

2019 Kentucky Soybean Variety Performance Tests

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The Kentucky Soybean Variety Performance Tests are conducted to provide an unbiased and objective estimate of the relative performance of soybean varieties commercially available in Kentucky. This information may be used by growers and seed producers to aid in selecting varieties that will give the highest total production in a specific situation. Soybean cultivars in the 2019 tests were entered by soybean growers, commercial companies, state and federal institutions.

Forty soybean tests were planted in 2019 in Kentucky, at the eight test locations shown. Test locations and planting and harvest dates are shown in Table 1.

Methods

All tests were planted in a randomized complete block design by maturity group with a no-till plot planter (Haldrup SNT-25, 6-rows–Haldrup USA). The tests (Tables 6-12) had three replications (plots) for each variety. The individual plots were 20 feet long and six rows wide with 15 inches between rows. The seeding rate was four to five viable seeds per foot of row, at a planting depth of 1.5 inch. Table 2 is a seeding rate planting guide for full-season and double-crop soybeans. For additional research on seeding rates, see the Corn & Soybean News 6(2), “Soybean Population and Yield,”

Table 1. Locations, planting and harvest dates for the 2019 Kentucky Soybean Variety Performance Tests

Region	Test Site	Collaborators	Planting Date(s)	Ag. Practice	Harvest Dates
Bluegrass	Fayette County	C. Venard	5/8	No-till	MG II, III, and IV Early: 09/30 MG IV Late and V: 10/24
Green River	McLean County	Mr. Logsdon - soybean producer John (David) Fourqurean - UK ANR Agent	5/25	No-till	MG II, III, IV Early, and V: 10/10 MG IV Late: 10/14
Lake Cumberland	Cumberland County	Mr. Mims - soybean producer Chelsey Anderson - UK ANR Agent	5/17	No-till	MG II, III, and IV Early: 10/19 MG IV Late and V: 10/23
Lincoln Trail	Meade County	Mr. Hager - soybean producer Harry (Andy) Mills - UK ANR Agent	5/16	No-till	MG II, III, and V: 10/15 MG IV: 10/17
Mammoth Cave	Allen County	Mr. Shaw - soybean producer Adam Huber - UK ANR Agent	5/22	No-till	10/18 - all maturity groups
Pennyriple	Caldwell County	Scott Peek - Farm Superintendent at the UK Research and Education Center, Princeton KY	5/24	No-till	MG II and III: 10/01 MG IV and V: 10/09
	Christian County	Mr. Askew - soybean producer Matthew Futtrell - UK ANR Agent	5/14	No-till	MG II, III, and IV Early: 10/02 MG IV Late and V: 10/03
Purchase	Calloway County	Dr. Ferguson - Professor of Agronomy, Murray State University	5/23	No-till	MG II, III, and IV Early: 10/04 MG IV Late and V: 10/05

and Corn & Soybean News 7(4), “Soybean Seed Rates.” The most recent research suggests that a final stand of 100,000 plants per acre is adequate for maximum yields in full-season soybeans in most situations. Seeding rates should be adjusted on standard germination rates as well as expected stand losses. Stand losses are typically more severe in damp, cool conditions with heavy residues or with soil crusting. Stand losses are typically less with warm conditions and adequate soil moisture. All test sites were treated with fertilizers, lime, and herbicides before planting following current IPM and fertilizer/lime recommendations (A Comprehensive Guide to Soybean Management in Kentucky [UK ID-249]). Seed source and varietal information are located in Table 3. 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 3). The treatment codes are provided in Table 4. The plots were maintained as weed-free as possible during the growing season. All plots were chemically end-trimmed to 16 feet.

Harvesting was done with a small plot combine (Wintersteiger Delta plot combine–Wintersteiger, USA) according to maturity. Sixteen feet of the four center rows were harvested from the plots.

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

Tables

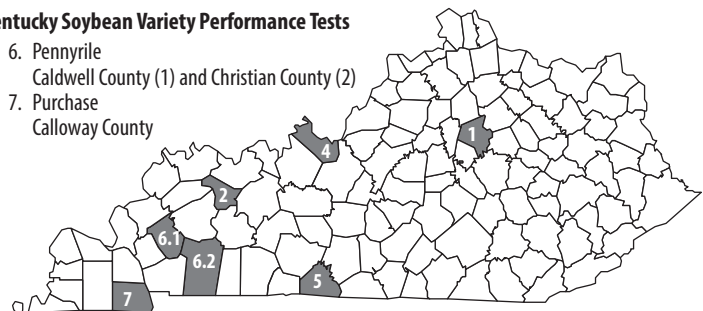
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Location of the 2019 Kentucky Soybean Variety Performance Tests

1. Bluegrass Fayette County
2. Green River McLean County
3. Lake Cumberland Cumberland County
4. Lincoln Trail Meade County
5. Mammoth Cave Allen County
6. Pennyriple Caldwell County (1) and Christian County (2)
7. Purchase Calloway County



Lodging was recorded at harvest at all test sites. Lodging was rated on a scale of 1 to 5, where:

- 1 = almost 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% to 80% down
- 5 = all plants down

Maturity date. Maturity dates were recorded at the Fayette County location. A variety was considered mature when 99 percent of the pods have turned their normal mature color. One to two weeks of good drying weather may be needed beyond the date given before ready to combine.

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, at harvest.

Disease scouting. Diseases may cause yield loss if soybean plants are infected prior to flowering. Planting disease-resistant or disease-tolerant varieties will help eliminate this possible yield loss. Growers should review Table 3, "Company Specifications," for disease resistance/tolerance ratings. In addition to the company specifications, the test plot fields were scouted every other week during the soybean growing season for diseases. During the 2019 season, sudden death syndrome was observed at the Christian County and Cumberland County test sites late August. Frogeye leaf spot was also observed at multiple locations, but the ratings were very low (Meade County, McLean County, and Calloway County).

Protein, oil. Variety protein and oil concentrations are reported on the basis of 13 percent moisture. The 2019 samples were collected at the Fayette County, Caldwell County, and Calloway County locations, and analyzed with a NIR spectrophotometer (DA 7250, Perten Instruments, Sweden). The data were analyzed with Agrobase GEN II statistical software.

Interpretation

An important step in profitable soybean production is selecting the best varieties for each management system. The Kentucky Soybean Variety Performance Tests are conducted to provide information useful in making this selection.

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 the best in southern areas. For this

reason, the Kentucky Soybean Variety Performance Tests are conducted at several 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 a period of years and at several locations in the state is the best indicator of its production potential (see UK publication *Agronomy Notes* 21(3), "Using Performance Test Results in Soybean Variety Selection in Kentucky," and UK ID-249). The data presented in Table 5 have been averaged across 2017-2018-2019 full-season years and locations, and are recommended to evaluate variety relative performances. This table is also recommended for selecting varieties for maximum yield in double-crop systems in Kentucky. Better yielding full-season varieties are also the better-yielding double-crop varieties (Pfeiffer, *Applied Agricultural Research* 2(3):141-145). The full-season environment that maximizes yield is a better indicator of performance than late-planted soybeans that have reduced yields. The data from three full-season tests, analyzed across years and locations, predict performance of a variety more accurately than a single, full-season, or double-crop test.

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 5 through 12 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 do differ in yielding ability.

Yield is only one factor to consider in selecting a variety for a production system. Oil and protein contents, date of maturity, lodging resistance, disease resistance, availability of time and equipment, economic management and weed control costs need to be considered as well.

Varieties with oil and protein levels that are eligible for premium prices are available in some markets. Oil and protein

levels are influenced by variety and weather (primarily temperature) during seed filling (see UK's *Corn & Soybean Newsletter* 6(1), "Soybean Oil and Protein," and UK ID-249). We recommend that growers create a list of varieties that meet their needs for agronomic characteristics: yield, maturity group, soybean cyst nematode resistance, etc. Then, using the protein and oil data from Table 5, they should remove from consideration the varieties with below-average oil and protein percentages from their list, and select from the remaining ones those that have the highest average concentrations. This approach should help selecting varieties that have the best chance of producing acceptable yield and meets the oil and protein standards.

The data provided have been divided into maturity groups based on the information provided by the seed sources (Table 3). Due to weather patterns at a location, maturity alone can affect yield; this impact will be reflected by large differences in the maturity group averages. Selecting varieties from several maturity groups can reduce the impact of these maturity group fluctuations (see UK's *Agronomy Notes* 25(3), "Growing Soybean Varieties from Multiple Maturity Groups Can Reduce Yearly Yield Volatility," and UK ID-249). The date of a 50 percent chance of a fall killing frost is important in determining which variety should be planted. The dates, presented along with Tables 6 through 12, are average dates over a long term. Actual dates will vary from year to year. For the dates of a one-year-out-of-ten chance of a fall killing frost, subtract 13 to 18 days from the average dates. For maximum yield, a variety must mature before the first killing frost in the fall.

In case 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 visible symptoms but can cause yield losses of up to 25 percent. Fields should be tested for SCN. Producers should contact their local University of Kentucky County Extension office for more information on collecting and submitting samples (<https://plantpathology.ca.uky.edu/extension/soybean-cyst-nematode>).

Growing Conditions—2019

The Kentucky 2019 growing season differed greatly from the 2018 and 2017 seasons. 2019 started with warm temperatures and normal precipitation in April. However, in May, while the state did see some flooding early in the month, weather conditions were mostly dry, running below normal for three straight weeks. In fact, Kentucky was 1 inch below normal precipitation on average, with some areas around Bowling Green 3 to 4 inches below normal. In addition, elevated temperatures and humidity made May feel like the middle of summer.

After a dry and hot May, Kentucky received an average of 7.78 inches of rainfall for June. Consistent rainfalls kept temperatures slightly below normal except for the last week, when heat started to build up.

In July, Kentucky averaged 5.04 inches for the month and temperatures were consistently in the middle 80s to low 90s. Most of the precipitation fell over the first half of the month as the remnants of Tropical Storm Barry moved through the region. North Central Kentucky, however, missed out on most of the rain throughout July.

Some portions of the state became extremely dry over the first half of August. By the 20th, moderate drought was introduced by the US Drought Monitor, and was severely felt across North Central and Southeastern Kentucky. The state saw three straight weeks with below average precipitation as rainfalls remained scattered. Rain activity came back over the last couple of weeks of the month and averaged 1.26 inches.

September 2019 was the driest September Kentucky has seen since 1895. The state averaged 0.23 inches for the month, with only 0.06 inches through the first half. In addition to the dryness, heat developed across the state with highs in the low 90s. By the end of the month, a small section of Southeastern Kentucky was upgraded to an extreme drought by the US Drought Monitor, while severe drought was expanded to cover 58 percent of the state. Harvest progressed at a rapid pace but dry down was also rapid this year, with county agents reporting moisture for soybeans at 7, 8, 9 percent.

The soybean variety performance trials experienced the same weather conditions as did Kentucky soybean producers over the course of the 2019 growing season. Prematurely dying soybeans were observed mid-September at pretty much all of the test sites. The plants died at the same time with nearly no differences between matu-

rity groups. Plants still had the petiole of their dried-up leaves attached to the main stems at harvest. The grain filling R6 stage is defined by very rapid dry weight accumulation in the green seed in the pod cavity. Any stress during this very sensitive physiological process will affect yield and seed quality. In order to compare the performance of soybean varieties one to another, and across years and locations, the yield of each variety is calculated for the moisture in the seed adjusted at 13 percent. The 2019 yields adjusted at 13 percent moisture reached 59 bushels per acre for the maturity group II, 68 bu/ac for the MG III and IV Early, and 65 bu/ac for the MG IV Late and V. The results also showed that two of the soybean trials fields yielded better, in Princeton, Kentucky, and Cumberland County, while the dry conditions in others might have more greatly impacted the other locations.

Sources: UKAg Weather Center (<http://weather.uky.edu/ky/climate.php> and [/annuals.shtml](http://annuals.shtml)); KY Mesonet (http://www.kymesonet.org/historical_data.php); the National Weather Service (<https://www.drought.gov/drought/>); and the National Integrated Drought Information System (NOAA/NIDIS <https://www.drought.gov/drought/>).

Detailed precipitation and temperature information at each test location is provided next to Tables 6 through 12, in the Agronomic Information. The data were collected using WatchDog 2900ET weather stations positioned in each field and analyzed with the SpecWare 9 Pro Software (Spectrum Technologies, Inc.).

Soybean Production Information

This progress report from the Kentucky Agricultural Experiment Station is published with approval from the Director.

As of November 8, 2019, soybean production for Kentucky was forecast at 84.5 million bushels, down 14 percent percent from 2018. Yield was estimated at 50 bushels per acre. Acreage for harvest was estimated at 1.69 million acres, down 240,000 acres from 2018. **Source:** November Crop Production News Release (USDA, NASS, Kentucky Field Office).

Table 2. Planting guide for full-season and double-crop soybeans.

Full-season soybeans						
Target stand plant/acre	Germination rate	Assumed stand loss	Final seeding rate (seeds/acre)	Row spacing (in.)		
				7.5	15	30
				seeds per foot		
100,000	95%	5%	110,803	1.6	3.2	6.4
		10%	116,959	1.7	3.4	6.7
		20%	131,579	1.9	3.8	7.6
		30%	150,376	2.2	4.3	8.6
	90%	5%	116,959	1.8	3.4	6.7
		10%	123,457	1.8	3.5	7.1
		20%	138,889	2.0	4.0	8.0
		30%	158,730	2.3	4.6	9.1
	85%	5%	123,839	1.8	3.6	7.1
		10%	130,719	1.9	3.8	7.5
		20%	147,059	2.1	4.2	8.4
		30%	168,067	2.4	4.8	9.6
Double-crop soybeans						
Target stand plant/acre	Germination rate	Assumed stand loss	Final seeding rate (seeds/acre)	Row spacing (in.)		
				7.5	15	30
				seeds per foot		
140,000	95%	5%	155,125	2.2	4.5	8.9
		10%	163,743	2.3	4.7	9.4
		20%	184,211	2.6	5.3	10.6
		30%	210,526	3.0	6.0	12.1
	90%	5%	163,743	2.3	7.4	9.4
		10%	172,840	2.5	5.0	9.9
		20%	194,444	2.8	5.6	11.2
		30%	222,222	3.2	6.4	12.8
	85%	5%	173,375	2.5	5.0	10.0
		10%	183,007	2.6	5.3	10.5
		20%	205,882	3.0	5.9	11.8
		30%	235,294	3.4	6.8	13.5

The University of Kentucky offers a series of publications, blogs, and websites that contain more detailed information for soybean and grain production practices:

- KyGrains.info—The Farmer’s Resource for Grain production in Kentucky
- UK ID-249—A Comprehensive Guide to Soybean Management in Kentucky (www2.ca.uky.edu/agcomm/pubs/ID/ID249/ID249.pdf)
- Kentucky Pest Newsletter (<http://plantpathology.ca.uky.edu/extension/kpn>)
- University of Kentucky Cooperative Extension Services (<https://extension.ca.uky.edu/>)
- Soybean Variety Performance Tests website (<http://pss.ca.uky.edu/extension/soybean-variety-trials>)
- The University of Kentucky Grain Crops website (<http://graincrops.ca.uky.edu/>) provides links to all Kentucky variety test publications and related resources (<http://graincrops.ca.uky.edu/variety-testing>).

Kentucky State Seed Law

The Kentucky State Seed Law requires all seed exposed, offered for sale, or sold in Kentucky to be labeled as to a) kind and variety for each agricultural seed component present in excess of 5 percent of the

whole, and b) the percentage by weight of each component. All soybean seed blends should be labeled as to the percentage of each variety that makes up the mixture. All soybean seed must be labeled by variety name; the term “variety unknown” may no longer be used in place of a variety designation for soybeans.

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Variety Performance Tests Website

The University of Kentucky Grain Crops website (<http://graincrops.ca.uky.edu/>) provides links to all Kentucky variety test publications and related resources (<http://graincrops.ca.uky.edu/variety-testing>). This site includes a link to the Soybean Variety Performance Tests website (<http://pss.ca.uky.edu/extension/soybean-variety-trials>).

Table 3. Company specifications for the varieties in the 2019 Kentucky Soybean Variety Performance Tests^A

Variety/Brand name	MG	Soybean Technologies ^B	Disease Resistance Traits ^C						Seed Treatments
			Soybean Cyst Nematode Resistance	Phytophthora sojae ^D		Sudden Death Syndrome	Stem Canker	Other ^E	
				Resistance Gene	Field Tolerance ^E				
AgriGold Soybean - www.agrigold.com									
AGRIGOLD G2900RX	2.9	Xtend	R3, MR14, PI88.788	1c		T	T		3, 14
AGRIGOLD G3520RX	3.5	Xtend	R3, MR14, PI88.788	1c		T	T		3, 14
AGRIGOLD G3620RX	3.6	Xtend	R3, MR14, PI88.788	NG		MT	T		3, 14
AGRIGOLD G3722RX	3.7	Xtend	R3, MR14, PI88.788	1c		MT	T		3, 14
AGRIGOLD G3850RX	3.8	Xtend	R3, MR14, PI88.788	1c		NA	T		3, 14
AGRIGOLD G4225RX	4.2	Xtend	R3, MR14, PI88.788	1c		MT	R		3, 14
AGRIGOLD G4579RX	4.5	Xtend	R3, MR14, PI88.788	1c		MT	R		3, 14
AGRIGOLD G4815RX	4.8	Xtend	R3, MR14, PI88.788	1c		MT	R		3, 14
AGRIGOLD G4995RX	4.9	Xtend	R3, MR14, PI88.788	NG		T	R		3, 14
Armor Seed - www.armorseed.com									
ARMOR 38-D53	3.8		R3, MR 14	1c, 6					10
ARMOR 42-D27	4.2						MR		10
ARMOR 44-D92	4.4		R3, MR 14	1c, 6		MR	R		10
ARMOR 46-D09	4.6		R3, 14	1c, 6		R	R		10
ARMOR 46-D30	4.6								10
ARMOR 47-D18	4.7		R3, 14	1c		MR	R		10
ARMOR 48-D25	4.8		R3, 14	1c, 6		MR	R		10
Asgrow Bayer CropScience - www.bayer.com									
ASGROW AG29X8	2.9	RR2X	R3	c	MT	MR			3, 4
ASGROW AG29X9	2.9	RR2X	R3	c	MT	MR			3, 4
ASGROW AG37X9	3.7	RR2X	R3	a	T	MR			3, 4
ASGROW AG38X8	3.8	RR2X	R3	c	MT	MR			3, 4
ASGROW AG39X0	3.9	RR2X	R3	c	MT	MR			3, 4
ASGROW AG39X7	3.9	RR2X/SR	R3	c	MT	MR	MR		3, 4
ASGROW AG42X9	4.2	RR2X	R3	a	T	MR	R		3, 4
ASGROW AG43X0	4.3	RR2X/SR	R3	c	MT	MR	R		3, 4
ASGROW AG46X0	4.6	RR2X/SR	R3	c	MT	MR	R		3, 4
ASGROW AG46X6	4.6	RR2X	R3	a	MS	MR	MR		3, 4
ASGROW AG47X0	4.7	RR2X/SR	R3	c	MS	MR	R		3, 4
ASGROW AG47X9	4.7	RR2X	R3	a	MS	MR	R		3, 4

continued

Table 3. Company specifications for the varieties in the 2019 Kentucky Soybean Variety Performance Tests^A (continued)

Variety/Brand name	MG	Soybean Technologies ^B	Disease Resistance Traits ^C						Seed Treatments
			Soybean Cyst Nematode Resistance	Phytophthora sojae ^D		Sudden Death Syndrome	Stem Canker	Other ^E	
				Resistance Gene	Field Tolerance ^E				
ASGROW AG48X9	4.8	RR2X/SR	R3	c	T	MR	R		3, 4
Blue River Organic Seed - www.blueriverorgseed.com									
BLUE RIVER 42CK7	4.2	Feed	R3, MR14	1c	MT	MR	MR	MT-BSR	none
BLUE RIVER e4993	4.9	Feed	R3, MR14	None	T	MT		MR-FLS, MT-BSR	none
Caverndale Farms Brand Seed - www.caverndalefarms.com									
CAVERNDALE CF 364 STSn	3.6	CONV/STS	3, 14	1k	T	MR	MR	MR - FLS	18, 19, 20
CAVERNDALE CF 392 LL/GT27	3.9	LL/GT	3, 14		T		MR		18, 19, 20
CAVERNDALE CF 427 HT-GLY/STSsn	4.2	RR/STS	3, 14	1c	T	MR	MR	MR - FLS	18, 19, 20
CAVERNDALE CF 461 LL/GT27/STSsn	4.4	LL/GT/STS	3, 14	Rps 1a	T		R	MR - FLS	18, 19, 20
CAVERNDALE CF 443 E3	4.6	LL/RR/E3	3, 14				R		18, 19, 20
CAVERNDALE CF 483 E3	4.8	LL/RR/E3	3, 14				R	MR - FLS	18, 19, 20
Channel® Seed - www.channel.com									
CHANNEL 3220R2X	3.2	R2X	R	1c	MR	MR			1, 3, 4, 11
CHANNEL 3519R2X	3.5	R2X	R	1c	MR	MS	MR		1, 3, 4, 11
CHANNEL 3718R2X	3.7	R2X	R	1c	MS	MR	MR		1, 3, 4, 11
CHANNEL 4218R2X/SR	4.2	R2X	R	1c	MS	MR	MR		1, 3, 4, 11
CHANNEL 4519R2X/SR	4.5	R2X	R	1c	MS	MR	MR		1, 3, 4, 11
BASF - www.agriculture.basf.com/us/en/Crop-Protection/Credenz.html									
CZ 3519 GTLL	3.7	LLGT27	R3	Rps 1a	MR	MR	MR		12, 17
CZ 3929 GTLL	4.1	LLGT27	R3	Rps 1a	MR	MR	MR		12, 17
CZ 4539 GTLL	4.5	LLGT27	R3		MT	MR	MR		12, 17
CZ 4820 LL	4.7	LL	R3	Rps 1a	MT	MR	MR		12, 17
CZ 4918 LL	4.8	LL	R3	Rps 1a	MT	MR	R		12, 17
CZ 5150 LL	4.9	LL	R3	Rps 1a	MR	MS	R		12, 17
Dyna-Gro Seed - Nutrien Ag Solutions - www.nutrienagsolutions.com									
DYNA-GRO S37EN39	3.7	E3	R3, MR14	None	MT	MR	R	MR - FLS	7, 12
DYNA-GRO S39EN19	3.9	E3	R3, MR14	None	MT	MR	R	MR - FLS	7, 12
DYNA-GRO S40GL59	4.0	LLGT27	R3, MR14	None	MT	MR	R	MR - FLS	7, 12
DYNA-GRO S41XS98	4.1	Xtend	R3, MR14	None	MT	MR	MR		7, 12
DYNA-GRO S4209N	4.2	Conv	R3, MR14	Rps1c	MT	MR	R		7, 12
DYNA-GRO S42EN89	4.2	E3	R3, MR14	Rps1a	MT	MR	R	R - FLS	7, 12
DYNA-GRO S43XS70	4.3	XT/STS	R3, MR14	Rps1c	MT	MR	R	MR - FLS	7, 12
DYNA-GRO S44XS68	4.4	ST/STS	R3, MR14	Rps1c	MT	MR	R	R - FLS	7, 12
DYNA-GRO S46XS60	4.6	ST/STS	R3, MR14	Rps1c	MT	R	R	MR - FLS	7, 12
DYNA-GRO S46XT80	4.6	Xtend	R3, MR14	Rps1c	MT	R	R	R - FLS	7, 12
DYNA-GRO S48XT56	4.8	Xtend	R3, MR14	Rps1a	MT	R	R	MR - FLS	7, 12
Stratton Seed Company - www.gostrattonseed.com									
AGS GS42X19S	4.2	Xtend/STS							
GO SOY 40GL18	4.0	LL/GT27							
GO SOY 423E19	4.2	Enlist							
GO SOY 44GL18	4.4	LL/GT27							
GO SOY 462E18	4.6	Enlist							
GO SOY 48C17S	4.8	CONV/STS							
GROMARK, Inc. - www.growmark.com									
HS 46X90	4.6	Xtend	3, 14	Rps 1c	MT	MR	R		4
HS 48X90	4.8	Xtend	3, 14	None	MT	MT	R		4
HS 49X60	4.9	Xtend	3, 14	Rps 1c	MT	MR	R		4
LG Seeds - www.lgseeds.com									
LG SEEDS C4227RX	4.2	Xtend	R3, MR14	None				MR - FLS	24
LG SEEDS C4845RX	4.8	Xtend	R3, MR14	Rps1a				MR - FLS	24
LG SEEDS LGS3777RX	3.7	Xtend	R3, MR14	Rps1c				MR - FLS	24
LG SEEDS LGS4420RX	4.4	Xtend	R3, MR14	Rps1c				MR - FLS	24
LG SEEDS LGS4899RX	4.8	Xtend	RF3, MR14	Rps1c				MR - FLS	24
LG SEEDS LGS4931RX	4.9	Xtend	R3, MR14	Rps1a				MR - FLS	24
Local Seed Company - www.localseed.com									
LS3976X	3.9	Xtend							
LS4299XS	4.2	Xtend							
LS4407X	4.5	Xtend							
LS4487XS	4.4	Xtend	R3, MR14	Rps1c+2		MR	R	S - RKN	
LS4565XS	4.5	Xtend	R3, MR14	Rps1a+2		MR	R	S - RKN	
LS4583X	4.5	Xtend	R3, MR14	Rps1c+2		MR	R	S - RKN	
LS4677X	4.6	Xtend	R3, MR14	Rps1a		MS	R	S - RKN	
LS4795XS	4.6	Xtend							
LS4798X	4.7	Xtend							
LS4889XS	4.8	Xtend	R3, MR14	R+1		MS	R	S - RKN	
LS4894X	4.8	Xtend							
LS4999X	4.9	Xtend							
LS5087X	5.0	Xtend	R3, MR14	NG+1.5		MR	R	S - RKN	
ZS4596GLS	4.5	GTLL							
ZS4694E3S	4.6	E3							

continued

Table 3. Company specifications for the varieties in the 2019 Kentucky Soybean Variety Performance Tests^A (continued)

Variety/Brand name	MG	Soybean Technologies ^B	Disease Resistance Traits ^C						Seed Treatments
			Soybean Cyst Nematode Resistance	Phytophthora sojae ^D		Sudden Death Syndrome	Stem Canker	Other ^E	
				Resistance Gene	Field Tolerance ^E				
ZS4797E3	4.7	E3							
NK Seed - www.syngenta-us.com									
NK SEED S39-62X	3.9	Extend	3, 14	Rpsc1c	MR	MR	MR		7, 9
NK SEED S44-C7X	4.4	Extend	3, 14	Rpsc1c	MR	MR	MR		7, 9
NK SEED S49-F5X	4.9	Extend	3, 14	Rps1k	MR	MR	MR		7, 9
Pioneer - www.corteva.com									
PIONEER P31A22X	3.1	RR2X	3, 14	1k	MT	T			8, 16, 22, 23
PIONEER P33A53X	3.3	RR2X	3, 14	1c	M	T			8, 16, 22, 23
PIONEER P38A98X	3.8	RR2X	3, 14	1c	MT	MT			8, 16, 22, 23
PIONEER P40A47X	4.0	RR2X	3, 14	1k	M	MT			8, 16, 22, 23
PIONEER P42A96X	4.2	RR2X	3, 14	1c	M	MT			8, 16, 22, 23
PIONEER P44A72BX	4.4	Bolt, RR2X	3, 14		M	MT			8, 16, 22, 23
PIONEER P46A16R	4.6	R	3, 14		MS	MT			8, 16, 22, 23
PIONEER P46A57BX	4.6	Bolt, RR2X	3, 14		MS	MT			8, 16, 22, 23
PIONEER P47A76L	4.7	RR2X	3, 14		MS	MT			8, 16, 22, 23
PIONEER P48A60X	4.8	RR2X	3, 14		MS	MT			8, 16, 22, 23
PIONEER P50A85X	5.0	RR2X	3, 14		M	MT			8, 16, 22, 23
Progeny[®] Ag Products - www.progenyag.com									
PROGENY 4265 RXS	4.2	R2X, STS							14, 21, 25
PROGENY 4444 RXS	4.4	R2X, STS							14, 21, 25
PROGENY 4620 RXS	4.6	R2X, STS							14, 21, 25
PROGENY 4799 RXS	4.7	R2X							14, 21, 25
PROGENY 4816 RX	4.8	R2X							14, 21, 25
PROGENY 4821 RX	4.8	R2X							14, 21, 25
PROGENY 4999 RX	4.9	R2X							14, 21, 25
PROGENY 5016 RXS	5.0	R2X, STS							14, 21, 25
PROGENY 5170 RX	5.1	R2X							14, 21, 25
PROGENY 5252 RX	5.2	R2X							14, 21, 25
Seed Consultants, Inc. - www.seedconsultants.com									
SEED CONSULTANTS SC 3399L [™]	3.9	LL	3, 14	NG	R	S			8, 16, 22
SEED CONSULTANTS SC 8379X [™]	3.7	Xtend	3, 14	1c	MR	Mr			8, 16, 22
SEED CONSULTANTS SC 8399X [™]	3.9	Xtend	3, 14	NG	MS	MR			8, 16, 22
SEED CONSULTANTS SC 8428X [™]	4.3	Xtend	3, 14	NG	MR	MS			8, 16, 22
SEED CONSULTANTS SCS 9385RR [™]	3.8	R2Y	3	NG	MR	MR			8, 16, 22
SEED CONSULTANTS SCS 9393RR [™]	3.9	R2Y	3, 14	1k	MS	T			8, 16, 22
Stewart Seeds[™] - www.stewartseeds.com									
STEWART 3628R2X	3.6		PI88788, R3	Pps1c	MR	MR	MR		2
STEWART 3830R2X	3.8		PI88788, R3	Pps1c	MR	MS	MR		2
STEWART 4029R2X	4.0		PI88788, R3	Pps1c	NR	NR	MR		2
STEWART 4228R2X	4.2		PI88788, R3	Pps1c	MS	MR	MR		2
STEWART 4339R2X	4.3		PI88788, R3	Pps1c	MS	MR	MR		2
STEWART 4527R2X	4.5		PI88788, R3	Pps1c	MS	MR	R		2
STEWART 4720R2X	4.7		PI88788, R3	Pps1c	MR	MR	MR		2
STEWART 4927R2X	4.9		PI88788, MR1, R3	Pps1c	MS	MR	MR		2
Stine Seed Company - www.stinseed.com									
STINE 36EA02	3.6	E3	R				R		21
STINE 39EA02	3.9	E3	R				R		21
STINE 41EA12	4.1	E3	R	1a			R		21
University of Missouri									
UNIVERSITY OF MISSOURI MO5201D CONV	5.3	CONV	3, 14		MR		R	R - FLS	15
UNIVERSITY OF MISSOURI S11-20242C	5.1	CONV	2, 3, 5, 14		R			R - FLS	15
UNIVERSITY OF MISSOURI S13-10590C	4.3	CONV	5		R		R	R - FLS	15
UNIVERSITY OF MISSOURI S13-10592C	4.5	CONV			R		R	R - FLS	15
UNIVERSITY OF MISSOURI S13-1955C	5.5	CONV	3, 14		MR			R - FLS, R - RKN	15
UNIVERSITY OF MISSOURI S13-2743C	4.1	CONV	3, 14				R		15
UNIVERSITY OF MISSOURI S13-3851C	4.4	CONV					R		15
UNIVERSITY OF MISSOURI S14-15138R	4.8	RR1/STS	3, 14				R	R - FLS	15
UNIVERSITY OF MISSOURI S14-15146R	4.6	RR1/STS					R	R - FLS	15
UNIVERSITY OF MISSOURI S14-9017R	5.3	RR1	1, 3, 5				R	R - FLS	15
UNIVERSITY OF MISSOURI S15-10434C	5.5	CONV	1, 2, 3, 5, 14					R - RKN	15
UNIVERSITY OF MISSOURI S16-14379	4.7	CONV							15
UNIVERSITY OF MISSOURI S16-14730	4.5	CONV							15
UNIVERSITY OF MISSOURI S16-3747RY	5.4	R2Y						R - RKN	15
UniSouth Genetics, Inc. - www.usgseed.com									
USG 7470XT	4.7	XT	R3, MR14	1c	MS	MR	R	MR-FLS, Salt Excluder	5, 8, 10
USG 7489XTS	4.8	XT	R3, MR14	1A	R	MR	R	MR-FLS & Cercospora, Salt Excluder	5, 8, 10

continued

Table 3. Company specifications for the varieties in the 2019 Kentucky Soybean Variety Performance Tests^A (continued)

Variety/Brand name	MG	Soybean Technologies ^B	Disease Resistance Traits ^C						Seed Treatments
			Soybean Cyst Nematode Resistance	Phytophthora sojae ^D		Sudden Death Syndrome	Stem Canker	Other ^E	
				Resistance Gene	Field Tolerance ^E				
USG 7496XTS	4.9	XT	R3, MR14	1a	MR	MR	R	MR - RKN	5, 8, 10
Warren Seed and Agronomy Service LLC, Union City TN									
WARREN SEED BG 3701 RR2X	3.7	Xtend	3 & 14	IC	T	R	R		8, 22
WARREN SEED BG 4210 RR2X	4.2	Xtend	3 & 14	IC	MT	R	MR		8, 22
WARREN SEED BG 4510 RR2X	4.5	Xtend	3 & 14	IC	MT	R	R		8, 22
WARREN SEED BG 4710 RR2X	4.7	Xtend	3 & 14	IC	T	R	R		8, 22
WARREN SEED BG 4855 RR2X	4.8	Xtend	3 & 14	IC	MT	R	R		8, 22
WARREN SEED BG 4922 RR2X	4.9	Xtend	3 & 14	IC	T	R	R		8, 22
Public varieties - University of Kentucky									
ESSEX (long term check - released 1974)	5.0	CONV/PUB							none
PENNYRILE (long term check - released 1987)	4.7	CONV/PUB							none

^A This information is provided by the seed nominators and has not been verified by the soybean variety performance test program

^B Bolt: variety with enhanced tolerance to DuPont™ LeadOff® and DuPont™ Basis® Blend herbicides; Conv/CONV: conventional soybean variety; Extend/Xtend/X/XT: dicamba-tolerant soybean variety; E3/Enlist: variety tolerant to Enlist Duo™ herbicide; Feed: Feed soybean variety; GT/GT2: variety tolerant to both glyphosate and glufosinate; LL: Liberty Link herbicide (glufosinate) tolerant soybean variety; PUB: Public release variety; RR/RR1: first generation Roundup Ready (glyphosate) soybean variety (original trait, introduced in 1996); RR2/R2Y: second generation Roundup Ready 2 Yield soybean variety (introduced in 2009); SR/STS/STSn: sulfonyleurea-tolerant soybean variety

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

^D 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.

^E BSR: Brown Stem Rot; FLS: Frogeye Leaf Spot, RKN: Root Knot Nematode

Table 4. Seed Treatments

Code	Name	Treatment	Chemical class/use
1	Acceleron® B-200 SAT	Isoflavonoid signaling compound	Hasten colonization and nodule formation, enhanced nutrient uptake
2	Acceleron® Elite	Pyraclostrobin, Metalaxyl, Fluxapyroxad, Clothianidin, Bacillus firmus	systemic & non-systemic fungicide, systemic insecticide, nematocide
3	Acceleron® NemaStrike™ ST	Tioxazafen	nematicide
4	AgriShield®	Mefenoxam, Fludioxonil	systemic & non-systemic fungicide
5	Apron Maxx® RTA®	Mefenoxam, Fludioxonil	systemic & non-systemic fungicide
6	B200SAT	Pasteuria nishizawae, Mefenoxam, Thiamethoxam, Fludioxonil, Sedaxane	nematicide, systemic & non-systemic fungicide, systemic insecticide
7	Clariva™ Complete Beans	Mefenoxam, Thiamethoxam, Fludioxonil	systemic & non-systemic fungicide, systemic insecticide
8	Cruiser Maxx	Mefenoxam, Thiamethoxam, Fludioxonil, Azoxystrobin	systemic & non-systemic fungicide, systemic insecticide
9	Cruiser Extrem	Difenoconazole, Fludioxonil	systemic & non-systemic fungicide
10	Defend Xtra	Metalaxyl, Fludioxonil, Thiabendazole, Imidacloprid	systemic & non-systemic fungicide
11	Eclipse TEN	Thiamethoxam, Mefenoxam, Fludioxonil, Thiabendazole, Sedaxane	systemic insecticide and fungicide
12	Equity® VIP	Prothioconazole, Penflufen, Metalaxyl, Polyethylene-polypropylene copolymer, 1,2-Propanediol	fungicide
13	EverGol™ Energy	Fluopyram	fungicide, nematocide
14	IlEVO®	Clothianidin, Metalaxyl, Ipconazole	systemic insecticide, systemic & non-systemic fungicide
15	INOVATE Seed Protectant	Oxathiapiprolin	fungicide
16	Lumisena™		inoculant
17	Marauder®	Fludioxonil	fungicide
18	Maxim®	Harpin protein	activates a natural defense mechanism in plants, referred to as systemic acquired resistance
19	N-Hibit™ CST	Tioxazafen	nematicide
20	PA2030		biological component
21	Poncho® VOTIVO®	Clothianidin, Bacillus firmus	systemic insecticide and nematocide
22	Revize® PBI	Imidacloprid	systemic insecticide
23	Rancona 3.8 FS	Ipconazole	systemic broad spectrum fungicide
24	TagTeam® LCO liquid	Penicillium bilaii, Bradyrhizobium japonicum	beneficial microorganisms
25	Trilex® 2000	Trifloxystrobin, Metalaxyl, Glycerine	systemic fungicide

RECOMMENDED TABLE

Table 5. 2019 Kentucky Soybean Variety Performance Tests, State Summary - Recommended Table

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019	OIL ^{A/C}			PROTEIN ^{A/C}		
	2019	2018-2019	2017-2019		2019	2018-2019	2017-2019	2019	2018-2019	2017-2019
MATURITY GROUP II (relative MG 2.0-2.9)										
AGRIGOLD G2900RX	61.9	52.9		1.3	18.0	18.6		35.5	35.9	
ASGROW AG29X9	59.5			1.2	18.3			35.3		
ASGROW AG29X8	55.4	48.6	53.2	1.3	17.7	18.3	18.0	35.7	36.5	36.2
GROUP II AVERAGE	58.9	50.7	53.2	1.3	18.0	18.5	18.0	35.5	36.2	36.2
LSD (0.10)	2.5	1.6	1.5		0.2	0.3	0.2	0.5	0.5	0.4
C.V.	4.0	4.2	4.5		1.1	1.8	1.6	1.2	2.0	1.7

continued

RECOMMENDED TABLE

Table 5. 2019 Kentucky Soybean Variety Performance Tests, State Summary - Recommended Table (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019	OIL ^{A/C}			PROTEIN ^{A/C}		
	2019	2018-2019	2017-2019		2019	2018-2019	2017-2019	2019	2018-2019	2017-2019
MATURITY GROUP III (relative MG 3.0-3.9)										
SEED CONSULTANTS SC 3399L™	73.6			2.0	19.4			33.9		
ASGROW AG39X0	71.2			1.5	18.8			35.6		
ARMOR 38-D53	70.8			1.6	19.3			34.1		
LS3976X	70.8			2.0	19.8			33.5		
SEED CONSULTANTS SCS 9393RR™	70.5	63.7	66.1	1.3	20.2	20.6	20.2	33.8	34.2	33.9
ASGROW AG37X9	70.3	63.1		2.2	18.9	19.1		34.0	34.6	
AGRIGOLD G3722RX	70.1	62.7		1.8	18.8	19.2		35.1	35.6	
WARREN SEED BG 3701 RR2X	70.0			2.0	19.4			34.6		
DYNA-GRO S39EN19	69.9			1.7	19.4			34.5		
STEWART 3830R2X	69.4			1.4	19.1			34.7		
SEED CONSULTANTS SC 8399X™	69.4	65.0		1.5	19.1	19.6		34.6	34.6	
NK SEED S39-62X	69.2			1.8	18.8			35.3		
ASGROW AG39X7	69.0	62.8	64.0	1.5	18.6	18.8	18.4	34.7	35.0	34.6
SEED CONSULTANTS SCS 9385RR™	68.6	64.9	66.7	1.8	19.6	20.0	19.7	33.9	34.0	33.9
CHANNEL 3519R2X	68.6			1.5	18.3			34.6		
ASGROW AG38X8	68.0	62.6	63.9	1.5	18.9	19.2	18.9	34.5	34.9	34.7
AGRIGOLD G3620RX	67.9			1.5	19.1			34.4		
CHANNEL 3718R2X	67.7	59.1		1.5	19.0	19.5		34.9	35.1	
SEED CONSULTANTS SC 8379X™	67.4	59.8		1.8	18.7	18.9		35.8	36.2	
STINE 36EA02	67.4			1.6	19.3			34.3		
PIONEER P38A98X	67.0			1.7	18.3			35.0		
AGRIGOLD G3520RX	66.9	59.7	60.1	1.6	18.8	19.2	19.0	35.0	35.5	35.4
STINE 39EA02	66.9			1.8	19.2			34.6		
LG SEEDS LGS3777RX	66.4			1.8	19.1			35.0		
PIONEER P33A53X	65.9			1.6	18.6			35.0		
AGRIGOLD G3850RX	65.0			1.7	19.4			34.0		
CAVERNDALE CF 392 LL/GT27	64.5			2.0	19.1			33.9		
STEWART 3628R2X	64.4			1.6	18.6			35.5		
DYNA-GRO S37EN39	64.0			1.6	19.7			33.8		
CHANNEL 3220R2X	63.2			1.5	18.7			34.8		
PIONEER P31A22X	62.8			2.0	18.9			36.0		
CZ 3519 GTLL	62.3			1.9	19.0			35.1		
CAVERNDALE CF 364 STSn	61.4	54.7		1.8	18.2	18.6		35.8	36.1	
GROUP III AVERAGE	67.6	61.6	64.2	1.7	19.0	19.4	19.2	34.7	35.1	34.5
LSD (0.10)	3.1	2.1	2.3		0.3	0.2	0.2	0.4	0.3	0.2
C.V.	4.4	4.5	6.0		1.5	1.4	1.4	1.2	1.2	1.1

MATURITY GROUP IV Early (relative MG 4.0-4.5)

AGRIGOLD G4225RX	74.5			1.8	19.4			34.1		
STEWART 4527R2X	73.3	70.0	69.6	1.6	19.2	19.2	19.0	34.3	34.3	33.9
STEWART 4339R2X	72.9	71.1		1.6	19.2	19.1		34.5	34.4	
ARMOR 44-D92	72.5			1.6	19.2			34.3		
ASGROW AG43X0	72.5			1.8	19.4			33.9		
LS4299XS	71.8			1.8	19.1			34.7		
CHANNEL 4519R2X/SR	71.5			1.7	19.1			34.8		
LS4487XS	70.8			1.5	18.6			36.1		
PIONEER P42A96X	70.7	68.9		1.8	20.0	20.0		33.8	34.2	
LG SEEDS C4227RX	70.7	62.5	64.5	1.6	19.2	19.4	19.1	34.6	34.9	34.4
PROGENY 4265 RXS	70.5			1.7	19.2			34.3		
AGRIGOLD G4579RX	70.3	66.2		1.8	19.3	19.4		34.7	34.8	
DYNA-GRO S44XS68	70.3	65.3	67.5	1.8	18.6	19.0	18.6	35.7	34.9	34.9
NK SEED S44-C7X	70.0			1.5	20.2			33.1		
ARMOR 42-D27	69.8	66.3	65.5	1.7	19.1	19.4	18.8	34.3	34.6	34.6
CHANNEL 4218R2X/SR	69.8	63.2		1.8	18.2	18.3		35.0	35.2	
LS4565XS	69.6			1.9	18.6			34.6		
PIONEER P44A72BX	69.6	66.2		2.0	19.5	19.6		34.4	34.6	
GO SOY 423E19	69.4			1.8	19.7			34.2		
ASGROW AG42X9	69.3	63.9		1.9	19.4	19.6		33.9	34.1	
DYNA-GRO S41XS98	69.2	65.2	65.7	1.7	19.0	19.3	19.0	34.4	34.7	34.3
DYNA-GRO S43XS70	69.2			1.6	19.1			34.3		
STEWART 4228R2X	69.1	64.5	66.9	1.7	18.1	18.7	18.3	35.0	34.9	34.8

continued

RECOMMENDED TABLE

Table 5. 2019 Kentucky Soybean Variety Performance Tests, State Summary - Recommended Table (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019	OIL ^{A/C}			PROTEIN ^{A/C}		
	2019	2018-2019	2017-2019		2019	2018-2019	2017-2019	2019	2018-2019	2017-2019
STEWART 4029R2X	68.7			1.5	19.3			34.9		
WARREN SEED BG 4210 RR2X	68.6	61.0	64.2	1.8	19.3	19.5	19.0	34.5	34.8	34.7
STINE 41EA12	68.1			1.8	19.7			34.1		
WARREN SEED BG 4510 RR2X	67.9	65.4	67.6	1.6	18.7	18.7	18.5	35.7	35.5	35.0
LS4407X	67.8			2.4	19.6			34.5		
GO SOY 40GL18	67.7			1.9	19.5			34.6		
LG SEEDS LGS4420RX	67.7			1.8	18.6			35.9		
DYNA-GRO S4209N	67.6	64.9		1.8	19.6	19.7		34.8	35.1	
UNIVERSITY OF MISSOURI S13-2743C	67.5	63.9	63.5	2.0	19.5	19.7	19.4	35.0	34.8	34.6
GO SOY 44GL18	67.4			1.9	19.1			34.0		
CAVERNDALE CF 427 HT-GLY/STSn	67.2	63.8	65.1	1.6	19.8	19.8	19.6	34.7	35.0	34.7
SEED CONSULTANTS SC 8428X™	66.8			2.2	19.1			34.9		
UNIVERSITY OF MISSOURI S13-3851C	66.8	62.0	63.9	2.1	19.0	19.2	19.1	35.2	34.9	34.5
UNIVERSITY OF MISSOURI S13-10590C	66.7	61.5	62.0	1.5	19.3	19.7	19.5	35.1	35.0	34.5
PROGENY 4444 RXS	66.5	63.2	65.5	2.0	19.1	19.2	18.9	34.7	34.9	34.4
LS4583X	66.4			2.0	18.4			35.3		
DYNA-GRO S42EN89	66.3			1.8	19.5			34.6		
PIONEER P40A47X	66.2	63.3	66.0	1.5	18.5	18.9	18.7	35.1	35.1	34.5
CZ 4539 GTLL	65.3			1.9	19.1			34.5		
UNIVERSITY OF MISSOURI S16-14730	64.6			1.6	18.6			35.0		
CAVERNDALE CF 461 LL/GT27/STSn	64.3			2.0	19.3			33.8		
BLUE RIVER 42CK7	62.8			1.6	19.6			34.2		
AGS GS42X19S	62.2			2.0	19.3			34.2		
ZS4596GLS	60.8			1.7	19.3			34.0		
CZ 3929 GTLL	60.8			1.5	19.8			34.2		
UNIVERSITY OF MISSOURI S13-10592C	60.3	59.0		2.0	19.4	19.6		35.0	35.3	
DYNA-GRO S40GL59	57.6			1.9	19.7			34.3		
GROUP IV Early AVERAGE	68.0	64.6	65.5	1.8	19.2	19.3	19.0	34.6	34.8	34.6
LSD (0.10)	3.2	2.3	2.4		0.3	0.2	0.2	0.4	0.3	0.2
C.V.	4.5	4.7	6.0		1.4	1.4	1.3	1.1	1.1	1.0
MATURITY GROUP IV Late (relative MG 4.6-4.9)										
PIONEER P48A60X	71.6	67.9		1.8	19.0	19.0		34.0	34.3	
USG 7489XTS	70.3			1.5	18.4			35.6		
PIONEER P46A16R	70.2	67.1	69.6	1.7	19.3	19.5	19.3	33.6	33.8	33.5
ASGROW AG47X9	69.7	66.1		1.6	19.8	19.7		33.0	33.6	
DYNA-GRO S46XS60	68.9			1.5	19.3			34.9		
HS 48X90	68.9			1.8	19.1			34.4		
CZ 4918 LL	68.7	64.7		1.6	19.4	19.5		34.0	34.3	
PIONEER P46A57BX	68.4	63.4		1.6	19.5	19.8		33.6	33.8	
ARMOR 48-D25	68.3			1.5	19.1			34.9		
LG SEEDS LGS4899RX	68.2			1.6	19.2			35.0		
DYNA-GRO S46XT80	68.1			1.5	19.9			33.7		
ASGROW AG48X9	68.0	65.5		1.5	19.0	19.3		35.0	34.9	
DYNA-GRO S48XT56	67.7	62.4	66.2	1.5	18.4	18.8	18.6	35.2	35.1	34.4
PROGENY 4799 RXS	67.7	62.2	65.0	1.5	18.3	18.6	18.2	35.2	35.1	34.8
LG SEEDS C4845RX	67.5	62.6	66.0	1.5	18.4	18.8	18.4	35.3	35.0	34.8
AGRIGOLD G4815RX	67.3			1.5	18.8			34.7		
GO SOY 462E18	67.3			1.5	18.9			35.3		
PROGENY 4816 RX	67.3	65.2	66.0	1.5	18.7	18.7	18.4	34.7	34.7	34.7
STEWART 4720R2X	67.3			1.5	19.4			34.6		
WARREN SEED BG 4922 RR2X	67.2	63.2		1.5	18.2	18.7		35.3	34.9	
PIONEER P47A76L	67.1	62.6		1.7	19.7	19.8		34.0	34.1	
PROGENY 4999 RX	66.9			1.6	18.8			34.5		
USG 7470XT	66.7			1.8	18.3			35.0		
ZS4694E3S	66.7			1.6	19.7			34.3		
LG SEEDS LGS4931RX	66.7			1.7	18.4			34.9		
HS 46X90	66.7			1.3	19.5			34.2		
ARMOR 46-D30	66.5			1.6	19.5			34.0		
NK SEED S49-F5X	66.4			1.4	19.4			34.9		
CAVERNDALE CF 483 E3	66.0			1.8	19.0			34.3		

continued

RECOMMENDED TABLE

Table 5. 2019 Kentucky Soybean Variety Performance Tests, State Summary - Recommended Table (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019	OIL ^{A/C}			PROTEIN ^{A/C}		
	2019	2018-2019	2017-2019		2019	2018-2019	2017-2019	2019	2018-2019	2017-2019
CZ 4820 LL	66.0	63.5	67.5	1.8	19.6	19.5	19.3	33.5	33.8	33.4
PROGENY 4620 RXS	65.9	62.3	64.9	1.8	18.6	18.8	18.5	34.3	34.5	34.3
ZS4797E3	65.8			1.5	18.7			34.7		
AGRIGOLD G4995RX	65.8	62.4		1.8	18.4	18.7		33.8	33.9	
HS 49X60	65.6	62.8	67.9	1.4	18.3	18.7	18.4	35.6	35.2	35.0
WARREN SEED BG 4710 RR2X	65.5			1.7	18.2			35.0		
USG 7496XTS	65.4	62.1	65.8	1.8	18.6	18.9	18.7	35.0	34.8	34.5
ARMOR 47-D18	65.2			1.7	18.6			34.7		
ARMOR 46-D09	64.9			1.5	19.3			34.7		
PROGENY 4821 RX	64.8			1.6	18.9			35.2		
LS4894X	64.3			1.9	19.1			34.6		
LS4795XS	63.7			1.3	19.4			34.4		
ASGROW AG46X0	63.6			1.5	19.2			34.2		
LS4999X	63.1			1.7	18.8			34.4		
CZ 5150 LL	63.1			1.7	18.8			34.8		
LS4889XS	62.9			1.8	19.3			33.8		
BLUE RIVER e4993	62.9			1.8	18.9			35.2		
STEWART 4927R2X	62.6	59.8	64.7	1.6	18.7	19.0	18.8	34.2	34.3	33.7
LS4677X	62.5			1.9	19.8			33.2		
UNIVERSITY OF MISSOURI S14-15146R	62.4	61.9	63.1	1.4	19.5	19.6	19.4	33.9	34.2	33.7
CAVERNDALE CF 443 E3	61.8			1.6	18.8			33.6		
LS4798X	61.8			2.1	19.0			35.1		
ASGROW AG47X0	61.6			1.5	19.2			34.2		
WARREN SEED BG 4855 RR2X	61.3			1.6	18.7			34.8		
ASGROW AG46X6	59.9	60.1	63.0	1.8	19.2	19.3	19.1	34.6	34.7	34.4
UNIVERSITY OF MISSOURI S14-15138R	59.6	58.6		1.6	19.0	19.2		34.8	34.6	
GO SOY 48C17S	58.9			1.9	19.1			35.9		
UNIVERSITY OF MISSOURI S16-14379	58.5			1.5	19.2			34.4		
PENNYRILE (long term check-released 1987)	50.9	46.9	49.2	1.5	19.1	19.5	19.3	35.9	35.7	35.3
GROUP IV Late AVERAGE	65.3	62.4	64.5	1.6	19.0	19.1	18.8	34.6	34.5	34.3
LSD (0.10)	3.3	2.2	2.0		0.3	0.3	0.2	0.4	0.3	0.3
C.V.	4.8	4.7	5.2		1.4	1.8	1.6	1.0	1.3	1.2
MATURITY GROUP V (relative MG 5.0-5.9)										
PIONEER P50A85X	74.5	67.6		2.5	18.9	19.1		34.3	34.3	
UNIVERSITY OF MISSOURI S14-9017R	70.7	65.5	67.6	2.4	20.1	19.9	19.9	33.5	33.9	33.2
PROGENY 5170 RX	70.3			2.3	18.6			35.1		
PROGENY 5016 RXS	68.9	66.2	67.5	2.3	18.1	18.4	18.3	35.3	35.3	34.9
PROGENY 5252 RX	65.8	60.1		2.6	18.1	18.4		35.9	35.8	
UNIVERSITY OF MISSOURI MO5201D CONV	64.8	60.7		2.7	18.5	18.9		35.5	35.0	
LS5087X	64.1			2.6	18.4			34.2		
UNIVERSITY OF MISSOURI S13-1955C	61.8	54.4	54.1	3.3	18.2	18.7	18.6	35.2	35.0	34.2
UNIVERSITY OF MISSOURI S11-20242C	61.6	54.7		3.2	18.1	18.5		34.5	34.5	
ESSEX (long term check-released 1974)	59.9	54.1	54.8	2.3	18.0	18.6	18.6	37.0	36.5	35.8
UNIVERSITY OF MISSOURI S15-10434C	59.9	54.0		3.2	18.0	18.2		36.4	35.9	
UNIVERSITY OF MISSOURI S16-3747RY	59.3			2.9	18.4			35.4		
GROUP V AVERAGE	65.1	59.7	61.0	2.7	18.5	18.7	18.8	35.2	35.1	34.5
LSD (0.10)	2.8	1.9	1.8		0.3	0.2	0.2	0.4	0.3	0.2
C.V.	4.4	4.2	4.9		1.6	1.4	1.4	1.0	1.0	1.0

A Within a maturity group, shaded yield are not significantly different (0.10) from the highest yielding cultivar (bold) of that maturity group and year column.

B The 2019 yield data were collected at the Allen Co. (except for MG II, NA), Caldwell Co., Calloway Co., Christian Co., Cumberland Co., Fayette Co., McLean Co., and Meade Co. test sites. The 2018 yield data were collected at the Caldwell Co., Calloway Co., Caldwell Co., Fayette Co., Henderson Co., Logan Co., and Meade Co. locations. 2017 yield data were collected at the Breckinridge Co., Butler Co., Caldwell Co., Calloway Co., Cumberland Co., Fayette Co., Hancock Co., and Pulaski Co. locations.

C The 2017-2019 oil and protein samples were collected at the Caldwell Co., Calloway Co., and Fayette Co. locations.

Table 6. 2019 Kentucky Soybean Variety Performance Tests, Bluegrass Region - 2019 Fayette County

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019	PLANT HEIGHT (IN.) 2019	MATURITY DATE 2019	POD COLOR (R8)
	2019	2018-2019	2017-2019				
MATURITY GROUP II (relative MG 2.0-2.9)							
AGRIGOLD G2900RX	42.4	46.4		1.0	28	10	tan
ASGROW AG29X9	38.6			1.0	30	10	tan
ASGROW AG29X8	36.1	36.1	47.7	1.0	30	10	tan
GROUP II AVERAGE	39.0	41.3	47.7	1.0	29	Sept. 10	
LSD (0.10)	2.1	1.9	1.4				
C.V.	4.2	5.8	4.7				
MATURITY GROUP III (relative MG 3.0-3.9)							
SEED CONSULTANTS SC 3399L™	77.4			1.0	34	12	golden
STINE 36EA02	76.9			1.0	36	10	tan
STEWART 3830R2X	69.4			1.0	30	12	tan
ASGROW AG37X9	69.3	65.9		1.0	42	15	tan
CHANNEL 3519R2X	69.0			1.0	35	10	gray
NK SEED S39-62X	68.4			1.0	36	20	gray
WARREN SEED BG 3701 RR2X	67.7			1.0	38	12	gray
DYNA-GRO S37EN39	65.9			1.0	34	10	brown
CAVERNDALE CF 364 STSn	65.9	58.7		1.0	36	10	tan
ASGROW AG38X8	64.2	63.6	63.5	1.0	34	10	gray
CHANNEL 3718R2X	61.7	57.1		1.0	32	12	tan
CHANNEL 3220R2X	61.5			1.0	32	10	gray
SEED CONSULTANTS SC 8399X™	61.0	63.4		1.0	42	20	golden
AGRIGOLD G3620RX	60.5			1.0	34	10	tan
PIONEER P33A53X	60.5			1.0	33	10	gray
AGRIGOLD G3850RX	60.1			1.0	33	10	gray
CZ 3519 GTLL	59.9			1.0	30	15	tan
PIONEER P31A22X	59.9			1.0	28	12	tan
SEED CONSULTANTS SCS 9393RR™	59.7	60.5	64.1	1.0	40	10	golden
LS3976X	59.6			1.0	36	10	golden
ARMOR 38-D53	58.5			1.0	34	12	tan
AGRIGOLD G3722RX	58.1	55.8		1.0	34	10	brown
ASGROW AG39X7	58.1	61.2	64.1	1.0	38	12	tan
ASGROW AG39X0	58.0			1.0	40	12	tan
SEED CONSULTANTS SC 8379X™	57.8	53.9		1.0	32	10	brown
STINE 39EA02	57.7			1.0	32	12	tan
AGRIGOLD G3520RX	56.4	50.2	58.4	1.0	30	10	gray
SEED CONSULTANTS SCS 9385RR™	55.7	60.4	63.5	1.0	36	10	brown
DYNA-GRO S39EN19	55.6			1.0	32	13	brown
PIONEER P38A98X	51.1			1.0	38	10	brown
CAVERNDALE CF 392 LL/GT27	49.5			1.0	42	20	tan
LG SEEDS LGS3777RX	48.5			1.0	33	15	golden
STEWART 3628R2X	38.3			1.0	30	10	tan
GROUP III AVERAGE	60.7	59.1	62.7	1.0	35	Sept. 12	
LSD (0.10)	3.7	2.3	2.6				
C.V.	5.8	5.3	7.1				
MATURITY GROUP IV Early (relative MG 4.0-4.5)							
ARMOR 42-D27	79.5	72.5	68.8	1.0	36	15	gray
GO SOY 423E19	76.4			1.0	28	22	tan
DYNA-GRO S42EN89	75.1			1.0	28	31	tan
CHANNEL 4519R2X/SR	74.6			1.0	28	27	tan
LS4299XS	74.6			1.0	28	27	tan
DYNA-GRO S4209N	74.2	78.9		1.0	32	15	tan
LS4487XS	73.8			1.3	36	31	brown
GO SOY 44GL18	73.0			1.0	33	25	brown
PIONEER P44A72BX	71.8	68.2		1.0	33	31	golden
LG SEEDS C4227RX	71.6	57.8	60.7	1.0	34	25	tan
STEWART 4527R2X	70.2	74.0	77.5	1.0	30	31	brown
CHANNEL 4218R2X/SR	69.5	69.8		1.3	33	27	golden
PROGENY 4444 RXS	68.1	71.1	72.0	1.0	32	27	brown
UNIVERSITY OF MISSOURI S13-3851C	68.1	65.4	69.0	1.3	34	31	golden
WARREN SEED BG 4510 RR2X	67.8	69.2	70.7	1.3	34	31	tan
NK SEED S44-C7X	67.3			1.0	24	35	tan
ASGROW AG42X9	67.0	69.2		1.3	32	27	golden
UNIVERSITY OF MISSOURI S13-2743C	66.8	66.1	62.3	1.3	38	25	tan

continued

Table 6. 2019 Kentucky Soybean Variety Performance Tests, Bluegrass Region - 2019 Fayette County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019	PLANT HEIGHT (IN.) 2019	MATURITY DATE 2019	POD COLOR (R8)
	2019	2018-2019	2017-2019				
UNIVERSITY OF MISSOURI S16-14730	66.4			1.0	31	35	golden
AGRIGOLD G4225RX	65.6			1.0	28	31	brown
LS4407X	65.2			1.7	32	27	brown
DYNA-GRO S44XS68	64.0	62.3	66.9	1.3	40	31	tan
LS4565XS	63.1			1.0	35	31	brown
WARREN SEED BG 4210 RR2X	61.6	58.3	61.9	1.0	36	25	tan
PROGENY 4265 RXS	61.3			1.0	28	27	tan
STINE 41EA12	61.1			1.0	29	27	tan
STEWART 4339R2X	60.9	70.0		1.0	32	31	brown
AGRIGOLD G4579RX	59.0	65.1		1.3	36	35	brown
LG SEEDS LGS4420RX	58.6			1.0	31	27	tan
LS4583X	58.2			1.0	36	35	brown
CAVERNDALE CF 427 HT-GLY/STSn	57.6	66.8	68.6	1.0	34	27	tan
UNIVERSITY OF MISSOURI S13-10592C	56.6	59.8		1.7	30	31	brown
ARMOR 44-D92	55.5			1.0	24	10	brown
ZS4596GLS	55.2			1.0	32	25	brown
ASGROW AG43X0	55.0			1.0	28	27	gray
STEWART 4029R2X	53.8			1.0	32	23	golden
CAVERNDALE CF 461 LL/GT27/STSn	53.1			1.0	24	15	tan
UNIVERSITY OF MISSOURI S13-10590C	52.8	54.8	60.4	1.0	28	22	golden
DYNA-GRO S40GL59	52.0			1.0	29	15	brown
PIONEER P40A47X	50.5	56.7	62.1	1.0	28	15	tan
PIONEER P42A96X	50.3	63.9		1.0	34	20	tan
STEWART 4228R2X	49.8	54.6	58.0	1.0	30	13	golden
CZ 3929 GTLL	48.7			1.0	27	15	brown
BLUE RIVER 42CK7	47.2			1.3	32	27	tan
GO SOY 40GL18	45.5			1.0	30	15	brown
AGS G542X19S	44.8			1.0	24	10	gray
SEED CONSULTANTS SC 8428X™	44.5			1.0	24	12	gray
DYNA-GRO S43XS70	43.0			1.0	25	25	tan
DYNA-GRO S41XS98	42.9	55.4	61.4	1.0	30	15	gray
CZ 4539 GTLL	41.9			1.0	28	27	tan
GROUP IV Early AVERAGE	60.7	65.0	65.7	1.1	31	Sept. 24	
LSD (0.10)	4.0	2.6	2.5				
C.V.	6.3	5.6	6.6				
MATURITY GROUP IV Late (relative MG 4.6-4.9)							
USG 7470XT	75.3			1.3	36	30	brown
PIONEER P48A60X	75.0	68.9		1.0	30	31	brown
DYNA-GRO S48XT56	73.4	68.2	69.8	1.0	30	33	tan
WARREN SEED BG 4710 RR2X	72.9			1.0	36	32	brown
STEWART 4720R2X	71.0			1.0	31	31	tan
NK SEED S49-F5X	71.0			1.0	30	31	tan
LS4798X	70.8			1.3	38	31	brown
AGRIGOLD G4815RX	70.2			1.0	34	30	gray
CZ 4820 LL	69.5	69.0	68.8	1.0	32	31	gray
BLUE RIVER e4993	69.1			1.0	32	35	brown
ARMOR 47-D18	68.9			1.0	36	27	gray
ARMOR 48-D25	68.7			1.0	28	32	tan
LG SEEDS LGS4899RX	67.8			1.0	34	33	tan
CZ 4918 LL	67.8	69.5		1.3	38	31	brown
PIONEER P47A76L	67.7	57.0		1.3	34	35	tan
HS 46X90	65.1			1.0	33	31	tan
PIONEER P46A16R	64.6	70.4	72.9	1.0	32	32	brown
DYNA-GRO S46XS60	64.5			1.0	29	31	tan
HS 48X90	64.5			1.3	32	33	tan
PROGENY 4620 RXS	63.8	60.9	65.8	1.0	32	33	golden
PIONEER P46A57BX	63.7	57.6		1.0	38	30	brown
CAVERNDALE CF 483 E3	63.5			1.0	32	32	tan
GO SOY 462E18	63.4			1.0	31	32	gray
ASGROW AG48X9	62.3	64.8		1.0	30	35	tan
ZS4797E3	61.8			1.0	33	31	tan
PROGENY 4799 RXS	61.3	62.0	67.1	1.0	29	33	tan
AGRIGOLD G4995RX	61.0	67.7		1.0	30	32	tan
DYNA-GRO S46XT80	60.6			1.0	30	31	tan
USG 7496XTS	60.4	59.3	66.0	1.0	30	31	brown

continued

Table 6. 2019 Kentucky Soybean Variety Performance Tests, Bluegrass Region - 2019 Fayette County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019	PLANT HEIGHT (IN.) 2019	MATURITY DATE 2019	POD COLOR (R8)
	2019	2018-2019	2017-2019				
LS4894X	59.6			1.0	36	33	tan
ZS4694E3S	59.3			1.0	32	30	golden
WARREN SEED BG 4922 RR2X	58.5	60.5		1.0	28	30	tan
LG SEEDS LGS4931RX	58.4			1.0	30	30	tan
LS4889XS	58.2			1.0	33	31	brown
PROGENY 4999 RX	57.9			1.0	26	30	tan
CAVERNDALE CF 443 E3	57.7			1.0	28	27	tan
UNIVERSITY OF MISSOURI S14-15138R	57.6	60.8		1.0	30	30	tan
ASGROW AG47X9	56.9	65.4		1.0	31	35	tan
LS4999X	56.4			1.3	38	33	brown
PROGENY 4821 RX	56.4			1.0	32	31	golden
ARMOR 46-D09	54.7			1.0	28	32	tan
LS4677X	54.2			1.0	34	32	tan
ASGROW AG47X0	52.7			1.0	32	30	tan
USG 7489XTS	52.6			1.0	30	33	tan
UNIVERSITY OF MISSOURI S14-15146R	52.3	64.5	65.9	1.0	20	30	golden
ARMOR 46-D30	50.5			1.0	35	31	tan
HS 49X60	50.1	55.1	63.5	1.0	29	31	tan
ASGROW AG46X6	50.0	54.8	59.1	1.0	30	25	golden
ASGROW AG46X0	49.3			1.0	28	32	tan
UNIVERSITY OF MISSOURI S16-14379	49.1			1.3	36	30	tan
LG SEEDS C4845RX	48.6	61.3	68.5	1.0	26	30	tan
LS4795XS	48.2			1.0	28	30	tan
CZ 5150 LL	47.8			1.0	31	35	tan
WARREN SEED BG 4855 RR2X	47.0			1.0	24	30	tan
PROGENY 4816 RX	45.4	54.9	62.4	1.0	28	33	tan
GO SOY 48C17S	43.7			1.3	40	36	tan
PENNYRILE (long term check-released 1987)	42.8	44.5	49.4	1.0	42	27	golden
STEWART 4927R2X	39.6	55.1	61.1	1.0	34	35	tan
GROUP IV Late AVERAGE	59.6	61.4	64.6	1.0	32	Oct. 2nd	
LSD (0.10)	3.1	1.9	2.1				
C.V.	4.9	4.3	5.5				
MATURITY GROUP V (relative MG 5.0-5.9)							
PIONEER P50A85X	74.1	59.9		1.0	46	31	tan
PROGENY 5016 RXS	73.4	63.4	68.4	1.3	44	35	brown
PROGENY 5170 RX	73.4			1.7	47	35	tan
LS5087X	69.4			1.7	44	35	tan
UNIVERSITY OF MISSOURI S16-3747RY	68.8			2.0	46	35	gray
UNIVERSITY OF MISSOURI S14-9017R	68.2	62.4	64.7	1.3	40	31	brown
UNIVERSITY OF MISSOURI S13-1955C	68.1	49.6	53.9	2.7	38	46*	tan
PROGENY 5252 RX	64.6	53.6		2.7	44	35	tan
UNIVERSITY OF MISSOURI S15-10434C	64.2	55.9		2.7	36	46*	golden
UNIVERSITY OF MISSOURI S11-20242C	62.2	54.4		3.0	46	46*	golden
UNIVERSITY OF MISSOURI MO5201D CONV	59.4	50.3		1.3	40	46*	brown
ESSEX (long term check-released 1974)	57.1	46.1	51.3	2.0	34	31	tan
GROUP V AVERAGE	66.9	55.1	59.6	2.0	42	Oct. 13th	
LSD (0.10)	3.2	2.0	2.1				
C.V.	4.4	4.6	5.9				

A Within a maturity group, shaded yield are not significantly different (0.10) from the highest yielding cultivar (bold) of that maturity group and year column.

B The 2017-2019 yield data were collected at the University of Kentucky Spindletop Research Farm in Fayette Co., KY.

* Green pods containing green seed were observed on these varieties, but the plants were dead and desiccated at harvest - these varieties were not included in calculated average MD for MG V

Agronomic Information – Bluegrass Region, Fayette County

GPS coordinates	38°07'24.6"N 84°29'34.9"W
Soil type	Lanton silty clay Sand: 14.22% Silt: 62.92% Clay: 22.86% CEC: 29.17meq/100g Plant available water: 22.8% Field capacity water: 41.04% Wilting point water: 18.24%
Slopes	0%
Previous crop	corn
Soil test (3/11/2019)	pH 6.05, P 313lbs/a, K 206lbs/a
SCN test	0
Fertilizer/lime applied	none
Agricultural practice	no-till
Pre-planting herbicides	Sharpen, Mad Dog (Glyphosate) 4/17/2019; Mad Dog, Dual II Magnum, Authority XL 5/7/2019
Planting date	5/8/2019
Post-emergence herbicides	FirstRate, Reflex, Fusion 6/11/2019
Harvest dates	MG II, III, IV Early 09/30/2019, IV Late & V 10/24/2019
50% frost killing	10/26

Climate – Bluegrass Region, Fayette County

Month	Total Monthly Precip. (in.)	Temperatures (F)			Monthly Average RH (%)	Total Monthly Solar Radiation (wat/m ²)
		Monthly Average	Highest Recorded	Lowest Recorded		
May (5/13)	2.43	69	89	38	77	370,826
June	4.84	71	92	40	79	712,980
July	4.79	76	93	51	81	729,973
August	2.43	74	93	45	78	688,232
September	0.00	73	99	40	70	585,973
October (10/24)	3.57	58	96	29	76	227,911

Table 7. 2019 Kentucky Soybean Variety Performance Tests, Green River Region - 2019 McLean County

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
MATURITY GROUP II (relative MG 2.0-2.9)				
AGRIGOLD G2900RX	55.6	43.0		1.0
ASGROW AG29X8	47.4	36.5	56.5	1.0
ASGROW AG29X9	39.7			1.0
GROUP II AVERAGE	47.6	39.7	56.5	1.0
LSD (0.10)	3.3	1.7	2.0	
C.V.	5.5	5.5	6.4	
MATURITY GROUP III (relative MG 3.0-3.9)				
AGRIGOLD G3722RX	79.3	54.7		1.0
SEED CONSULTANTS SC 8399X™	73.3	57.5		1.0
ASGROW AG39X7	72.5	59.1	66.3	1.3
WARREN SEED BG 3701 RR2X	71.2			1.3
CHANNEL 3519R2X	70.4			1.0
LS3976X	69.6			1.3
NK SEED S39-62X	68.3			1.0
STEWART 3830R2X	68.0			1.0
DYNA-GRO S39EN19	67.2			1.0
SEED CONSULTANTS SC 3399L™	66.9			1.0
ARMOR 38-D53	66.4			1.0
STEWART 3628R2X	66.3			1.0
ASGROW AG39X0	65.9			1.0
ASGROW AG37X9	65.7	55.6		1.3
CHANNEL 3718R2X	65.7	53.3		1.0
SEED CONSULTANTS SCS 9393RR™	65.0	54.2	67.4	1.0
PIONEER P31A22X	64.5			1.0
AGRIGOLD G3850RX	63.5			1.3
PIONEER P33A53X	63.1			1.0
SEED CONSULTANTS SC 8379X™	62.8	40.1		1.3
PIONEER P38A98X	61.8			1.0
STINE 39EA02	60.4			1.3
AGRIGOLD G3520RX	59.5	43.0	59.8	1.0
ASGROW AG38X8	59.4	53.2	70.9	1.3
CHANNEL 3220R2X	59.4			1.0
SEED CONSULTANTS SCS 9385RR™	58.0	57.2	67.7	1.0
STINE 36EA02	57.8			1.0
DYNA-GRO S37EN39	56.7			1.0
CAVERNDAL CF 392 LL/GT27	56.2			1.0
LG SEEDS LGS3777RX	55.5			1.3
CAVERNDAL CF 364 STSn	55.1	48.1		1.0
AGRIGOLD G3620RX	54.9			1.0
CZ 3519 GTLL	51.7			1.0
GROUP III AVERAGE	63.7	52.4	66.4	1.1
LSD (0.10)	3.2	2.0	3.2	
C.V.	4.8	4.7	8.7	
MATURITY GROUP IV Early (relative MG 4.0-4.5)				
LG SEEDS LGS4420RX	77.0			1.3
STEWART 4029R2X	76.5			1.7
LS4487XS	73.9			1.0
GO SOY 40GL18	72.8			1.3
DYNA-GRO S42EN89	68.8			1.7
AGRIGOLD G4225RX	68.7			1.7
ASGROW AG42X9	67.8	57.8		2.0
STEWART 4339R2X	67.2	60.4		1.3
CZ 4539 GTLL	67.1			2.0
LS4565XS	66.9			1.7
LS4583X	66.8			1.7
DYNA-GRO S44XS68	66.4	59.7	62.3	1.3
CHANNEL 4519R2X/SR	65.7			1.0
CAVERNDAL CF 427 HT-GLY/STSn	65.6	55.2	66.9	1.0
PROGENY 4265 RXS	65.1			1.0
UNIVERSITY OF MISSOURI S16-14730	64.2			1.7
STEWART 4228R2X	64.1	60.8	70.4	1.3

continued

Table 7. 2019 Kentucky Soybean Variety Performance Tests, Green River Region - 2019 McLean County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
PIONEER P42A96X	63.4	59.4		1.3
STEWART 4527R2X	62.8	58.7	65.1	1.0
NK SEED S44-C7X	62.6			1.3
DYNA-GRO S4209N	62.3	52.4		1.7
WARREN SEED BG 4510 RR2X	61.0	58.8	66.8	1.0
UNIVERSITY OF MISSOURI S13-2743C	60.4	58.1	62.0	1.0
UNIVERSITY OF MISSOURI S13-10590C	60.2	52.2	59.4	1.7
LG SEEDS C4227RX	60.2	43.8	54.9	1.0
ARMOR 44-D92	60.0			1.3
PIONEER P44A72BX	59.7	54.9		2.0
CHANNEL 4218R2X/SR	59.6	55.8		1.3
GO SOY 44GL18	59.6			1.0
LS4407X	58.9			2.0
UNIVERSITY OF MISSOURI S13-3851C	58.7	51.4	61.6	1.7
AGRIGOLD G4579RX	58.4	58.3		1.0
SEED CONSULTANTS SC 8428X™	58.1			2.3
ARMOR 42-D27	57.7	53.2	64.2	1.0
LS4299XS	56.8			1.3
ZS4596GLS	56.4			1.7
DYNA-GRO S40GL59	56.4			1.0
PROGENY 4444 RXS	56.3	50.9	61.4	1.3
AGS GS42X19S	55.2			1.3
ASGROW AG43X0	55.0			1.7
DYNA-GRO S41XS98	54.0	47.4	59.2	2.0
UNIVERSITY OF MISSOURI S13-10592C	53.2	47.7		1.0
CZ 3929 GTLL	52.8			1.0
CAVERNDAL CF 461 LL/GT27/STSn	52.3			1.3
DYNA-GRO S43XS70	52.2			1.3
WARREN SEED BG 4210 RR2X	51.9	42.2	54.6	1.3
PIONEER P40A47X	51.5	49.0	66.8	1.0
BLUE RIVER 42CK7	50.7			1.7
STINE 41EA12	50.4			1.7
GO SOY 423E19	44.2			1.3
GROUP IV Early AVERAGE	60.7	54.0	62.5	1.4
LSD (0.10)	3.2	2.5	3.1	
C.V.	5.0	5.9	8.4	
MATURITY GROUP IV Late (relative MG 4.6-4.9)				
CZ 4918 LL	75.1	66.3		1.0
PIONEER P47A76L	73.5	65.6		2.0
ASGROW AG47X9	71.9	63.4		1.7
LS4999X	69.8			2.0
PIONEER P48A60X	69.1	63.4		2.0
DYNA-GRO S48XT56	68.5	63.9	72.6	2.7
PROGENY 4620 RXS	65.3	65.2	67.1	2.3
USG 7496XTS	64.3	58.5	64.2	1.7
PIONEER P46A16R	64.0	63.8	67.8	2.0
ARMOR 48-D25	63.6			2.3
HS 46X90	63.4			1.3
ASGROW AG47X0	63.2			1.7
PIONEER P46A57BX	63.1	59.0		2.0
PROGENY 4821 RX	63.1			2.0
STEWART 4720R2X	62.9			1.7
USG 7489XTS	62.4			1.7
PROGENY 4799 RXS	62.2	59.2	65.3	1.7
GO SOY 48C17S	62.1			3.0
STEWART 4927R2X	61.6	58.7	66.3	1.7
NK SEED S49-F5X	61.2			1.0
LG SEEDS LGS4931RX	61.1			2.0
USG 7470XT	60.4			2.0
LG SEEDS LGS4899RX	60.3			2.0
ZS4694E3S	59.7			2.0
ASGROW AG48X9	59.5	60.5		1.7
BLUE RIVER e4993	59.4			2.7
WARREN SEED BG 4855 RR2X	59.4			2.0

continued

Table 7. 2019 Kentucky Soybean Variety Performance Tests, Green River Region - 2019 McLean County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
CAVERNDALE CF 483 E3	59.3			2.0
LG SEEDS C4845RX	58.9	55.1	66.6	2.3
ARMOR 46-D09	58.8			1.7
HS 49X60	58.8	51.4	65.6	1.7
CAVERNDALE CF 443 E3	58.4			2.0
ZS4797E3	58.2			1.3
ARMOR 46-D30	57.9			1.7
UNIVERSITY OF MISSOURI S14-15138R	57.7	57.6		2.3
WARREN SEED BG 4710 RR2X	57.6			2.3
ARMOR 47-D18	57.5			1.7
HS 48X90	56.9			2.7
WARREN SEED BG 4922 RR2X	56.6	59.3		1.7
UNIVERSITY OF MISSOURI S14-15146R	56.3	52.3	55.4	1.7
AGRIGOLD G4815RX	56.3			1.7
LS4677X	56.2			1.7
DYNA-GRO S46XS60	55.7			2.3
LS4894X	55.5			2.7
GO SOY 462E18	55.1			1.7
DYNA-GRO S46XT80	54.7			1.7
LS4795XS	54.7			1.3
ASGROW AG46X6	54.6	60.4	64.7	2.3
CZ 4820 LL	53.5	53.5	61.8	2.3
AGRIGOLD G4995RX	52.4	54.0		2.3
ASGROW AG46X0	52.2			1.7
LS4798X	51.3			2.7
LS4889XS	51.2			2.7
PROGENY 4999 RX	50.6			1.3
PROGENY 4816 RX	48.9	56.0	63.1	2.7
CZ 5150 LL	47.6			1.7

continued

Table 7. 2019 Kentucky Soybean Variety Performance Tests, Green River Region - 2019 McLean County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
UNIVERSITY OF MISSOURI S16-14379	44.1			2.0
PENNYRILE (long term check-released 1987)	43.9	40.2	45.9	2.3
GROUP IV Late AVERAGE	59.0	58.5	63.6	2.0
LSD (0.10)	3.4	2.4	2.3	
C.V.	5.4	5.6	6.2	
MATURITY GROUP V (relative MG 5.0-5.9)				
PIONEER P50A85X	75.8	70.3		3.3
PROGENY 5170 RX	61.0			2.7
PROGENY 5016 RXS	56.2	61.0	65.4	3.7
PROGENY 5252 RX	53.2	53.9		3.0
UNIVERSITY OF MISSOURI MO5201D CONV	52.2	56.2		2.7
LS5087X	52.1			3.0
UNIVERSITY OF MISSOURI S13-1955C	50.3	47.3	49.5	3.7
UNIVERSITY OF MISSOURI S11-20242C	50.2	50.1		3.7
UNIVERSITY OF MISSOURI S14-9017R	48.3	56.7	64.4	3.3
UNIVERSITY OF MISSOURI S15-10434C	45.9	44.2		3.3
UNIVERSITY OF MISSOURI S16-3747RY	44.0			3.3
ESSEX (long term check-released 1974)	38.8	40.6	46.1	3.3
GROUP V AVERAGE	52.3	53.4	56.3	3.3
LSD (0.10)	3.5	2.5	2.0	
C.V.	6.1	6.2	5.8	

A Within a maturity group, shaded yield are not significantly different (0.10) from the highest yielding cultivar (bold) of that maturity group and year column.

B The 2019 yield data were collected at the McLean Co., KY test site, the 2018 data at the Henderson Co., KY test site, and the 2017 data at the Hancock Co., KY test site.

Agronomic Information – Green River Region, McLean County

GPS coordinates	37°28'50.0"N 87°18'00.5"W
Soil type	Belknap silt loam, occasionally flooded 50%, Hosmer silt loam 50%
Slopes	0-2% Belknap, 2-6% Hosmer (Sand: 6.54%, Silt: 78.28%, Clay: 15.18%; CEC: 8.5meq/100g; Plant available water: 22.01%, Field capacity water: 36.57%, Wilting point water: 14.56%)
Previous crop	Corn
Soil test (3/22/2019)	pH 5.84, P 113lbs/a, K 142lbs/a
SCN test	1,500 (low)
Fertilizer/lime applied	NA
Agricultural practice	no-till
Pre-emergence herbicides	Mad Dog Plus, Matador-S 5/25/2019
Planting date	05/25/2019
Post-emergence herbicides	FirstRate, Reflex, Fusion, Classic 7/10/2019
Harvest dates	MG II, III, IV Early, V 10/10/2019, IV Late 10/14/2019
50% frost killing	10/20

Climate – Green River Region, McLean County

Month	Total Monthly Precip. (in.)	Temperatures (F)			Monthly Average RH (%)	Total Monthly Solar Radiation (wat/m2)
		Monthly Average	Highest Recorded	Lowest Recorded		
May (5/25)	1.71	77	94	63	76	137,721
June	6.41	74	94	48	78	746,852
July	6.29	77	94	56	84	1,253,338
August	1.66	76	96	53	84	1,754,307
September	0.00	76	102	50	70	626,884
October (10/14)	0.90	64	100	32	71	220,657

Table 8. 2019 Kentucky Soybean Variety Performance Tests, Lake Cumberland Region - 2019 Cumberland County

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	Cumberland 2017 & 2019	Cumberland 2017 & 2019, Pulaski 2017	
MATURITY GROUP II (relative MG 2.0-2.9)				
AGRIGOLD G2900RX	81.4			2.7
ASGROW AG29X8	73.3	60.0	52.2	2.3
ASGROW AG29X9	70.9			1.7
GROUP II AVERAGE	75.2	60.0	52.2	2.2
LSD (0.10)	3.0	2.4	5.0	
C.V.	3.2	4.2	5.2	
MATURITY GROUP III (relative MG 3.0-3.9)				
SEED CONSULTANTS SCS 9385RR™	97.5	84.8	71.7	3.3
LS3976X	97.4			4.0
ASGROW AG37X9	94.9			4.0
CHANNEL 3718R2X	94.8			2.7
ASGROW AG39X0	92.5			2.7
AGRIGOLD G3520RX	90.9	76.2	64.5	3.0
SEED CONSULTANTS SC 3399L™	90.8			3.0
SEED CONSULTANTS SCS 9393RR™	90.3	81.5	66.7	1.0
AGRIGOLD G3722RX	88.0			2.7
NK SEED S39-62X	87.7			2.3
LG SEEDS LGS3777RX	86.7			3.0
ARMOR 38-D53	86.7			2.7
CHANNEL 3220R2X	86.0			2.0
PIONEER P38A98X	85.5	75.7	62.9	3.3
STINE 36EA02	84.6			2.7
CHANNEL 3519R2X	84.0			2.7
WARREN SEED BG 3701 RR2X	83.1			3.3
CAVERNDAL CF 392 LL/GT27	82.1			3.0
AGRIGOLD G3620RX	79.9			2.3
SEED CONSULTANTS SC 8379X™	79.8			3.3
CZ 3519 GTLL	79.4			3.0
STINE 39EA02	79.1			3.3
STEWART 3628R2X	78.9			3.0
AGRIGOLD G3850RX	78.4			2.3
ASGROW AG39X7	78.1	77.2	66.4	2.3
PIONEER P31A22X	77.7			3.3
DYNA-GRO S37EN39	77.4			3.0
ASGROW AG38X8	77.1	74.5	62.9	2.0
DYNA-GRO S39EN19	75.6			2.3
SEED CONSULTANTS SC 8399X™	74.9			2.0
STEWART 3830R2X	74.0			1.3
PIONEER P33A53X	72.2			2.3
CAVERNDAL CF 364 STSn	60.3			2.0
GROUP III AVERAGE	83.2	78.3	65.8	2.7
LSD (0.10)	3.6	3.5	2.5	
C.V.	4.1	5.7	5.5	
MATURITY GROUP IV Early (relative MG 4.0-4.5)				
PROGENY 4265 RXS	104.2			3.0
CHANNEL 4218R2X/SR	97.3			2.0
CHANNEL 4519R2X/SR	97.3			3.0
ASGROW AG43X0	96.9			3.0
UNIVERSITY OF MISSOURI S13-10590C	95.8	88.0	69.0	2.3
STINE 41EA12	95.8			3.3
STEWART 4228R2X	95.1	89.0	76.0	1.7
ASGROW AG42X9	94.8			3.0
AGRIGOLD G4579RX	94.3			3.0
STEWART 4339R2X	93.2			2.3
STEWART 4527R2X	93.0	91.2	72.3	2.7
ARMOR 44-D92	92.7			2.7
CZ 4539 GTLL	92.5			2.0
GO SOY 423E19	92.2			3.3
SEED CONSULTANTS SC 8428X™	92.0	78.9	68.6	3.7
LS4565XS	91.1			3.0

continued

Table 8. 2019 Kentucky Soybean Variety Performance Tests, Lake Cumberland Region - 2019 Cumberland County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	Cumberland 2017 & 2019	Cumberland 2017 & 2019, Pulaski 2017	
WARREN SEED BG 4210 RR2X	91.1	84.5	77.8	3.0
DYNA-GRO S44XS68	90.8	85.5	77.8	2.7
DYNA-GRO S43XS70	90.1			3.0
DYNA-GRO S41XS98	90.0	83.9	72.3	2.7
UNIVERSITY OF MISSOURI S13-2743C	89.6	84.3	71.1	3.0
LS4407X	89.5			3.0
PIONEER P40A47X	89.3	89.3	77.9	2.3
AGS GS42X19S	89.1			3.7
AGRIGOLD G4225RX	88.8			3.7
GO SOY 44GL18	87.7			3.7
PIONEER P42A96X	87.2			2.3
LS4299XS	86.9			3.0
ARMOR 42-D27	86.4	82.1	69.4	2.7
WARREN SEED BG 4510 RR2X	85.4	83.3	71.7	2.3
PIONEER P44A72BX	84.7			2.7
UNIVERSITY OF MISSOURI S13-10592C	84.7			3.7
LG SEEDS C4227RX	84.7	82.8	73.4	2.3
PROGENY 4444 RXS	84.1	86.5	77.3	3.7
NK SEED S44-C7X	84.0			2.7
CZ 3929 GTLL	83.5			2.7
UNIVERSITY OF MISSOURI S13-3851C	83.1	84.2	75.7	3.7
LG SEEDS LGS4420RX	80.4			2.7
GO SOY 40GL18	80.4			3.0
LS4583X	79.7			3.0
LS4487XS	79.5			2.0
STEWART 4029R2X	79.3			1.7
DYNA-GRO S4209N	78.5			2.7
CAVERNDAL CF 427 HT-GLY/STSn	77.8	78.2	68.2	2.0
UNIVERSITY OF MISSOURI S16-14730	74.0			2.3
CAVERNDAL CF 461 LL/GT27/STSn	71.4			3.0
BLUE RIVER 42CK7	69.8			1.3
ZS4596GLS	69.6			2.3
DYNA-GRO S42EN89	60.9			3.0
DYNA-GRO S40GL59	55.8			3.7
GROUP IV Early AVERAGE	86.1	84.8	73.2	2.8
LSD (0.10)	3.7	3.2	2.5	
C.V.	4.1	5.1	5.4	
MATURITY GROUP IV Late (relative MG 4.6-4.9)				
PIONEER P46A16R	116.2	102.8	90.6	2.0
LG SEEDS LGS4931RX	113.8			2.7
WARREN SEED BG 4922 RR2X	109.5			2.0
PROGENY 4816 RX	106.9	91.9	86.8	2.0
DYNA-GRO S46XS60	103.8			2.0
GO SOY 462E18	103.3			2.0
HS 48X90	102.6			2.3
PROGENY 4799 RXS	101.8	92.1	85.4	2.3
ARMOR 48-D25	96.8			2.0
LG SEEDS LGS4899RX	95.6			1.7
HS 49X60	95.3	87.1	88.8	2.3
ARMOR 46-D09	95.2			1.7
PROGENY 4999 RX	95.0			2.0
NK SEED S49-F5X	94.4			2.0
UNIVERSITY OF MISSOURI S14-15146R	91.6	81.8	75.0	2.0
ASGROW AG46X0	91.0			2.3
USG 7470XT	90.7			2.3
USG 7489XTS	89.9			2.0
LS4894X	89.9			2.3
HS 46X90	89.7			2.0
PIONEER P46A57BX	89.4			2.0
AGRIGOLD G4995RX	89.2			2.3
ARMOR 46-D30	89.1			2.0
ASGROW AG48X9	88.9			1.7
CZ 5150 LL	88.6			2.7

continued

Table 8. 2019 Kentucky Soybean Variety Performance Tests, Lake Cumberland Region - 2019 Cumberland County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	Cumberland 2017 & 2019	Cumberland 2017 & 2019, Pulaski 2017	
USG 7496XT5	88.0	88.1	81.7	2.3
ZS4694E3S	87.7			2.0
GO SOY 48C17S	87.3			2.3
STEWART 4720R2X	86.3			2.0
LS4795XS	86.1			1.3
LG SEEDS C4845RX	85.8	80.8	77.5	2.3
STEWART 4927R2X	85.2	85.3	82.3	1.7
DYNA-GRO S46XT80	84.4			2.0
AGRIGOLD G4815RX	84.3			1.7
PROGENY 4620 RXS	84.1	84.7	79.9	2.0
UNIVERSITY OF MISSOURI S16-14379	83.7			1.7
BLUE RIVER e4993	83.2			2.3
CZ 4820 LL	82.4	79.6	80.4	2.7
WARREN SEED BG 4855 RR2X	82.2			2.3
ZS4797E3	82.0			2.0
PIONEER P48A60X	81.7			2.7
LS4798X	80.9			2.7
CAVERNDALE CF 443 E3	80.6			1.7
ASGROW AG47X9	80.6			2.3
WARREN SEED BG 4710 RR2X	80.3			1.7
DYNA-GRO S48XT56	79.8	78.7	79.4	1.3
ASGROW AG46X6	77.5	78.0	75.3	2.0
CAVERNDALE CF 483 E3	76.2			2.0
PIONEER P47A76L	76.1			2.7
ASGROW AG47X0	74.4			2.0
UNIVERSITY OF MISSOURI S14-15138R	74.4			2.0
CZ 4918 LL	74.3			1.7
LS4889XS	73.4			1.7
LS4999X	72.2			2.0
PENNYRILE (long term check-released 1987)	71.6	66.6	63.4	1.7

continued

Agronomic Information – Lake Cumberland Region, Cumberland County

GPS coordinates	36°45'29.3"N 85°17'13.6"W
Soil type	Sensabaugh gravelly loam, occasionally flooded (Sand: 28.86%, Silt: 52.14%, Clay: 19%; CEC: 9.15 meq/100g; Plant available water: 16.9%, Field capacity water: 34.3%, Wilting point water: 17.4%)
Slopes	0-4%
Previous crop	Tobacco, winter wheat (cover crop)
Soil test (2/28/2019)	pH 5.83, P 231lbs/a, K 191lbs/a
SCN test	0
Agricultural practice	no-till
Pre-planting herbicides	NA
Planting date	5/17/2019
Post-emergence herbicides	FirstRate, Reflex, Fusion, Classic 6/14/2019
Harvest date	MG II, III, IV Early 10/19/2019, IV Late, V 10/23/2019
50% frost killing	10/24

Table 8. 2019 Kentucky Soybean Variety Performance Tests, Lake Cumberland Region - 2019 Cumberland County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	Cumberland 2017 & 2019	Cumberland 2017 & 2019, Pulaski 2017	
ARMOR 47-D18	69.2			2.3
PROGENY 4821 RX	65.0			2.0
LS4677X	64.5			3.3
GROUP IV Late AVERAGE	87.0	84.4	80.5	2.1
LSD (0.10)	3.2	3.1	3.0	
C.V.	3.6	4.9	6.0	

MATURITY GROUP V (relative MG 5.0-5.9)

PROGENY 5170 RX	95.8			3.0
UNIVERSITY OF MISSOURI S14-9017R	92.6	84.6	84.8	2.7
PROGENY 5016 RXS	91.4	76.1	77.8	2.3
ESSEX (long term check-released 1974)	87.1	73.5	69.2	3.0
UNIVERSITY OF MISSOURI MOS201D CONV	86.0			3.0
PIONEER P50A85X	85.1			3.3
UNIVERSITY OF MISSOURI S13-1955C	81.0	56.7	60.5	4.3
UNIVERSITY OF MISSOURI S11-20242C	79.4			4.3
LS5087X	76.2			3.3
UNIVERSITY OF MISSOURI S16-3747RY	71.3			4.0
PROGENY 5252 RX	71.3			3.3
UNIVERSITY OF MISSOURI S15-10434C	63.0			4.0

GROUP V AVERAGE	81.7	72.7	73.1	3.4
LSD (0.10)	2.3	2.8	2.2	
C.V.	2.6	5.0	4.9	

A Within a maturity group, shaded yield are not significantly different (0.10) from the highest yielding cultivar (bold) of that maturity group and year column.

B The 2019 yield data were collected at the Cumberland Co., KY test site, and the 2017 data at the Cumberland Co., KY and Pulaski Co. test sites. No data were collected in the Lake Cumberland Region in 2018.

Climate – Lake Cumberland Region, Cumberland County

Month	Total Monthly Precip. (in.)	Temperatures (F)			Monthly Average RH (%)	Total Monthly Solar Radiation (wat/m ²)
		Monthly Average	Highest Recorded	Lowest Recorded		
May (5/17)	1.75	74	97	51	80	369,331
June	12.36	72	92	45	85	712,672
July	6.67	76	95	53	89	745,463
August	3.66	74	96	51	89	718,587
September	0.04	73	100	47	81	622,516
October (10/23)	4.56	60	99	31	82	344,838

Table 9. 2019 Kentucky Soybean Variety Performance Tests, Lincoln Trail Region - 2019 Meade County

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
MATURITY GROUP II (relative MG 2.0-2.9)				
AGRIGOLD G2900RX	47.4	44.7		1.0
ASGROW AG29X9	42.7			1.0
ASGROW AG29X8	39.9	46.6	53.1	1.0
GROUP II AVERAGE	43.3	45.6	53.1	1.0
LSD (0.10)	2.9	1.8	1.8	
C.V.	5.3	5.0	5.7	
MATURITY GROUP III (relative MG 3.0-3.9)				
LS3976X	61.1			1.0
ASGROW AG39X7	58.3	55.9	61.6	1.0
AGRIGOLD G3850RX	57.4			1.0
ASGROW AG39X0	57.1			1.0
CAVERNDAL CF 364 STSn	56.7	40.7		1.0
STEWART 3830R2X	55.8			1.0
PIONEER P38A98X	54.6			1.0
ARMOR 38-D53	54.4			1.0
STEWART 3628R2X	54.3			1.0
SEED CONSULTANTS SC 8379X™	53.7	57.3		1.0
NK SEED S39-62X	53.5			1.0
AGRIGOLD G3722RX	53.3	58.9		1.0
AGRIGOLD G3620RX	53.2			1.0
PIONEER P33A53X	53.1			1.0
SEED CONSULTANTS SC 3399L™	52.3			1.0
SEED CONSULTANTS SCS 9385RR™	52.1	49.7	56.9	1.0
CHANNEL 3718R2X	51.7	43.2		1.0
DYNA-GRO S39EN19	51.6			1.0
SEED CONSULTANTS SCS 9393RR™	51.4	52.9	61.0	1.0
CAVERNDAL CF 392 LL/GT27	51.2			1.0
STINE 39EA02	50.8			1.0
SEED CONSULTANTS SC 8399X™	49.5	53.0		1.0
LG SEEDS LGS3777RX	49.4			1.0
WARREN SEED BG 3701 RR2X	48.6			1.0
ASGROW AG37X9	48.5	47.4		1.0
AGRIGOLD G3520RX	48.1	53.0	56.1	1.0
ASGROW AG38X8	48.1	47.6	54.7	1.0
PIONEER P31A22X	46.2			1.0
CZ 3519 GTLL	44.9			1.0
DYNA-GRO S37EN39	44.8			1.0
CHANNEL 3220R2X	44.4			1.0
STINE 36EA02	43.3			1.0
CHANNEL 3519R2X	40.9			1.0
GROUP III AVERAGE	51.3	50.9	58.0	1.0
LSD (0.10)	2.6	2.1	2.6	
C.V.	4.9	5.5	8.1	
MATURITY GROUP IV Early (relative MG 4.0-4.5)				
LG SEEDS C4227RX	58.2	62.6	63.7	1.0
STEWART 4527R2X	56.7	59.3	63.8	1.0
SEED CONSULTANTS SC 8428X™	56.6			1.0
CHANNEL 4519R2X/SR	56.4			1.0
ARMOR 44-D92	55.9			1.0
GO SOY 40GL18	55.8			1.0
ASGROW AG43X0	55.6			1.0
DYNA-GRO S42EN89	55.4			1.0
AGRIGOLD G4579RX	55.2	61.4		1.0
LS4299XS	55.2			1.0
ARMOR 42-D27	54.9	59.3	61.2	1.0
PROGENY 4265 RXS	54.9			1.0
DYNA-GRO S4209N	54.6	52.9		1.0
WARREN SEED BG 4210 RR2X	54.2	54.0	59.1	1.0
PIONEER P42A96X	54.2	61.4		1.0
UNIVERSITY OF MISSOURI S13-10590C	52.9	57.5	57.9	1.0
NK SEED S44-C7X	52.9			1.0
WARREN SEED BG 4510 RR2X	52.3	61.5	66.5	1.0

continued

Table 9. 2019 Kentucky Soybean Variety Performance Tests, Lincoln Trail Region - 2019 Meade County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
DYNA-GRO S43XS70	52.2			1.0
DYNA-GRO S41XS98	52.1	62.5	64.1	1.0
CZ 3929 GTLL	51.6			1.0
AGRIGOLD G4225RX	51.3			1.0
CAVERNDAL CF 427 HT-GLY/STSn	51.1	58.4	64.9	1.0
STEWART 4339R2X	51.1	61.7		1.0
LS4407X	51.0			1.0
PIONEER P40A47X	50.6	57.5	62.4	1.0
LS4487XS	50.6			1.0
BLUE RIVER 42CK7	50.6			1.0
GO SOY 423E19	50.6			1.0
DYNA-GRO S44XS68	50.5	64.7	67.2	1.0
STEWART 4228R2X	50.5	56.9	65.0	1.0
CZ 4539 GTLL	50.4			1.0
PIONEER P44A72BX	50.2	58.3		1.0
UNIVERSITY OF MISSOURI S13-2743C	50.2	54.7	62.5	1.0
PROGENY 4444 RXS	50.1	58.0	63.7	1.0
LS4583X	50.1			1.0
UNIVERSITY OF MISSOURI S13-3851C	49.7	47.7	56.1	1.0
LS4565XS	49.5			1.0
CHANNEL 4218R2X/SR	48.5	46.6		1.0
UNIVERSITY OF MISSOURI S16-14730	48.5			1.0
ASGROW AG42X9	48.3	51.6		1.0
LG SEEDS LGS4420RX	48.3			1.0
GO SOY 44GL18	47.7			1.0
UNIVERSITY OF MISSOURI S13-10592C	47.4	52.7		1.0
AGS GS42X19S	47.0			1.0
STEWART 4029R2X	46.1			1.0
STINE 41EA12	45.1			1.0
ZS4596GLS	45.0			1.0
CAVERNDAL CF 461 LL/GT27/STSn	44.9			1.0
DYNA-GRO S40GL59	42.8			1.0
GROUP IV Early AVERAGE	51.3	57.3	62.7	1.0
LSD (0.10)	2.7	2.2	2.9	
C.V.	5.0	5.4	8.4	
MATURITY GROUP IV Late (relative MG 4.6-4.9)				
UNIVERSITY OF MISSOURI S14-15146R	59.7	55.6	59.9	1.0
ZS4797E3	59.3			1.0
ASGROW AG47X9	59.0	65.9		1.0
PIONEER P46A57BX	58.9	63.8		1.0
LS4889XS	58.5			1.0
PIONEER P46A16R	57.8	60.3	63.6	1.0
PROGENY 4620 RXS	57.3	58.0	58.8	1.0
CZ 4820 LL	56.9	58.7	62.8	1.0
LG SEEDS LGS4899RX	56.2			1.0
HS 49X60	56.0	61.2	60.7	1.0
CAVERNDAL CF 443 E3	55.7			1.0
STEWART 4720R2X	55.4			1.0
CAVERNDAL CF 483 E3	55.3			1.0
ASGROW AG47X0	55.1			1.0
AGRIGOLD G4815RX	54.4			1.0
ZS4694E3S	54.2			1.0
HS 48X90	54.0			1.0
PROGENY 4821 RX	53.6			1.0
ARMOR 46-D09	53.2			1.0
LS4677X	53.1			1.0
ARMOR 46-D30	53.0			1.0
LS4795XS	52.9			1.0
LS4894X	52.8			1.0
DYNA-GRO S46XT80	52.5			1.0
DYNA-GRO S48XT56	52.4	56.2	59.5	1.0
WARREN SEED BG 4855 RR2X	52.4			1.0
PROGENY 4799 RXS	52.2	58.0	60.9	1.0
WARREN SEED BG 4710 RR2X	52.1			1.0
USG 7470XT	51.8			1.0

continued

Table 9. 2019 Kentucky Soybean Variety Performance Tests, Lincoln Trail Region - 2019 Meade County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
ASGROW AG46X0	51.7			1.0
PROGENY 4816 RX	51.4	58.9	57.3	1.0
BLUE RIVER e4993	51.0			1.0
LG SEEDS C4845RX	51.0	56.7	58.1	1.0
PROGENY 4999 RX	51.0			1.0
LS4999X	50.6			1.0
ASGROW AG46X6	50.5	54.0	53.2	1.0
USG 7489XTS	50.1			1.0
AGRIGOLD G4995RX	50.0	58.9		1.0
ARMOR 48-D25	50.0			1.0
UNIVERSITY OF MISSOURI S16-14379	50.0			1.0
PIONEER P48A60X	50.0	56.1		1.0
STEWART 4927R2X	49.8	54.1	58.8	1.0
PIONEER P47A76L	49.7	56.5		1.0
DYNA-GRO S46XS60	49.2			1.0
GO SOY 462E18	49.2			1.0
CZ 4918 LL	48.9	56.4		1.0
ASGROW AG48X9	48.8	55.1		1.0
HS 46X90	48.7			1.0
LG SEEDS LGS4931RX	48.4			1.0
ARMOR 47-D18	48.1			1.0
NK SEED S49-F5X	47.8			1.0
UNIVERSITY OF MISSOURI S14-15138R	47.7	54.2		1.0
WARREN SEED BG 4922 RR2X	47.2	52.8		1.0
USG 7496XTS	46.9	52.1	55.4	1.0
LS4798X	44.2			1.0

continued

Table 9. 2019 Kentucky Soybean Variety Performance Tests, Lincoln Trail Region - 2019 Meade County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
GO SOY 48C17S	42.9			1.0
CZ 5150 LL	42.2			1.0
PENNYRILE (long term check-released 1987)	39.2	42.0	43.6	1.0
GROUP IV Late AVERAGE	51.8	56.6	57.9	1.0
LSD (0.10)	2.7	2.2	2.0	
C.V.	5.0	5.4	6.1	
MATURITY GROUP V (relative MG 5.0-5.9)				
PIONEER P50A85X	54.8	52.3		1.0
ESSEX (long term check-released 1974)	54.2	45.4	46.9	1.0
LS5087X	53.5			1.0
UNIVERSITY OF MISSOURI S14-9017R	52.8	51.3	56.0	1.0
PROGENY 5170 RX	52.8			1.0
PROGENY 5016 RXS	52.5	53.0	56.2	1.0
UNIVERSITY OF MISSOURI S11-20242C	50.9	39.8		2.3
UNIVERSITY OF MISSOURI S15-10434C	49.5	38.0		1.3
UNIVERSITY OF MISSOURI MO5201D CONV	47.9	44.0		1.0
UNIVERSITY OF MISSOURI S13-1955C	46.0	38.5	37.9	1.7
UNIVERSITY OF MISSOURI S16-3747RY	45.4			1.7
PROGENY 5252 RX	45.0	43.1		1.3
GROUP V AVERAGE	50.4	45.0	49.2	1.3
LSD (0.10)	2.8	2.0	1.7	
C.V.	5.1	5.9	6.1	

A Within a maturity group, shaded yield are not significantly different (0.10) from the highest yielding cultivar (bold) of that maturity group and year column.

B The 2018-2019 yield data were collected at the Meade, KY test sites, and the 2017 data at the Breckinridge Co., KY test site.

Agronomic Information – Lincoln Trail Region, Meade County

GPS coordinates	37°49'13.6"N 86°07'45.0"W
Soil type	Crider silt loam 8%, Nolin silt loam, depositional, frequently flooded 92% (Sand: 4.7%, Silt: 78.83%, Clay: 16.47%; CEC: 9.22meq/100g; Plant available water: 20.71%, Field capacity water: 37.03%, Wilting point water: 16.31%)
Slopes	2-6% Crider
Previous crop	Corn, barley (cover crop)
Soil test (2/26/2019)	pH 6.19, P 100lbs/a, K 180lbs/a
SCN test	250 (low)
Agricultural practice	no-till
Pre-emergence herbicides	Mad Dog, Matador-S (5/16/2019)
Planted date	05/16/2019
Post-emergence herbicides	NA
Harvest date	MG II, III, V 10/15/2019, IV Early & Late 10/17/2019
50% frost killing	10/13

Climate – Lincoln Trail Region, Meade County

Month	Total Monthly Precip. (in.)	Temperatures (F)			Monthly Average RH (%)	Total Monthly Solar Radiation (wat/m ²)
		Monthly Average	Highest Recorded	Lowest Recorded		
May (5/16)	3.62	74	93	53	76	350,856
June	9.63	72	92	44	78	724,231
July	0.70	76	93	51	80	799,977
August	2.14	74	96	49	79	677,273
September	0.04	73	100	42	70	616,312
October (10/17)	4.20	60	98	31	73	244,051

Table 10. 2019 Kentucky Soybean Variety Performance Tests, Mammoth Cave Region - 2019 Allen County

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
MATURITY GROUP II (relative MG 2.0-2.9)	Not available			
MATURITY GROUP III (relative MG 3.0-3.9)				
LG SEEDS LGS3777RX	77.4			1.7
SEED CONSULTANTS SCS 9393RR™	74.1	65.7	68.4	1.3
AGRIGOLD G3620RX	73.5			1.0
SEED CONSULTANTS SC 3399L™	68.9			3.0
ASGROW AG39X0	68.2			1.3
CAVERNDAL CF 392 LL/GT27	66.2			1.7
DYNA-GRO S39EN19	66.0			1.0
PIONEER P33A53X	65.6			1.0
STEWART 3830R2X	64.6			1.3
SEED CONSULTANTS SC 8399X™	64.5	67.7		1.0
WARREN SEED BG 3701 RR2X	62.6			1.7
AGRIGOLD G3520RX	61.8	62.6	55.4	1.0
SEED CONSULTANTS SCS 9385RR™	61.0	67.2	70.2	1.3
STINE 39EA02	60.7			1.0
CHANNEL 3519R2X	60.5			1.0
ASGROW AG38X8	60.0	63.5	62.3	1.0
AGRIGOLD G3722RX	59.9	60.1		1.3
ARMOR 38-D53	58.5			1.0
NK SEED S39-62X	58.3			2.3
SEED CONSULTANTS SC 8379X™	58.1	59.2		1.0
LS3976X	57.7			1.7
ASGROW AG39X7	57.3	60.0	58.2	1.0
STINE 36EA02	57.0			1.3
PIONEER P38A98X	55.7			1.0
CHANNEL 3220R2X	55.3			1.0
AGRIGOLD G3850RX	54.5			1.0
STEWART 3628R2X	54.4			1.3
CHANNEL 3718R2X	51.8	53.8		1.0
PIONEER P31A22X	51.6			1.7
CZ 3519 GTLL	48.8			1.3
ASGROW AG37X9	48.3	57.3		1.7
CAVERNDAL CF 364 STSn	46.9	48.9		1.0
DYNA-GRO S37EN39	32.9			1.0
GROUP III AVERAGE				
	59.5	60.5	62.9	1.3
LSD (0.10)	3.5	2.3	2.1	
C.V.	5.6	5.2	5.7	
MATURITY GROUP IV Early (relative MG 4.0-4.5)				
CAVERNDAL CF 461 LL/GT27/STSn	90.4			1.3
AGRIGOLD G4225RX	82.3			1.3
ASGROW AG43X0	78.4			1.3
DYNA-GRO S43XS70	78.2			1.0
DYNA-GRO S41XS98	76.2	68.0	66.9	1.3
DYNA-GRO S44XS68	75.9	59.1	60.9	1.7
CAVERNDAL CF 427 HT-GLY/STSn	75.1	62.8	61.0	1.3
GO SOY 40GL18	73.9			1.3
WARREN SEED BG 4210 RR2X	72.3	64.4	69.7	1.7
STEWART 4228R2X	71.9	66.7	71.0	1.7
STEWART 4527R2X	71.1	70.2	72.9	1.3
PIONEER P40A47X	70.8	73.4	70.9	1.0
GO SOY 44GL18	70.8			1.0
GO SOY 423E19	70.4			1.7
CZ 4539 GTLL	69.8			1.7
DYNA-GRO S4209N	69.8	68.2		1.3
AGS GS42X19S	69.8			1.0
STINE 41EA12	67.8			1.0
BLUE RIVER 42CK7	67.7			1.3
LS4299XS	67.2			1.3
LS4407X	66.9			2.7
NK SEED S44-C7X	66.2			1.3
ARMOR 44-D92	66.0			1.0
AGRIGOLD G4579RX	65.7	60.3		2.0
LS4565XS	65.1			1.0

continued

Table 10. 2019 Kentucky Soybean Variety Performance Tests, Mammoth Cave Region - 2019 Allen County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
STEWART 4339R2X	63.5	70.6		1.0
PIONEER P42A96X	62.0	67.9		1.3
LS4487XS	61.6			1.0
PIONEER P44A72BX	61.3	63.1		1.7
PROGENY 4444 RXS	60.5	58.0	56.2	1.0
ASGROW AG42X9	59.6	59.2		1.0
SEED CONSULTANTS SC 8428X™	59.6			2.0
UNIVERSITY OF MISSOURI S13-2743C	59.0	60.2	61.2	1.3
STEWART 4029R2X	58.0			1.3
UNIVERSITY OF MISSOURI S13-10590C	57.0	54.6	58.1	1.3
WARREN SEED BG 4510 RR2X	56.5	60.2	61.6	1.0
CHANNEL 4218R2X/SR	56.1	54.8		1.3
ARMOR 42-D27	55.9	66.9	68.2	1.0
UNIVERSITY OF MISSOURI S16-14730	55.6			1.0
LG SEEDS LGS4420RX	54.2			1.3
ZS4596GLS	54.2			1.0
DYNA-GRO S40GL59	52.9			1.3
UNIVERSITY OF MISSOURI S13-3851C	51.7	55.2	58.4	1.3
LS4583X	51.5			1.7
CHANNEL 4519R2X/SR	51.4			1.0
PROGENY 4265 RXS	50.3			1.0
LG SEEDS C4227RX	49.0	52.8	59.9	1.0
DYNA-GRO S42EN89	47.2			1.0
UNIVERSITY OF MISSOURI S13-10592C	45.2	54.5		1.0
CZ 3929 GTLL	40.5			1.0
GROUP IV Early AVERAGE				
	63.5	62.3	64.1	1.3
LSD (0.10)	2.8	2.1	2.0	
C.V.	4.2	4.6	5.1	
MATURITY GROUP IV Late (relative MG 4.6-4.9)				
PIONEER P48A60X	80.6	74.3		1.0
CZ 5150 LL	75.1			1.0
ARMOR 48-D25	73.9			1.0
ASGROW AG47X9	71.8	64.0		1.0
DYNA-GRO S46XT80	70.5			1.0
CZ 4918 LL	64.6	62.7		1.0
ARMOR 46-D30	63.8			1.0
AGRIGOLD G4815RX	63.7			1.0
ASGROW AG48X9	63.6	66.7		1.0
ZS4694E3S	63.4			1.0
ZS4797E3	63.3			1.0
LS4889XS	63.0			1.0
LS4894X	63.0			1.0
CZ 4820 LL	62.9	59.5	64.6	1.0
AGRIGOLD G4995RX	62.0	57.5		1.0
CAVERNDAL CF 443 E3	60.9			1.0
CAVERNDAL CF 483 E3	60.7			1.0
NK SEED S49-F5X	60.5			1.0
USG 7489XTS	59.8			1.3
ASGROW AG46X0	59.8			1.0
LS4677X	59.0			1.0
LS4795XS	58.5			1.0
GO SOY 48C17S	58.2			1.0
LS4798X	58.1			1.3
LG SEEDS C4845RX	57.9	55.0	58.3	1.0
DYNA-GRO S46XS60	57.7			1.0
HS 46X90	56.5			1.0
ARMOR 47-D18	56.0			1.0
PROGENY 4799 RXS	55.6	54.3	60.6	1.0
PROGENY 4816 RX	54.4	61.7	64.0	1.0
USG 7496XTS	54.3	56.6	67.7	1.0
UNIVERSITY OF MISSOURI S16-14379	53.9			1.0
PROGENY 4821 RX	52.5			1.0
PIONEER P46A57BX	51.1	53.7		1.3
WARREN SEED BG 4922 RR2X	50.9	53.2		1.0
BLUE RIVER e4993	50.2			1.0

continued

Table 10. 2019 Kentucky Soybean Variety Performance Tests, Mammoth Cave Region - 2019 Allen County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
UNIVERSITY OF MISSOURI S14-15138R	50.2	55.0		1.0
HS 48X90	49.8			1.0
GO SOY 462E18	49.3			1.0
WARREN SEED BG 4710 RR2X	49.1			1.3
PROGENY 4620 RXS	48.9	51.2	57.7	1.0
LG SEEDS LGS4899RX	48.6			1.0
PROGENY 4999 RX	47.9			1.0
PIONEER P46A16R	47.4	51.1	58.8	1.0
STEWART 4927R2X	47.1	50.2	58.8	1.0
STEWART 4720R2X	45.7			1.0
WARREN SEED BG 4855 RR2X	45.0			1.0
LS4999X	44.8			1.0
HS 49X60	44.5	55.2	58.7	1.0
ASGROW AG46X6	44.4	50.5	57.7	1.0
LG SEEDS LGS4931RX	43.8			1.0
UNIVERSITY OF MISSOURI S14-15146R	43.4	57.7	58.5	1.0
USG 7470XT	40.6			1.0
DYNA-GRO S48XT56	39.8	41.0	51.2	1.0
ASGROW AG47X0	37.7			1.0
PIONEER P47A76L	35.5	47.8		1.0
PENNYRILE (long term check-released 1987)	34.8	41.3	45.0	1.0
ARMOR 46-D09	34.2			1.0
GROUP IV Late AVERAGE	54.6	55.5	58.6	1.0
LSD (0.10)	3.5	2.3	2.1	
C.V.	6.2	5.7	6.1	

continued

Agronomic Information – Mammoth Cave Region, Allen County

GPS coordinates	36°47'31.7"N 86°22'30.0"W
Soil type	Christian gravelly silt loam 31%, Mountview silt loam 69% (Sand: 12.64%, Silt: 63.73%, Clay: 23.62%, CEC: 9.93meq/100g, Plant available water: 20.82%; Field capacity water: 32.73%, Wilting point water: 11.91%)
Slopes	6-12% Christian, 2-6% Mountview
Previous crop	corn
Soil test	pH 7.19, P 94lbs/a, K 374lbs/a
SCN test	0
Fertilizer/lime applied	NA
Agricultural practice	no-till
Pre-emergence herbicide	Mad Dog (Glyphosate) 5/22/2019
Planting date	5/22/2019
Post-planting herbicides	FirstRate, Reflex, Fusion 6/12/2019
Harvest date	10/18/2019
50% frost killing	10/22

Table 10. 2019 Kentucky Soybean Variety Performance Tests, Mammoth Cave Region - 2019 Allen County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
MATURITY GROUP V (relative MG 5.0-5.9)				
PIONEER P50A85X	61.3	57.8		1.7
PROGENY 5170 RX	61.0			1.3
PROGENY 5016 RXS	59.0	59.3	67.0	1.3
UNIVERSITY OF MISSOURI S15-10434C	57.5	54.6		2.0
PROGENY 5252 RX	56.9	57.2		1.0
UNIVERSITY OF MISSOURI MOS201D CONV	55.5	59.1		2.3
ESSEX (long term check-released 1974)	54.1	54.5	57.2	1.3
UNIVERSITY OF MISSOURI S13-1955C	51.8	52.4	58.3	1.3
UNIVERSITY OF MISSOURI S14-9017R	47.3	59.2	66.4	1.7
UNIVERSITY OF MISSOURI S16-3747RY	46.9			1.3
UNIVERSITY OF MISSOURI S11-20242C	40.5	38.1		1.7
LS5087X	36.7			1.3
GROUP V AVERAGE	52.4	54.7	62.2	1.5
LSD (0.10)	3.7	2.1	1.9	
C.V.	6.5	5.2	5.6	

A Within a maturity group, shaded yield are not significantly different (0.10) from the highest yielding cultivar (bold) of that maturity group and year column.

B The 2019 yield data were collected at the Allen Co., KY test site, the 2018 data at the Logan Co., KY test site, and the 2017 data at the Butler Co., KY test site.

Climate – Mammoth Cave Region, Allen County

Month	Total Monthly Precip. (in.)	Temperatures (F)			Monthly Average RH (%)	Total Monthly Solar Radiation (wat/m ²)
		Monthly Average	Highest Recorded	Lowest Recorded		
May (5/22)	0.53	77	93	60	74	235,732
June	10.13	73	93	46	79	761,631
July	4.91	77	95	55	84	773,378
August	4.44	75	97	53	83	712,732
September	1.04	74	97	49	79	619,151
October (10/18)	3.55	68	96	32	78	137,829

Table 11. 2019 Kentucky Soybean Variety Performance Tests, Pennyriple Region - 2019 Caldwell County & Christian County

BRAND VARIETY	YIELD (BU/AC) ^{A/B}				LODGING 2019
	2019 Caldwell	2019 Christian	2018-2019	2017-2019	
MATURITY GROUP II (relative MG 2.0-2.9)					
ASGROW AG29X9	95.2	74.7			1.5
AGRIGOLD G2900RX	81.1	69.2	62.5		1.3
ASGROW AG29X8	76.9	64.4	60.9	57.3	1.3
GROUP II AVERAGE	84.4	69.4	61.7	57.3	1.4
LSD (0.10)	1.2	4.4	1.5	1.4	
C.V.	1.2	5.0	3.6	4.1	
MATURITY GROUP III (relative MG 3.0-3.9)					
STINE 36EA02	100.0	69.9			2.3
ARMOR 38-D53	91.7	76.1			2.5
DYNA-GRO S39EN19	90.9	77.8			3.0
DYNA-GRO S37EN39	90.7	78.8			2.3
ASGROW AG37X9	90.3	83.3	76.2		3.3
ASGROW AG39X7	90.3	70.2	70.0	68.7	2.0
AGRIGOLD G3850RX	88.1	58.6			3.0
SEED CONSULTANTS SC 8399X™	88.1	68.7	72.9		2.7
SEED CONSULTANTS SCS 9393RR™	87.7	65.7	68.3	68.2	2.0
CAVERNDALE CF 364 STSn	85.8	58.7	67.0		3.5
LG SEEDS LGS3777RX	85.8	64.7			2.8
SEED CONSULTANTS SC 8379X™	85.4	73.4	71.8		3.0
AGRIGOLD G3722RX	85.3	64.5	70.0		3.0
SEED CONSULTANTS SC 3399L™	84.7	76.2			2.8
AGRIGOLD G3520RX	84.2	72.8	73.0	66.7	2.5
PIONEER P33A53X	84.2	70.4			2.8
ASGROW AG38X8	83.9	77.5	72.4	66.5	2.3
STINE 39EA02	83.8	70.6			3.0
ASGROW AG39X0	83.5	81.0			1.7
CHANNEL 3519R2X	83.4	73.8			2.0
WARREN SEED BG 3701 RR2X	83.2	75.2			2.5
CHANNEL 3718R2X	82.9	70.6	67.0		2.3
CHANNEL 3220R2X	81.7	60.2			2.3
NK SEED S39-62X	81.3	61.0			3.2
CAVERNDALE CF 392 LL/GT27	81.3	71.0			2.7
SEED CONSULTANTS SCS 9385RR™	81.1	72.1	70.0	69.0	2.8
AGRIGOLD G3620RX	81.0	75.0			2.3
PIONEER P38A98X	79.7	81.1			2.5
STEWART 3830R2X	78.3	80.8			2.0
PIONEER P31A22X	78.2	66.0			3.3
LS3976X	76.6	72.6			2.8
CZ 3519 GTLL	75.0	71.4			3.0
STEWART 3628R2X	72.3	85.6			2.2
GROUP III AVERAGE	84.3	72.0	70.8	67.8	2.6
LSD (0.10)	2.9	3.4	1.8	1.8	
C.V.	3.3	4.5	4.0	4.7	
MATURITY GROUP IV Early (relative MG 4.0-4.5)					
DYNA-GRO S41XS98	100.5	63.7	75.4	71.7	2.2
PIONEER P42A96X	97.4	76.1	78.3		2.8
STEWART 4339R2X	97.1	75.7	81.5		2.3
CHANNEL 4218R2X/SR	96.7	61.6	71.7		3.2
ARMOR 44-D92	96.2	81.3			2.2
STINE 41EA12	96.1	63.8			2.5
STEWART 4029R2X	95.2	62.2			1.8
ASGROW AG43X0	94.7	74.9			2.5
UNIVERSITY OF MISSOURI S13-2743C	94.7	53.2	67.4	62.4	3.5
LG SEEDS C4227RX	94.6	72.0	78.3	71.5	2.7
GO SOY 40GL18	94.2	47.0			3.0
LS4299XS	94.2	67.3			2.7
GO SOY 423E19	92.7	64.3			2.7
PIONEER P40A47X	92.3	59.5	70.3	65.1	2.5
WARREN SEED BG 4510 RR2X	91.6	58.1	69.0	68.7	2.7
LG SEEDS LGS4420RX	91.4	62.0			2.7

continued

Table 11. 2019 Kentucky Soybean Variety Performance Tests, Pennyriple Region - 2019 Caldwell County & Christian County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}				LODGING 2019
	2019 Caldwell	2019 Christian	2018-2019	2017-2019	
LS4583X	89.8	68.2			3.0
PROGENY 4265 RXS	89.7	66.6			2.8
PIONEER P44A72BX	89.4	66.4	72.7		3.3
STEWART 4527R2X	89.1	71.6	75.6	69.8	2.5
NK SEED S44-C7X	88.4	66.4			1.8
SEED CONSULTANTS SC 8428X™	88.2	64.0			2.8
AGRIGOLD G4579RX	88.0	66.4	73.3		2.7
AGRIGOLD G4225RX	87.9	77.2			2.3
DYNA-GRO S43XS70	87.7	77.8			2.2
LS4487XS	87.1	71.1			2.3
ZS4596GLS	86.9	56.2			2.5
UNIVERSITY OF MISSOURI S13-3851C	86.5	65.8	72.2	67.2	3.0
LS4565XS	85.8	68.0			3.2
ASGROW AG42X9	85.7	65.3	70.7		2.7
LS4407X	85.5	60.4			4.0
DYNA-GRO S44XS68	85.0	64.4	71.2	70.1	2.8
CAVERNDALE CF 427 HT-GLY/STSn	84.8	54.4	69.2	63.9	2.7
PROGENY 4444 RXS	84.4	64.8	68.3	65.1	3.0
DYNA-GRO S42EN89	84.3	66.5			2.8
CAVERNDALE CF 461 LL/GT27/STSn	84.2	46.3			3.5
CZ 3929 GTLL	84.2	54.2			2.2
STEWART 4228R2X	84.1	68.2	69.5	68.7	2.8
CHANNEL 4519R2X/SR	82.9	76.2			2.8
UNIVERSITY OF MISSOURI S13-10592C	82.7	51.0	66.1		3.3
BLUE RIVER 42CK7	81.6	63.6			2.3
CZ 4539 GTLL	81.1	57.8			3.0
WARREN SEED BG 4210 RR2X	79.8	68.1	68.7	64.9	2.7
ARMOR 42-D27	79.5	73.1	71.5	64.9	2.8
DYNA-GRO S4209N	79.0	57.3	65.4		2.7
UNIVERSITY OF MISSOURI S13-10590C	78.7	66.1	67.3	64.2	2.0
GO SOY 44GL18	77.1	58.0			3.3
UNIVERSITY OF MISSOURI S16-14730	76.5	65.3			2.5
AGS GS42X19S	75.8	49.6			3.0
DYNA-GRO S40GL59	75.7	50.3			2.8
GROUP IV Early AVERAGE	87.5	64.2	71.5	67.0	2.7
LSD (0.10)	3.9	3.3	2.1	1.9	
C.V.	4.2	4.9	4.6	5.2	
MATURITY GROUP IV Late (relative MG 4.6-4.9)					
PROGENY 4816 RX	91.6	69.4	71.4	65.2	1.7
ASGROW AG47X9	90.1	63.8	70.2		2.2
CAVERNDALE CF 483 E3	90.0	52.2			2.8
LG SEEDS C4845RX	89.8	82.0	72.8	67.9	1.7
LS4677X	89.3	60.4			2.7
DYNA-GRO S46XS60	87.6	67.6			1.8
USG 7489XTS	87.3	88.4			2.0
PIONEER P47A76L	87.1	76.8	73.6		2.0
DYNA-GRO S46XT80	86.6	61.3			2.2
GO SOY 462E18	86.6	62.5			2.3
WARREN SEED BG 4855 RR2X	85.9	46.1			2.3
ARMOR 47-D18	85.6	63.6			2.2
ASGROW AG48X9	85.5	67.9	70.2		2.2
LG SEEDS LGS4899RX	84.0	66.3			2.3
STEWART 4720R2X	83.8	74.9			2.3
ZS4694E3S	83.1	53.0			2.3
ARMOR 46-D30	83.0	65.4			2.2
PROGENY 4799 RXS	82.9	67.7	65.8	61.6	2.0
ARMOR 46-D09	82.8	70.7			2.2
PROGENY 4999 RX	82.6	75.4			2.3
DYNA-GRO S48XT56	81.0	75.1	66.7	61.7	1.8
LS4999X	80.6	60.5			2.3
ASGROW AG47X0	80.3	66.1			1.7
CZ 4918 LL	80.2	70.7	68.7		2.3
BLUE RIVER e4993	80.0	42.4			2.5

continued

Table 11. 2019 Kentucky Soybean Variety Performance Tests, Pennyrile Region - 2019 Caldwell County & Christian County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}				LOGGING 2019
	2019 Caldwell	2019 Christian	2018-2019	2017-2019	
PROGENY 4821 RX	79.9	67.7			2.3
USG 7496XTS	79.9	63.7	66.0	64.5	2.3
LS4889XS	79.5	56.8			2.5
ZS4797E3	79.3	56.0			2.2
NK SEED S49-F5X	79.3	53.9			2.0
LG SEEDS LGS4931RX	79.0	59.1			2.3
WARREN SEED BG 4922 RR2X	78.9	70.7	67.0		2.0
PIONEER P46A57BX	78.5	70.1	66.9		2.3
HS 49X60	78.3	78.7	70.5	69.2	1.5
WARREN SEED BG 4710 RR2X	78.2	61.9			2.3
AGRIGOLD G4995RX	78.0	64.3	62.9		2.5
PIONEER P48A60X	77.8	72.5	69.4		2.2
HS 48X90	77.7	69.4			2.2
AGRIGOLD G4815RX	77.1	66.0			2.3
UNIVERSITY OF MISSOURI S14-15146R	77.0	53.9	61.6	62.7	1.8
UNIVERSITY OF MISSOURI S16-14379	77.0	51.8			2.2
USG 7470XT	76.4	74.3			2.7
PIONEER P46A16R	76.3	63.4	65.7	65.5	2.5
HS 46X90	76.1	63.0			1.7
ARMOR 48-D25	74.9	61.8			1.8
STEWART 4927R2X	74.8	74.4	65.2	63.5	2.3
LS4894X	74.5	53.6			2.7
CZ 4820 LL	74.5	60.9	65.1	66.4	2.3
ASGROW AG46X6	73.2	63.5	65.3	64.8	2.5
CZ 5150 LL	73.1	55.7			2.2
ASGROW AG46X0	72.3	69.1			1.7
UNIVERSITY OF MISSOURI S14-15138R	72.0	53.9	58.0		2.0
LS4795XS	71.6	69.4			2.0
PROGENY 4620 RXS	70.6	73.8	66.1	63.6	2.5
CAVERDALE CF 443 E3	68.3	49.8			2.7

continued

Table 11. 2019 Kentucky Soybean Variety Performance Tests, Pennyrile Region - 2019 Caldwell County & Christian County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}				LOGGING 2019
	2019 Caldwell	2019 Christian	2018-2019	2017-2019	
GO SOY 48C17S	67.0	54.0			2.7
LS4798X	64.5	61.0			2.7
PENNYRILE (long term check-released 1987)	61.6	45.2	48.8	47.9	2.0
GROUP IV Late AVERAGE	79.4	64.0	66.3	63.4	2.2
LSD (0.10)	3.6	4.2	2.1	1.9	
C.V.	4.3	6.3	5.0	5.3	
MATURITY GROUP V (relative MG 5.0-5.9)					
PIONEER P50A85X	83.8	54.0	67.8		3.2
UNIVERSITY OF MISSOURI S14-9017R	83.2	66.4	64.0	61.8	3.2
LS5087X	78.9	46.3			3.8
UNIVERSITY OF MISSOURI MO5201D CONV	74.0	44.3	59.0		3.5
PROGENY 5170 RX	72.7	55.9			3.0
PROGENY 5252 RX	68.8	57.9	60.4		3.5
UNIVERSITY OF MISSOURI S15-10434C	63.6	37.4	52.3		3.8
ESSEX (long term check-released 1974)	60.5	47.5	54.9	53.3	2.7
PROGENY 5016 RXS	60.3	57.8	64.0	60.9	2.7
UNIVERSITY OF MISSOURI S11-20242C	59.3	48.3	54.5		3.8
UNIVERSITY OF MISSOURI S16-3747RY	56.4	50.7			3.5
UNIVERSITY OF MISSOURI S13-1955C	54.7	43.9	51.0	51.6	4.2
GROUP V AVERAGE	68.0	50.9	58.7	56.9	3.4
LSD (0.10)	3.5	3.4	1.8	1.9	
C.V.	4.8	6.0	4.9	6.0	

A Within a maturity group, shaded yield are not significantly different (0.10) from the highest yielding cultivar (bold) of that maturity group and year column.

B The 2019 yield data were collected at the Caldwell Co., KY and Christian Co., KY test sites, and the 2017-2018 data at the Caldwell Co., KY test site. The Caldwell Co., KY test site is located at the University of Kentucky Research and Education Center in Princeton, KY.

Agronomic Information – Pennyrile Region, Caldwell County

GPS coordinates	37°05'49.5"N 87°51'58.5"W
Soil type	Crider silt loam (Sand: 2.99%, Silt: 79%, Clay: 18.01%; CEC: 9.4meq/100g; Plant available water: 20.81%, Field capacity water: 36.49%, Wilting point water: 15.69%)
Slopes	0-2 %, eroded
Previous crop	Tobacco, winter wheat (cover crop)
Soil test (3/11/2019)	pH 6.04, P 62lbs/a, K 253lbs/a
SCN test	0
Fertilizer/lime applied	NA
Agricultural practice	no-till
Pre-emergence herbicides	Cornerstone (Glyphosate), Duall II Magnum 5/20/2019
Planting dates	5/24/2019
Post-emergence herbicide	FirstRate, Reflex, Fusion, Classic 7/10/2019
Harvest dates	MG II, III 10/01/2019, IV Early & Late, V 10/09/2019
50% frost killing	10/21

Climate – Pennyrile Region, Caldwell County

Month	Total Monthly Precip. (in.)	Temperatures (F)			Monthly Average RH (%)	Total Monthly Solar Radiation (wat/m ²)
		Monthly Average	Highest Recorded	Lowest Recorded		
May (5/24)	3.43	77	104	60	77	187,012
June	3.83	74	103	47	78	700,979
July	3.23	77	94	54	82	745,281
August	6.81	75	96	52	83	693,851
September	0.37	74	98	47	75	616,119
October (10/09)	1.04	67	97	42	73	133,335

Agronomic Information – Pennyrile Region, Christian County

GPS coordinates	36°39'29.3"N 87°21'16.2"W
Soil type	Crider silt loam (Sand: 5.34%, Silt: 78.21%, Clay: 16.46%; CEC: 7.49 meq/100g; Plant available water: 21.47%, Field capacity water: 36.49%, Wilting point water: 15.02%)
Slopes	2-6%
Previous crop	Corn
Soil test (3/11/2019)	pH 6.18, P 23lbs/a, K 177lbs/a
SCN test	375 (low)
Agricultural practice	no-till
Pre-emergence herbicide	Glyphosate 5/14/2019
Planting date	5/14/2019
Post-emergence herbicides	FirstRate, Reflex, Fusion 6/12/2019
Harvest date	MG II, III, IV Early 10/02/2019, IV Late, V 10/03/2019
50% frost killing	10/21

Climate – Pennyrile Region, Christian County

Month	Total Monthly Precip. (in.)	Temperatures (F)			Monthly Average RH (%)	Total Monthly Solar Radiation (wat/m ²)
		Monthly Average	Highest Recorded	Lowest Recorded		
May (5/14)	1.61	75	91	47	74	436,555
June	2.83	74	108	46	79	563,137
July	5.30	77	95	53	83	732,356
August	3.71	75	98	50	82	678,201
September	0.70	76	100	46	71	607,555
October (10/02)	0.00	75	98	62	77	20,344

Table 12. 2019 Kentucky Soybean Variety Performance Tests, Purchase Region - 2019 Calloway County

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
MATURITY GROUP II (relative MG 2.0-2.9)				
AGRIGOLD G2900RX	55.9	47.4		1.0
ASGROW AG29X9	54.7			1.0
ASGROW AG29X8	49.6	43.3	49.3	1.0
GROUP II AVERAGE	53.4	45.3	49.3	1.0
LSD (0.10)	3.3	1.7	1.2	
C.V.	4.6	4.4	3.7	
MATURITY GROUP III (relative MG 3.0-3.9)				
SEED CONSULTANTS SC 8399X™	74.9	66.5		1.0
DYNA-GRO S39EN19	74.3			1.0
ARMOR 38-D53	73.8			1.0
ASGROW AG38X8	73.6	62.8	65.8	1.0
STINE 39EA02	72.2			1.0
SEED CONSULTANTS SC 3399L™	71.9			1.0
AGRIGOLD G3722RX	71.9	60.1		1.0
SEED CONSULTANTS SCS 9385RR™	71.5	66.2	67.2	1.3
LS3976X	71.4			1.0
SEED CONSULTANTS SCS 9393RR™	69.9	64.7	65.9	1.0
CAVERNDAL CF 392 LL/GT27	68.7			2.0
WARREN SEED BG 3701 RR2X	68.4			2.3
SEED CONSULTANTS SC 8379X™	68.2	60.3		1.0
ASGROW AG39X7	67.5	59.3	61.1	1.3
CZ 3519 GTLL	66.8			1.7
CHANNEL 3519R2X	66.3			1.0
PIONEER P38A98X	66.1			1.3
AGRIGOLD G3620RX	65.1			1.0
DYNA-GRO S37EN39	65.1			1.0
STEWART 3628R2X	64.9			1.0
NK SEED S39-62X	64.7			1.3
STEWART 3830R2X	64.6			1.3
ASGROW AG39X0	63.2			1.3
LG SEEDS LGS3777RX	62.9			1.0
CHANNEL 3718R2X	62.1	58.6		1.0
CAVERNDAL CF 364 STSn	62.1	56.0		1.0
ASGROW AG37X9	61.9	54.0		2.0
AGRIGOLD G3520RX	61.5	54.5	57.7	1.0
AGRIGOLD G3850RX	59.1			1.0
PIONEER P33A53X	58.5			1.0
PIONEER P31A22X	58.4			1.0
CHANNEL 3220R2X	57.2			1.3
STINE 36EA02	49.3			1.3
GROUP III AVERAGE	66.0	60.3	63.5	1.2
LSD (0.10)	3.1	2.7	2.5	
C.V.	4.4	5.8	6.5	
MATURITY GROUP IV Early (relative MG 4.0-4.5)				
STEWART 4029R2X	78.1			1.3
AGRIGOLD G4579RX	75.5	61.4		1.0
DYNA-GRO S40GL59	75.3			1.3
LG SEEDS C4227RX	75.0	61.0	65.3	1.0
PIONEER P42A96X	75.0	68.5		1.3
STEWART 4339R2X	74.7	66.5		1.3
DYNA-GRO S41XS98	74.2	65.1	62.3	1.0
AGRIGOLD G4225RX	74.1			1.0
PIONEER P44A72BX	73.2	67.5		1.0
DYNA-GRO S42EN89	72.5			1.0
ARMOR 44-D92	72.4			1.3
LS4299XS	72.4			1.0
DYNA-GRO S43XS70	72.3			1.3
GO SOY 40GL18	72.0			1.3
PROGENY 4265 RXS	71.9			1.0
NK SEED S44-C7X	71.9			1.0

continued

Table 12. 2019 Kentucky Soybean Variety Performance Tests, Purchase Region - 2019 Calloway County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
STEWART 4527R2X	71.9	67.5	65.7	1.0
SEED CONSULTANTS SC 8428X™	71.7			1.7
CAVERNDAL CF 461 LL/GT27/STSn	71.5			1.7
CAVERNDAL CF 427 HT-GLY/STSn	71.4	60.5	62.9	1.3
BLUE RIVER 42CK7	71.2			1.3
ARMOR 42-D27	71.0	62.0	61.9	1.3
UNIVERSITY OF MISSOURI S13-3851C	71.0	64.2	58.3	1.7
CZ 3929 GTLL	70.7			1.0
UNIVERSITY OF MISSOURI S13-10590C	70.4	62.6	64.2	1.0
WARREN SEED BG 4510 RR2X	70.4	62.2	67.1	1.0
WARREN SEED BG 4210 RR2X	69.6	59.6	61.2	1.0
STEWART 4228R2X	69.4	60.5	58.4	1.0
LG SEEDS LGS4420RX	69.3			1.7
ASGROW AG43X0	69.0			1.7
LS4487XS	69.0			1.0
CHANNEL 4218R2X/SR	68.6	59.4		1.3
CHANNEL 4519R2X/SR	67.5			1.0
LS4565XS	67.4			1.0
LS4583X	66.6			1.7
AGS GS42X19S	66.5			2.3
ASGROW AG42X9	66.1	56.2		1.3
UNIVERSITY OF MISSOURI S13-2743C	65.9	62.1	63.1	1.7
UNIVERSITY OF MISSOURI S16-14730	65.8			1.0
DYNA-GRO S4209N	65.4	64.7		1.3
DYNA-GRO S44XS68	65.2	59.1	66.1	1.0
PIONEER P40A47X	64.9	56.2	57.4	1.0
GO SOY 44GL18	64.8			1.0
LS4407X	64.6			1.0
STINE 41EA12	64.5			1.0
GO SOY 423E19	64.4			1.0
PROGENY 4444 RXS	63.4	59.9	62.8	1.7
ZS4596GLS	63.0			1.7
CZ 4539 GTLL	61.9			1.7
UNIVERSITY OF MISSOURI S13-10592C	61.2	56.7		1.0
GROUP IV Early AVERAGE	69.5	62.0	62.6	1.2
LSD (0.10)	3.8	2.6	2.7	
C.V.	5.2	5.4	6.8	
MATURITY GROUP IV Late (relative MG 4.6-4.9)				
PROGENY 4821 RX	79.8			1.0
HS 48X90	75.9			2.0
PROGENY 4999 RX	75.0			1.7
CZ 5150 LL	74.4			1.7
DYNA-GRO S46XT80	74.0			1.3
ZS4694E3S	73.2			1.0
ARMOR 47-D18	72.6			2.0
WARREN SEED BG 4855 RR2X	72.3			1.0
PIONEER P46A57BX	71.9	64.9		1.0
USG 7489XTS	71.6			1.3
PIONEER P46A16R	71.5	67.6	69.5	1.3
DYNA-GRO S48XT56	71.4	67.8	70.6	1.3
WARREN SEED BG 4710 RR2X	71.4			1.3
CAVERNDAL CF 483 E3	70.9			1.3
HS 46X90	70.8			1.0
PIONEER P47A76L	70.2	62.8		1.7
PROGENY 4816 RX	70.2	64.5	63.4	1.0
LG SEEDS LGS4931RX	69.9			1.3
ARMOR 46-D09	69.8			1.3
ARMOR 46-D30	69.6			1.3
LS4999X	69.5			1.3
GO SOY 462E18	69.3			1.0
AGRIGOLD G4995RX	69.2	59.7		1.3
LS4795XS	68.3			1.0
PENNYRILE (long term check-released 1987)	68.0	51.6	49.4	1.3

continued

Table 12. 2019 Kentucky Soybean Variety Performance Tests, Purchase Region - 2019 Calloway County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
STEWART 4927R2X	67.8	60.5	62.5	1.7
CZ 4918 LL	67.6	58.0		2.0
BLUE RIVER e4993	67.5			1.0
ASGROW AG48X9	67.3	61.8		1.0
CZ 4820 LL	67.3	65.3	68.0	1.3
ZS4797E3	66.7			1.0
AGRIGOLD G4815RX	66.6			1.0
LG SEEDS LGS4899RX	66.3			1.7
PIONEER P48A60X	66.2	68.0		2.3
LG SEEDS C4845RX	65.7	57.8	64.7	1.0
USG 7496XTS	65.4	65.6	61.6	2.3
ASGROW AG46X6	65.4	64.0	65.6	1.7
LS4894X	65.3			2.0
DYNA-GRO S46XS60	65.3			1.3
WARREN SEED BG 4922 RR2X	65.1	61.4		1.7
UNIVERSITY OF MISSOURI S14-15146R	64.5	65.0	64.7	1.0
USG 7470XT	64.2			1.0
ASGROW AG47X9	63.6	58.3		1.7
LS4677X	63.5			2.0
UNIVERSITY OF MISSOURI S14-15138R	63.3	58.1		1.3
PROGENY 4620 RXS	63.1	59.6	61.9	2.0
ASGROW AG46X0	63.1			1.3
ASGROW AG47X0	63.1			1.7
LS4798X	63.0			2.3
NK SEED S49-F5X	63.0			1.0
HS 49X60	62.9	63.4	68.4	1.3
LS4889XS	62.8			1.7
CAVERNDAL CF 443 E3	62.5			1.0
UNIVERSITY OF MISSOURI S16-14379	58.6			1.0

continued

Table 12. 2019 Kentucky Soybean Variety Performance Tests, Purchase Region - 2019 Calloway County (continued)

BRAND VARIETY	YIELD (BU/AC) ^{A/B}			LODGING 2019
	2019	2018-2019	2017-2019	
STEWART 4720R2X	58.0			1.0
PROGENY 4799 RXS	57.5	52.0	55.4	1.3
ARMOR 48-D25	56.7			1.0
GO SOY 48C17S	55.7			1.3
GROUP IV Late AVERAGE	67.2	61.7	63.5	1.4
LSD (0.10)	3.8	2.4	2.3	
C.V.	5.4	5.0	5.7	
MATURITY GROUP V (relative MG 5.0-5.9)				
UNIVERSITY OF MISSOURI S14-9017R	78.3	72.0	67.6	2.7
PIONEER P50A85X	77.5	74.0		3.7
PROGENY 5016 RXS	69.2	69.4	68.8	3.3
PROGENY 5170 RX	69.0			2.3
PROGENY 5252 RX	68.2	66.3		2.7
UNIVERSITY OF MISSOURI MO5201D CONV	67.1	68.0		4.3
UNIVERSITY OF MISSOURI S15-10434C	65.3	59.2		4.3
UNIVERSITY OF MISSOURI S11-20242C	64.5	60.2		2.7
LS5087X	63.5			3.0
ESSEX (long term check-released 1974)	60.3	56.2	53.4	2.7
UNIVERSITY OF MISSOURI S13-1955C	60.3	56.9	54.9	4.3
UNIVERSITY OF MISSOURI S16-3747RY	57.9			3.7
GROUP V AVERAGE	66.8	64.7	61.2	3.3
LSD (0.10)	3.6	2.1	2.1	
C.V.	4.9	4.3	5.4	

A Within a maturity group, shaded yield are not significantly different (0.10) from the highest yielding cultivar (bold) of that maturity group and year column.

B The 2017-2019 yield data were collected at the Murray State University Research Farm in Calloway Co., KY.

Agronomic Information – Purchase Region, Calloway County

GPS coordinates	36°36'46.2"N 88°20'52.8"W
Soil type	Kurk complex 31%, Grenada silt Loam 69% (Sand: 8.21%, Silt: 75.51%, Clay: 16.28%; CEC: 9.01 meq/100g; Plant available water: 20.39%, Field capacity water: 35.44%, Wilting point water: 15.05%)
Slopes	0-2%
Previous crop	Tobacco, winter wheat (cover crop)
Soil test (3/11/2019)	pH 6.56, P 46lbs/a, K 65lbs/a
SCN test	3,500 (moderate)
Agricultural practice	no-till
Pre-planting herbicides	NA
Planting date	5/23/2019
Post-emergence herbicides	none
Harvest date	MG II, III, IV Early 10/04/2019, IV Late, V 10/08/2019
50% frost killing	10/21

Climate – Purchase Region, Calloway County

Month	Total Monthly Precip. (in.)	Temperatures (F)			Monthly Average RH (%)	Total Monthly Solar Radiation (wat/m ²)
		Monthly Average	Highest Recorded	Lowest Recorded		
May (5/23)	1.23	78	97	60	73	215,434
June	6.81	74	93	50	79	768,368
July	6.14	77	94	56	85	745,563
August	3.14	77	98	54	84	722,460
September	0.51	77	100	54	73	711,372
October (10/04)	0.00	78	98	56	68	87,958



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