	3.7	Enlist E3	PI88788	1k	MT	T	LUMIGEN	
PIONEER P40A23E	4.0	Enlist E3	PI88788		MT	T	LUMIGEN	
PIONEER P42A84E	4.2	Enlist E3	PI88788		MT	T	STEM CANKER - R LUMIGEN	
PIONEER P45A79E	4.5	Enlist E3	PI88788		T	MT	STEM CANKER - R LUMIGEN	
PIONEER P46A09E	4.6	Enlist E3	PI88788	1c	T	T	LUMIGEN	
PIONEER P48A14E	4.8	Enlist E3	PI88788		MT	T	STEM CANKER - R LUMIGEN	
Stewart Seeds - stewartseeds.com								
STEWART 3843XF	3.8	XTFlex	PI88788	Rps1c	MR	MR	Acceleron Standard	
STEWART 3954XF	3.9	XTFlex	PI88788	Rps1c	MS	MR	Acceleron Standard	
STEWART 4053XF	4.0	XTFlex	PI88788	Rps1c	MR	MR	Acceleron Standard	
STEWART 4353XF	4.3	XTFlex	PI88788	Rps1c	MR	MR	Acceleron Standard	
STEWART 4533XF	4.5	XTFlex	PI88788	Rps1c	MR	MR	Acceleron Standard	
STEWART 4834XF	4.8	XTFlex	PI88788	Susc	MS	MS	Acceleron Standard	
Stine Seed Company - stinseed.com								
STINE 38EF32	3.8	E3	R			MR	Saltro, Fortress200	
STINE 39EC22	3.9	E3	R		T/MT	MR	Saltro, Fortress200	
STINE 39EF32	3.9	E3, STS	R		MT		SC-R Saltro, Fortress200	
STINE 40FB23	4.0						Saltro, Fortress200	
STINE 41EB32	4.1	E3	R		T	MR	Saltro, Fortress200	
STINE 41EE62	4.1	E3	R		T/MT	MR	Saltro, Fortress200	

continued

**Table 2. (continued)**

VARIETY NAME	Maturity Group	Herbicide Technologies <sup>B</sup>	Disease Resistance Traits <sup>C</sup>				Other <sup>C,E</sup>	Seed treatment(s)
			Soybean Cyst Nematode resistance	Phytophthora soja <sup>D</sup>		Sudden death syndrome		
				Resistance gene	Field tolerance			
STINE 44EE20	4.4	E3, STS	R		MT		Saltro, Fortress200	
STINE 46FD29	4.6	XTFlex	R			MR	Saltro, Fortress200	
STINE 46EG92	4.6	E3	R			MR	Saltro, Fortress200	
STINE 46EE20	4.6	E3	R		T	MR	Saltro, Fortress200	
STINE 47EE02	4.7	E3	R		T	MR	Saltro, Fortress200	
STINE 48EE20	4.8	E3	R		T	MR	Saltro, Fortress200	
STINE 49EE21	4.9	E3	R			MR	Saltro, Fortress200	
STINE 50EE12	5.0	E3	R		T	MR	Saltro, Fortress200	
UniSouth Genetics, Inc. - usgseed.com								
USG 7392XFS	3.9	XTFlex/STS	(H)PI88.788		MR	MR	SC-R	Metalaxyl, Imidacloprid, Ipconazole
USG 7434XF	4.3	XTFlex	PI88.788	Rps1k	MR	MR	SC-R	Metalaxyl, Imidacloprid, Ipconazole
USG 7461XFS	4.6	XTFlex/STS	PI88.788	Rps1c	MS	MR	SC-R	Metalaxyl, Imidacloprid, Ipconazole
USG 7463XF	4.6	XTFlex	None	Rps1c	MR	MR	FE-R, SC-R	Metalaxyl, Imidacloprid, Ipconazole
USG 7474XFS	4.7	XTFlex/STS	PI88.788	Rps1c	MR	MR	SC-R	Metalaxyl, Imidacloprid, Ipconazole
University of Kentucky								
ESSEX (check)	5.0	CONV-PUB						none
PENNYRILE (check)	4.7	CONV-PUB						none
University of Missouri								
MO S19-10701C	4.5	Conv	R3, MR14			R	RK1, Reniform, BSR, CLB, CRT, Excluder	Warden RTA
MO S17-17644C	4.8	Conv	1, 3, 14			R	RK1, SC, Reniform, Excluder	Warden RTA
MO S18-6328C	4.7	Conv	1, 3, 14	Rps1c	R	R	Reniform, SC, Excluder	Warden RTA
Winfield United - www.winfieldunited.com								
ARMOR 39-F73	3.9	XTFlex	MR3, MR14	Rps1c/NG	M	MR	FLS - MR	Warden CXII
ARMOR 43-E70	4.3	Enlist/E3	PI88.788	NG	M	R	FLS - MR	Warden CXII
ARMOR 45-F65	4.5	XTFlex/STS	MR3, MR14	Rps 1K	M	MR		Warden CXII
ARMOR 45-E73	4.5	Enlist/E3/STS	PI88.788	NG	M	MR		Warden CXII
ARMOR 49-E72	4.9	Enlist/E3/STS	PI88.788	NG	M	M		Warden CXII

<sup>A</sup> This information is provided by the seed nominators and has not been verified by the soybean variety performance test program

<sup>B</sup> CONV: conventional soybean variety; Xtend/X/XT: dicamba-tolerant soybean variety; E3/Enlist: variety tolerant to Enlist Duo™ herbicide; PUB: Public release variety; RR2: second generation Roundup Ready 2 Yield soybean variety (introduced in 2009) ; SR/STS: sulfonyleurea-tolerant soybean variety; XF/XTFlex/Xtend Flex: variety tolerant to dicamba, glyphosate and glufosinate herbicides

<sup>C</sup> S: susceptible; MS: moderately susceptible; MT: moderately tolerant; T: tolerant; MR: moderately resistant; R: resistant ; blank space: no information provided or information unknown

<sup>D</sup> All races of Phytophthora sojae identified so far in Kentucky can be controlled with varieties in the Rps 1c or 1k. Race-specific resistance is highly effective but requires a proper match between pathogen race and soybean variety. Field tolerance is a lower level of protection that will provide good control against all races. Seed and young seedlings of tolerant soybean varieties must be protected with a fungicide since field tolerance develops after early seedling growth stages.

<sup>E</sup> FLS: Frogeye Leaf Spot, RKN: Root Knot Nematode, SC-R: Stem Canker resistant.

**Table 3. Agronomic Test Site Information for Eight Trials.**

<b>Location</b>	Daviess County	Calloway County	Fayette County	Fayette County - Late	
<b>Region</b>	Ohio Valley	Purchase	Bluegrass	Bluegrass	
<b>GPS coordinates</b>	37.923817, -87.459490	36.612147, -88.347852	38.123240, -84.490605	38.123240, -84.490605	
<b>Ag. practice</b>	Minimal tillage	No-till	No-till	No-till	
<b>Previous crop</b>	Corn	Corn / wheat cover	Corn	Corn	
<b>Planting date</b>	4/26/2023	5/1/2023	5/4/2023	6/17/2023	
<b>SCN (eggs/cup of soil, 250 cm<sup>3</sup>)</b>	16	144	144	144	
<b>Precipitation (in) &amp; Temperature °F (Average - Max/Min)</b>	<b>April</b>	2.3 (56.6 - 85.6/32.2)	2.9 (57.5 - 85.3/33.1)	2.3 (55.5 - 83.7/32.7)	2.3 (55.5 - 83.7/32.7)
	<b>May</b>	2.6 (66.8 - 87.5/39.9)	2.1 (67.3 - 87.2/40.0)	3.2 (63.5 - 82.6/38.4)	3.2 (63.5 - 82.6/38.4)
	<b>June</b>	4.2 (71.4 - 92.8/48.8)	3.3 (73.7 - 96.2/49.8)	6.6 (70.0 - 88.2/50.4)	6.6 (70.0 - 88.2/50.4)
	<b>July</b>	2.6 (76.3 - 93.4/57.4)	10.7 (77.9 - 92.7/58.7)	5.8 (76.0 - 91.7/59.3)	5.8 (76.0 - 91.7/59.3)
	<b>August</b>	7.5 (74.7 - 97.6/55.7)	10.0 (76.1 - 95.0/56.4)	2.7 (74.2 - 94.6/55.0)	2.7 (74.2 - 94.6/55.0)
	<b>September</b>	0.5 (70.2 - 90.8/46.0)	1.2 (71.4 - 89.5/51.9)	0.8 (69.9 - 90.9/51.9)	0.8 (69.9 - 90.9/51.9)
<b>Soil Properties:</b>					
<b>Soil color (field observations)</b>	brown	brown	black	black	
<b>Soil type (USDA soil survey)</b>	Belknap silt loam	Grenada silt loam	Lanton silty clay loam	Lanton silty clay loam	
<b>Slope (USDA soil survey)</b>	0 to 2 %	0 to 2%	0 to 2 %	0 to 2 %	
<b>Soil texture</b>	silt loam	silt loam	silt loam	silt loam	
<b>Sand (%)</b>	14.4	6.0	8.2	8.2	
<b>Silt (%)</b>	62.9	78.2	69.4	69.4	
<b>Clay (%)</b>	22.7	15.7	22.1	22.1	
<b>CEC (meq/100g)</b>	11.7	8.2	20.0	20.0	
<b>K (meq/100g)</b>	0.5	0.4	0.5	0.5	
<b>Ca (meq/100g)</b>	11.6	6.4	18.0	18.0	
<b>Mg (meq/100g)</b>	3.6	0.6	1.6	1.6	
<b>Soil water pH</b>	7.1	5.2	5.8	5.8	
<b>Fertility:</b>					
<b>Macronutrients (lbs/ac)</b>					
<b>P</b>	83	169	304	304	
<b>K</b>	321	306	335	335	
<b>Ca</b>	4450	2481	6442	6442	
<b>Mg</b>	917	140	387	387	
<b>Zn</b>	38.2	7.5	6.0	6.0	
<b>B</b>	1.0	0.9	0.9	0.9	
<b>Mn</b>	472	580	60	60	
<b>C &amp; N</b>					
<b>Soil Organic Matter (%)</b>	3.1	1.7	4.0	4.0	
<b>Total_N (%)</b>	0.1	0.1	0.2	0.2	

*continued*



**Table 3. (continued)**

<b>Location</b>	Caldwell County	Logan County	Woodford County	Woodford Co. - Late
<b>Region</b>	West Coalfield	Southern Tier	North Central	North Central
<b>GPS coordinates</b>	37.096296, -87.866190	36.688695, -86.867138	38.072850, -84.739607	38.072850, -84.739607
<b>Ag. practice</b>	No-till	No-till	Minimal tillage	Minimal tillage
<b>Previous crop</b>	Corn / wheat cover	Double-crop Soybean	Sorghum	Sorghum
<b>Planting date</b>	4/19/2023	4/20/2023	5/5/2023	6/18/2023
<b>SCN (eggs/cup of soil, 250 cm<sup>3</sup>)</b>	32	0	64	64
<b>Precipitation (in) &amp; Temperature °F (Average - Max/Min)</b>	<b>April</b>	2.1 (56.9 - 84.2/31.7)	2.3 (56.6 - 84.8/29.8)	2.3 (55.5 - 83.7/32.7)
	<b>May</b>	4.5 (66.5 - 86.3/38.0)	7.8 (65.4 - 84.5/36.9)	3.2 (63.5 - 82.6/38.4)
	<b>June</b>	1.6 (72.2 - 94.8/47.8)	4.5 (71.8 - 95.3/48.8)	6.6 (70.0 - 88.2/50.4)
	<b>July</b>	11.2 (76.9 - 91.7/57.5)	3.8 (77.2 - 94.1/57.5)	5.8 (76.0 - 91.7/59.3)
	<b>August</b>	8.9 (75.1 - 94.5/55.1)	6.7 (74.9 - 94.8/55.8)	2.7 (74.2 - 94.6/55.0)
	<b>September</b>	2.8 (70.5 - 89.3/49.3)	2.9 (69.9 - 89.0/48.1)	0.8 (69.9 - 90.9/51.9)
<b>Soil Properties:</b>				
<b>Soil color (field observations)</b>	brown red	brown red	dark brown	dark brown
<b>Soil type (USDA soil survey)</b>	Crider silt loam	Loring silt loam	Lanton silt loam	Lanton silt loam
<b>Slope (USDA soil survey)</b>	2 to 6 %	0 to 2%	0 to 2%	0 to 2%
<b>Soil texture</b>	silt loam	silt loam	silt loam	silt loam
<b>Sand (%)</b>	4.0	6.5	10.1	10.1
<b>Silt (%)</b>	75.7	74.3	73.0	73.0
<b>Clay (%)</b>	20.4	19.2	16.9	16.9
<b>CEC (meq/100g)</b>	9.4	8.3	11.5	11.5
<b>K (meq/100g)</b>	0.4	0.3	0.4	0.4
<b>Ca (meq/100g)</b>	8.8	6.6	12.2	12.2
<b>Mg (meq/100g)</b>	0.8	0.9	2.8	2.8
<b>Soil water pH</b>	6.0	5.5	6.8	6.8
<b>Fertility:</b>				
<b>Macronutrients (lbs/ac)</b>				
<b>P</b>	64	45	231	231
<b>K</b>	258	210	250	250
<b>Ca</b>	3297	2526	4382	4382
<b>Mg</b>	189	211	634	634
<b>Zn</b>	3.2	5.7	3.6	3.6
<b>B</b>	0.6	0.8	0.6	0.6
<b>Mn</b>	434	678	316	316
<b>C &amp; N</b>				
<b>Soil Organic Matter (%)</b>	2.7	2.5	2.6	2.6
<b>Total_N (%)</b>	0.1	0.2	0.2	0.2

**Table 4. 2023 Kentucky Soybean Variety Trial - Early Maturity (MG 2.7 - 3.9).**

Variety	MG	Herbicide Technologies	State Average*		Daviess	Logan	Calloway	Caldwell	Woodford	Fayette	Late Planted		Protein	Oil	Height	Maturity Date	Lodging*
			2023	2022-23							Woodford	Fayette					
			Yield (bu/a)														
NuTech 37N03E	3.7	E3	87.3		92.3	82.8	90.3	94.6	84.3	79.2	63.9	52.7	37.8	22.9	37	20	1.9
PIONEER P37A18E	3.7	Enlist E3	86.0		94.2	78.2	88.0	97.0	83.9	75.0	58.4	57.5	37.4	23.3	30	21	1.0
STEWART 3954XF	3.9	XTFlex	85.8		91.6	83.4	98.7	93.3	77.4	70.6	57.3	54.0	36.3	22.3	37	25	1.8
CHANNEL 3924RXF	3.9	XTFlex	85.4		88.7	83.8	95.1	94.8	75.5	74.5	58.7	54.1	36.1	22.4	37	25	1.8
USG 7394XFS	3.9	XTFlex/STS	85.3		94.7	83.1	92.9	90.0	79.4	71.7	60.2	53.9	37.1	22.3	38	24	2.6
CHANNEL 3823RXF	3.8	XTFlex	85.2	72.9	91.7	86.0	89.7	89.9	78.4	75.4	60.8	54.0	36.8	22.1	38	24	2.1
STINE 39EF32	3.9	E3	85.0		95.0	83.6	89.5	91.2	76.9	73.8	63.8	54.5	35.1	23.5	36	24	2.4
HS 38F20	3.8	XTFlex	84.9	70.7	91.8	79.7	92.9	88.6	81.6	75.0	61.1	57.2	35.6	22.6	36	21	1.9
HS 35E10	3.5	E3/Enlist	84.7	72.4	90.6	79.4	92.8	83.5	87.3	74.7	59.7	59.6	36.9	23.7	34	19	1.3
Golden Harvest GH3994E3	3.9	E3	84.0		86.5	71.8	102.1	88.4	82.9	72.2	50.9	53.5	36.1	23.8	33	22	1.4
HS 39F30	3.9	XTFlex	83.8		87.5	77.5	96.5	88.0	81.9	71.2	57.0	53.3	36.2	23.5	35	24	1.7
ARMOR 39-F73	3.9	XTFlex	83.7	69.8	86.0	74.2	94.9	91.6	83.3	72.2	41.8	50.9	36.0	22.1	34	24	2.0
Xitavo XO 3803E	3.8	Enlist E3	83.4		97.0	79.3	91.0	85.3	72.2	75.3	60.7	56.0	35.8	23.6	34	23	2.7
STINE 38EF32	3.8	E3	83.3		90.6	78.2	92.7	86.1	79.5	72.5	61.4	57.4	34.6	24.0	34	23	2.4
STINE 39EC22	3.9	E3	83.1	69.9	77.4	76.8	95.7	94.6	77.7	76.2	55.3	53.5	35.9	23.4	31	25	1.9
AGRIGOLD G3957E3	3.9	E3	83.0		84.4	73.3	95.3	94.5	75.6	74.9	49.6	55.2	35.5	23.9	32	24	1.8
STEWART 3843XF	3.8	XTFlex	82.8	69.8	95.6	77.2	89.6	89.8	78.8	65.9	67.5	55.8	36.8	22.2	37	24	1.7
Revere 3908XFS	3.9	XTFlex/STS	82.6	68.6	92.7	77.6	91.7	94.1	74.1	65.6	65.3	55.2	37.8	21.6	35	23	2.2
Xitavo XO 3922E	3.9	Enlist E3	82.6	71.2	83.5	74.0	92.9	92.2	75.9	77.2	48.0	50.2	35.9	23.5	32	24	2.1
Innotech 3750E3S	3.7	E3/STS	82.4		91.3	79.3	85.9	89.0	80.2	68.8	70.9	56.9	38.3	23.2	33	19	1.9
PB 3923 E3 S	3.9	E3, STS	82.3	70.3	93.6	74.6	92.3	87.1	72.6	73.3	62.6	54.5	36.0	23.7	36	24	2.6
Dyna-Gro S38XF22S	3.8	XTFlex/STS	82.2	69.6	85.1	80.5	93.9	85.3	77.8	70.3	56.3	48.9	35.6	23.7	37	24	2.2
NuTech 36N04E	3.6	E3	82.0		85.1	84.3	86.0	89.6	77.8	69.4	57.2	49.4	37.4	22.0	33	20	1.2

continued

**Table 4. (continued)**

Variety	MG	Herbicide Technologies	State Average*		Daviess	Logan	Calloway	Caldwell	Woodford	Fayette	Late Planted		Protein	Oil	Height	Maturity Date	Lodging*
			2023	2022-23							Woodford	Fayette					
			Yield (bu/a)														
NuTech 34N02E	3.4	E3	81.7	70.1	82.9	78.9	83.2	89.9	79.2	76.3	61.9	51.0	37.5	22.7	34	19	1.7
Innotech 3961E3S	3.9	E3/STS	81.2		93.5	72.0	97.4	90.4	72.2	61.9	58.5	53.8	36.1	23.8	28	24	1.7
ASGROW AG38XF3	3.8	XF	80.7	65.6	84.7	83.5	82.9	85.8	76.9	70.6	46.6	47.5	37.9	21.7	34	22	1.1
NuTech 39N07E	3.9	E3	80.3	68.9	80.0	77.4	86.9	90.0	74.4	73.1	61.0	50.6	38.2	22.5	36	24	1.8
ASGROW AG35XF1	3.5	XF	79.7		77.5	79.9	85.5	92.4	73.8	69.2	48.9	50.7	36.5	23.0	33	20	1.7
PB 3323 E3 S	3.3	E3, STS	79.4	65.6	88.4	78.8	83.0	87.9	79.2	59.0	64.7	53.8	38.9	23.4	32	19	1.7
HS 32E30	3.2	E3/Enlist	79.1		84.7	77.1	89.2	82.3	73.0	68.7	59.0	49.8	36.8	23.4	34	17	1.8
Innictis A3992XF	3.9	XTFlex	79.0		80.6	77.7	91.2	82.4	75.6	66.6	54.6	48.1	36.6	22.0	32	24	1.9
NuTech 33N04E	3.3	E3	78.6		86.5	70.1	86.1	86.9	74.0	68.1	57.1	49.7	37.2	23.2	33	19	1.6
ASGROW AG33XF3	3.3	XF	76.9		73.3	77.1	84.4	84.8	76.6	65.4	50.5	51.8	37.7	22.0	33	18	1.4
ASGROW AG30XF4	3.0	XF	75.7		79.6	72.3	75.4	80.9	78.3	67.5	47.3	51.3	39.1	21.1	31	17	1.1
ASGROW AG30XF2	3.0	XF	75.4	59.7	83.5	69.2	78.7	83.0	76.5	61.6	47.3	47.3	39.6	21.3	36	16	1.5
ASGROW AG27XF3	2.7	XF	74.8		81.0	70.9	83.5	79.8	71.8	61.7	54.7	51.5	36.4	23.5	35	16	2.4
P38MOO23	3.8	CONV	73.7		76.0	69.8	81.8	76.4	72.9	65.4	42.2	51.2	37.4	22.6	33	21	1.3
<b>Average</b>			<b>81.5</b>	<b>69.0</b>	<b>86.6</b>	<b>77.3</b>	<b>89.6</b>	<b>88.3</b>	<b>77.1</b>	<b>70.2</b>	<b>57.0</b>	<b>52.9</b>	<b>36.8</b>	<b>22.9</b>	<b>34</b>	<b>22</b>	<b>1.9</b>
C.V. (%)			5.9	7.0	7.0	5.1	4.6	5.5	6.1	7.9	9.8	7.4					
LSD (0.10)			2.6	2.0	11.9	7.6	8.0	9.4	9.1	10.8	10.8	7.6					

\* Summary of six full season trials - (Daviess, Logan, Calloway, Caldwell, Woodford and Fayette). Late planted trials not included in State Average.  
 Protein and Oil values (NIR) from 3 reps at Fayette County location.  
 Height and maturity date measured at Fayette Co. location (3 reps).  
 Planting date: Daviess - 4/26/23; Logan - 4/20/23; Calloway - 5/1/23; Caldwell - 4/19/23; Woodford - 5/5/23; Fayette - 5/4/23; Late Woodford - 6/18/23; Late Fayette - 6/17/23.  
 Harvest Date: Daviess - 10/3/23; Logan - 9/26/23; Calloway - 9/24/23; Caldwell - 9/25/23; Woodford - 10/1/23; Fayette - 10/2/2023; Late Planted Woodford - 10/10/23; Late Planted Fayette - 10/11/23.  
 Lodging scale: 1 = no lodging, 5 = >50% lodging.

**Table 5. 2023 Kentucky Soybean Variety Trial - Medium Maturity (MG 4.0 - 4.6).**

Variety	MG	Herbicide Technologies	State Average*		Daviness	Logan	Calloway	Caldwell	Woodford	Fayette	Late Planted		Protein	Oil	Height	Maturity Date	Lodging*
			2023	2022-23							Woodford	Fayette					
			Yield (bu/a)														
HS 44F30	4.4	XTFlex	88.9		97.6	81.4	96.3	95.6	85.3	77.2	61.0	52.5	35.9	22.8	37	27	1.7
Golden Harvest GH4214E3S	4.2	E3/STS	87.1		97.4	80.3	102.3	86.8	86.0	69.8	59.1	43.4	35.4	23.6	36	27	2.6
Golden Harvest GH4093E3	4.0	E3	87.0		95.6	84.8	95.1	85.2	86.3	75.4	55.9	46.5	36.9	23.3	32	26	1.6
ARMOR 45-F65	4.5	XTFlex/STS	86.9		94.4	84.4	94.8	88.2	84.9	74.4	52.3	48.7	36.5	23.0	33	27	1.2
PIONEER P42A84E	4.2	Enlist E3	85.7	74.4	93.8	82.3	94.3	84.1	83.6	76.0	62.9	48.3	36.3	22.1	36	27	2.3
AGRIGOLD G4393E3	4.3	E3	85.4		95.9	84.2	98.2	85.4	76.3	72.8	55.5	45.6	35.5	23.0	36	26	2.5
Innqvictis A4503XF	4.5	XTFlex	85.4		95.1	83.3	83.3	88.5	84.0	77.9	56.3	44.3	35.9	22.7	39	26	1.7
Golden Harvest GH4663XFS	4.6	XTFlex/STS	84.9		90.0	86.5	88.7	85.5	83.4	75.1	59.6	50.2	35.9	23.4	36	27	1.9
Innotech 4233E3S	4.2	E3/STS	84.8		90.9	89.6	94.5	81.5	82.2	70.1	52.5	46.6	35.2	22.7	35	26	2.7
Golden Harvest GH4433E3S	4.4	E3/STS	84.7	74.4	90.6	82.8	94.9	90.0	79.4	70.5	52.9	49.6	37.8	21.5	33	27	1.8
ASGROW AG42XF4	4.2	XF	84.4		89.5	87.3	92.7	92.4	76.8	67.7	51.3	45.0	36.6	21.9	37	28	1.7
USG 7463XF	4.6	XTFlex	84.4		89.3	93.4	92.4	79.7	80.6	71.2	50.9	43.5	36.8	22.1	40	27	1.9
PIONEER P45A79E	4.5	Enlist E3	84.4	71.2	91.7	81.6	96.1	85.1	81.9	69.8	54.3	50.0	37.1	22.6	37	27	2.5
STINE 41EB32	4.1	E3	84.3	71.9	81.7	78.9	97.1	95.4	78.5	74.3	54.2	49.7	37.0	22.7	34	27	1.7
Xitavo XO 4364E	4.3	Enlist E3	84.3		90.1	80.1	93.9	86.4	82.1	73.0	58.5	48.8	35.3	23.2	36	26	2.3
Innotech 4545E3S	4.5	E3/STS	84.2		90.2	87.3	83.8	89.6	81.2	73.3	53.5	49.4	38.6	21.3	36	27	2.1
ASGROW AG43XF2	4.3	XF	84.1		89.8	84.5	96.6	89.1	74.1	70.5	46.7	48.6	35.3	23.6	34	27	1.4
PB 4424 E3 STS	4.4	E3, STS	84.1		94.0	86.7	89.6	81.8	78.3	74.0	60.2	48.8	35.2	22.9	36	26	2.3
Golden Harvest GH4222XF	4.2	XTFlex	83.8		91.0	79.0	90.2	87.8	78.6	76.2	52.4	39.9	35.7	22.3	33	27	1.8
STINE 46EG92	4.6	E3	83.6		84.1	77.4	98.4	89.4	80.3	72.3	55.2	53.6	38.4	21.9	36	28	2.7
AGRIGOLD G4051E3	4.0	E3	83.5		86.1	76.2	94.3	95.4	79.0	69.7	50.9	47.8	37.0	22.0	36	25	1.8
Revere 4299XS	4.2	Xtend/STS	83.4	73.1	91.8	89.5	86.0	77.6	83.0	72.5	57.9	44.3	36.9	22.1	38	26	1.8
ARMOR 45-E73	4.5	Enlist/E3/STS	83.3		87.6	84.9	89.5	91.3	75.1	71.3	48.6	43.4	37.1	22.6	35	28	1.9
Xitavo XO 4132E	4.1	Enlist E3	83.0	72.3	90.0	75.6	89.5	89.6	81.8	71.3	54.6	51.0	35.8	23.5	38	26	2.6
PIONEER P40A23E	4.0	Enlist E3	82.9		91.4	74.1	87.4	87.1	85.3	72.2	57.5	51.7	36.6	22.6	34	25	1.9
USG 7461XFS	4.6	XTFlex/STS	82.6		90.4	85.9	93.1	85.0	70.9	70.4	48.6	46.8	37.5	22.0	41	28	2.8
Great Heart GT-4366XFS	4.3	XTFlex/STS	82.5		83.7	88.1	85.5	80.1	84.5	73.4	49.5	43.2	37.8	21.8	40	26	1.4
NuTech 42N05E	4.2	E3	82.5		84.3	79.3	89.4	91.2	79.6	71.2	49.2	46.9	37.3	22.3	36	26	1.7
PIONEER P46A09E	4.6	Enlist E3	82.5		83.8	76.9	87.1	86.7	82.0	78.5	49.9	40.9	38.7	21.0	41	29	1.1
STINE 46EE20	4.6	E3	82.5		86.0	79.2	94.6	88.9	77.7	68.4	50.1	45.2	36.7	22.1	38	28	1.7
ASGROW AG40XF4	4.0	XF	82.4		92.4	75.5	93.7	85.4	78.7	68.6	58.7	44.6	37.3	23.2	39	25	1.6
STINE 44EE20	4.4	E3, STS	82.3	69.0	86.2	81.0	89.6	87.8	75.1	73.9	61.8	47.7	35.9	22.7	42	27	2.6
HS 40E30	4.0	E3/Enlist	82.2		84.7	80.5	87.0	91.8	79.7	69.8	47.8	47.1	37.9	22.3	37	26	1.5
HS 41E20	4.1	E3/Enlist	82.1	69.4	87.6	75.7	90.2	86.3	82.8	70.2	56.8	52.7	35.1	23.7	37	26	2.6
Xitavo XO 4522E	4.5	Enlist E3	82.0	71.0	85.4	76.5	99.8	83.8	79.5	67.3	48.6	37.2	36.8	23.1	37	27	1.7

continued

**Table 5. (continued)**

Variety	MG	Herbicide Technologies	State Average*		Daviess	Logan	Calloway	Caldwell	Woodford	Fayette	Late Planted		Protein	Oil	Height	Maturity Date	Lodging*
			2023	2022-23							Woodford	Fayette					
			Yield (bu/a)														
AGRIGOLD G4094XF	4.0	XF	82.0	70.8	87.0	85.4	90.2	85.5	76.7	67.4	53.9	47.7	36.0	24.2	39	25	2.8
Dyna-Gro S45XF02	4.5	XTFlex	81.9	70.5	83.8	84.9	97.5	85.7	77.5	61.8	50.3	43.6	37.4	21.9	34	28	2.4
Dyna-Gro S41EN72	4.1	Enlist E3	81.9	70.9	88.8	75.5	89.6	85.5	81.9	69.8	57.0	53.1	35.2	23.9	37	26	2.7
NuTech 45N09E	4.5	E3	81.9	71.8	90.4	74.5	94.1	89.7	75.9	66.5	53.7	40.9	35.9	22.2	38	27	2.5
USG 7434XF	4.3	XTFlex	81.8		79.4	79.6	92.5	91.8	79.0	68.5	43.0	50.9	37.8	22.1	36	27	1.9
Great Heart GT-4320ES	4.3	Enlist/STS	81.7		86.3	79.4	91.7	86.0	73.3	73.6	61.6	51.7	35.7	22.9	36	25	2.6
STINE 41EE62	4.1	E3	81.7		87.0	70.9	94.4	90.4	78.3	69.2	63.8	53.0	35.0	23.7	36	26	2.3
CHANNEL 4023RFX	4.0	XTFlex	81.3		86.9	84.0	84.5	79.6	76.6	76.4	53.7	43.7	36.4	22.1	38	25	2.1
STEWART 4053XF	4.0	XTFlex	81.2	68.0	87.3	84.2	83.4	78.8	76.3	77.3	52.2	44.4	36.8	22.0	38	25	1.8
STEWART 4353XF	4.3	XTFlex	81.1	67.0	81.5	82.0	84.2	85.6	84.2	69.2	49.3	47.5	37.9	21.9	39	26	1.2
STINE 40FB23	4.0		80.6		89.1	78.2	84.5	82.7	81.6	67.2	59.0	48.2	37.4	20.8	40	25	2.6
ASGROW AG44XF4	4.4	XF/SR	80.5		84.8	85.5	90.7	82.1	76.9	63.1	57.8	43.3	35.5	22.6	32	28	2.3
ARMOR 43-E70	4.3	Enlist/E3	80.3		87.1	75.9	86.9	88.2	77.1	66.6	50.4	42.9	38.1	22.1	35	27	1.9
Revere 4237XFS	4.2	Xtend/STS	80.3		87.9	79.7	84.5	81.4	75.4	72.5	54.9	44.3	36.2	23.3	39	26	1.7
PB 4124 E3 STS	4.1	E3, STS	80.1		92.8	81.4	85.2	80.1	73.6	67.7	56.8	43.8	35.3	23.7	35	26	3.4
STINE 46FD29	4.6	XTFlex	79.9		89.1	81.4	89.3	84.6	73.7	61.0	55.9	52.8	36.8	22.5	35	28	2.1
Innictis B4603E	4.6	Enlist E3	79.7		87.7	75.8	91.3	79.8	75.2	68.6	55.8	42.9	37.1	23.1	39	28	2.7
Dyna-Gro S40EN54	4.0	Enlist E3	79.5		80.7	75.9	86.9	87.3	79.1	67.1	50.1	48.9	37.0	22.5	37	27	1.7
STEWART 4533XF	4.5	XTFlex	79.4	66.7	93.9	81.8	90.2	79.0	69.4	62.0	53.6	45.5	38.4	21.9	39	28	2.4
Xitavo XO 4084E	4.0	Enlist E3	79.2		85.5	72.9	91.9	80.7	73.7	70.7	54.7	45.4	35.8	23.3	36	25	3.2
Innictis A4103XF	4.1	XTFlex	78.7		89.2	85.8	79.0	81.4	74.0	62.8	54.3	49.8	36.6	22.0	39	28	2.9
Revere 4526XFS	4.5	XTFlex/STS	78.7	69.5	86.5	85.6	90.9	80.7	67.4	60.9	52.7	49.4	36.4	22.7	39	28	2.5
ASGROW AG46XF3	4.7	XF/SR	78.6		84.1	82.6	87.8	78.5	71.7	64.7	47.9	43.4	39.1	21.4	40	28	1.8
ASGROW AG45XF3	4.5	XF/SR	78.5	70.1	88.8	76.2	91.1	81.6	68.6	64.9	49.0	42.6	36.4	22.4	38	27	2.4
HS 42E10	4.2	E3/Enlist	77.3	66.6	81.3	74.8	83.6	89.8	74.2	59.9	53.9	46.4	36.7	22.3	32	26	2.0
ASGROW AG40XF1	4.0	XF/SR	77.0	64.4	82.0	71.1	81.9	82.9	76.1	67.8	57.2	48.7	36.9	22.2	38	25	1.9
Xitavo XO 4653E	4.6	Enlist E3	75.7		80.0	72.1	85.9	78.0	74.1	63.8	56.5	45.4	35.9	22.6	35	28	1.9
P41ILO21	4.1	CONV	75.7		78.6	70.8	87.2	82.9	70.6	63.8	56.3	53.2	37.5	22.3	35	26	1.9
P41MO21	4.1	CONV	72.8		71.7	72.1	82.5	77.7	67.9	64.7	56.6	52.7	38.9	21.0	37	23	2.6
MO S19-10701C	4.5	CONV	65.1		66.1	69.1	76.3	70.2	54.7	54.4	49.7	41.7	38.1	21.4	41	29	4.6
P45XP421	4.5	CONV	59.1		53.1	65.1	67.6	59.2	52.4	57.1	44.3	35.5	39.7	18.8	44	35	3.4
<b>Average</b>			<b>81.4</b>	<b>70.2</b>	<b>87.0</b>	<b>80.1</b>	<b>89.8</b>	<b>84.9</b>	<b>77.4</b>	<b>69.4</b>	<b>54.0</b>	<b>46.8</b>	<b>36.8</b>	<b>22.4</b>	<b>37</b>	<b>27</b>	<b>2.2</b>
C.V. (%)			6.2	6.7	6.3	6.3	6.4	5.4	6.2	6.9	10.1	11.2					
LSD (0.10)			2.8	1.9	10.6	9.8	11.1	8.9	9.3	9.3	10.5	10.1					

\* Summary of six full season trials - (Daviess, Logan, Calloway, Caldwell, Woodford and Fayette). Late planted trials not included in State Average. Protein and Oil values (NIR) from 3 reps at Fayette County location. Height and maturity date measured at Fayette Co. location (3 reps). Planting date: Daviess - 4/26/23; Logan - 4/20/23; Calloway - 5/1/23; Caldwell - 4/19/23; Woodford - 5/5/23; Fayette - 5/4/23; Late Woodford - 6/18/23; Late Fayette - 6/17/23. Harvest Date: Daviess - 10/4/23; Logan - 9/26/23; Calloway - 9/27/23; Caldwell - 9/25/23; Woodford - 10/1/23; Fayette - 10/5/23; Late Planted Woodford - 10/26/23; Late Planted Fayette - 10/25/23. Lodging scale: 1 = no lodging, 5 = >50% lodging.

**Table 6. 2023 Kentucky Soybean Variety Trial - Late Maturity (MG 4.7 - 5.1).**

Variety	MG	Herbicide Technologies	State Average*		Daviness	Logan	Calloway	Caldwell	Woodford	Fayette	Late Planted		Protein	Oil	Height	Maturity Date	Lodging*
			2023	2022-23							Woodford	Fayette					
			Yield (bu/a)														
Revere 4826XF	4.8	XTFlex	83.7	69.9	94.5	84.3	93.0	84.9	71.8	74.0	52.6	45.5	38.2	21.4	39	28	1.6
Innotech 5143E3	5.1	E3	83.6		96.0	86.1	94.5	81.2	69.8	74.0	57.9	44.8	37.9	21.3	41	31	2.3
NuTech 47N04E	4.7	E3	83.5	71.4	91.9	80.7	92.3	88.0	74.6	73.5	43.7	41.8	36.7	21.1	42	28	2.2
USG 7474XFS	4.7	XTFlex/STS	82.9		88.7	91.6	90.1	79.9	75.2	71.9	56.6	48.3	38.5	21.5	39	29	1.5
PIONEER P48A14E	4.8	Enlist E3	79.7	68.9	85.5	79.4	86.1	78.9	72.2	76.2	58.6	43.0	37.4	21.0	45	28	2.3
ASGROW AG49XF4	4.9	XF/SR	79.6		90.1	77.3	87.9	78.4	67.5	76.1	58.3	42.3	37.3	20.8	40	29	2.6
ASGROW AG49XF3	4.9	XF	79.4	69.5	89.8	87.4	83.7	76.1	66.0	73.4	53.8	45.5	38.7	20.8	43	32	2.0
HS 48F30	4.8	XTFlex	79.4		87.4	80.2	84.3	83.3	69.8	71.5	55.2	40.1	37.9	21.2	41	29	1.7
STEWART 4834XF	4.8	XTFlex	79.3		91.9	76.7	84.5	76.9	70.2	75.7	58.1	43.3	37.5	20.5	40	30	2.8
Revere 4795XS	4.7	Xtend/STS	79.3	70.7	86.1	81.9	86.2	79.9	71.7	69.7	48.4	41.8	38.0	21.6	40	29	2.2
Xitavo XO 4894E	4.8	Enlist E3	79.2		85.8	85.0	80.0	78.9	74.1	71.7	44.5	37.1	37.7	21.4	41	29	1.8
ASGROW AG48XF3	4.8	XF/SR	79.0	69.8	94.9	74.3	84.6	79.0	68.6	72.5	51.1	46.8	38.2	21.7	42	29	1.6
Dyna-Gro S48EN73	4.8	Enlist E3	79.0	65.5	92.7	77.1	85.2	80.6	68.9	69.5	49.7	41.9	37.6	21.6	41	28	1.9
Innotech 4983E3S	4.9	E3/STS	78.8		87.9	81.1	86.4	77.9	68.6	70.7	55.9	43.4	38.0	21.6	43	29	1.5
HS 47E30	4.7	E3/Enlist	78.7		85.9	74.5	81.8	80.8	76.2	72.9	48.9	45.0	39.0	22.4	38	26	1.8
Innactivis A5003XF	5.0	XTFlex	78.6		77.3	76.5	91.1	83.7	74.1	68.7	41.7	39.1	37.0	22.3	38	33	2.4
Dyna-Gro S47XF23S	4.7	XTFlex/STS	78.2	67.8	81.6	78.0	88.3	76.2	71.0	74.2	52.0	38.5	36.9	22.1	41	28	1.7
STINE 47EE02	4.7	E3	78.2	66.4	86.4	75.2	83.6	81.1	71.7	71.2	50.6	44.5	38.4	21.2	43	28	1.8
Innactivis A4862XF	4.8	XTFlex	77.9		76.6	74.9	84.4	79.8	77.6	73.9	53.1	43.8	37.8	21.3	40	29	1.9
Dyna-Gro S49XF43S	4.9	XTFlex/STS	77.8		78.9	73.1	85.5	83.5	74.4	71.5	52.0	41.2	37.5	21.5	38	32	2.5
STINE 50EE12	5.0	E3	77.0	65.2	86.0	77.6	87.8	77.6	67.7	65.4	44.1	37.8	37.5	20.7	40	32	2.0
ARMOR 49-E72	4.9	Enlist/E3/STS	76.8		86.9	75.9	83.2	81.4	65.8	67.4	50.4	41.2	37.2	21.7	43	30	2.3
STINE 48EE20	4.8	E3	76.1	65.5	81.9	68.8	86.0	79.9	69.7	70.4	48.6	41.1	38.6	21.4	42	28	1.9

continued

**Table 6. (continued)**

Variety	MG	Herbicide Technologies	State Average*		Daviess	Logan	Calloway	Caldwell	Woodford	Fayette	Late Planted		Protein	Oil	Height	Maturity Date	Lodging*
			2023	2022-23							Woodford	Fayette					
			Yield (bu/a)														
GDM V4921S	4.9	CONV	75.7		74.5	78.3	83.8	75.8	68.4	73.2	46.4	42.7	36.4	21.9	38	30	1.8
Revere 5029XF	5.0	XTFlex	73.7	65.8	81.4	79.1	84.8	71.0	65.4	60.7	47.0	44.6	38.2	21.2	44	33	2.9
HS 48E10	4.8	E3/Enlist	72.4	65.6	87.7	73.1	73.7	75.1	64.0	60.6	50.2	43.8	37.3	21.0	39	29	2.3
STINE 49EE21	4.9	E3	65.3		73.0	59.7	79.9	68.1	59.4	51.3	43.1	37.7	39.3	20.7	42	34	2.8
ESSEX (check-1974)	5.0	CONV	62.4	53.0	66.3	63.8	66.4	65.7	56.5	55.8	32.8	35.0	40.6	20.8	38	30	2.0
MO S18-6328C	5.0	Conv	61.3	57.1	68.8	55.7	81.2	60.2	50.1	51.8	36.0	31.1	38.3	20.4	45	33	5.0
P48MO21	4.8	CONV	57.2		62.5	60.0	72.2	58.4	41.1	48.8	41.2	37.6	39.8	19.7	44	32	4.7
PENNYRILE (check-1987)	4.7	CONV	57.1	45.8	53.5	59.4	57.0	59.5	57.3	56.1	41.0	37.5	39.8	20.3	46	28	2.2
MO S17-17644C	4.8	CONV	52.5		58.2	48.3	58.0	55.4	44.6	50.2	35.2	28.7	37.4	20.0	48	35	5.0
<b>Average</b>			<b>75.1</b>	<b>64.9</b>	<b>82.2</b>	<b>74.8</b>	<b>82.7</b>	<b>76.2</b>	<b>67.0</b>	<b>67.6</b>	<b>48.7</b>	<b>41.1</b>	<b>38.0</b>	<b>21.2</b>	<b>41</b>	<b>30</b>	<b>2.3</b>
C.V. (%)			6.3	6.8	6.2	5.7	6.0	5.6	8.0	6.2	12.0	8.7					
LSD (0.10)			3.7	1.7	9.8	8.3	9.6	8.2	10.4	8.2	11.4	6.9					

\* Summary of six full season trials - (Daviess, Logan, Calloway, Caldwell, Woodford and Fayette). Late planted trials not included in State Average.  
 Protein and Oil values (NIR) from 3 reps at Fayette County location.  
 Height and maturity date measured at Fayette Co. location (3 reps).  
 Planting date: Daviess - 4/26/23; Logan - 4/20/23; Calloway - 5/1/23; Caldwell - 4/19/23; Woodford - 5/5/23; Fayette - 5/4/23; Late Woodford - 6/18/23; Late Fayette - 6/17/23.  
 Harvest Date: Daviess - 10/4/23; Logan - 10/9/23; Calloway - 10/10/23; Caldwell - 10/10/23; Woodford - 10/11/23; Fayette - 10/11/23. Late Planted Woodford - 10/25/23; Late Planted Fayette - 10/26/23.  
 Lodging scale: 1 = no lodging, 5 = >50% lodging.

# 2023 Kentucky Soybean Variety Performance Trial

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