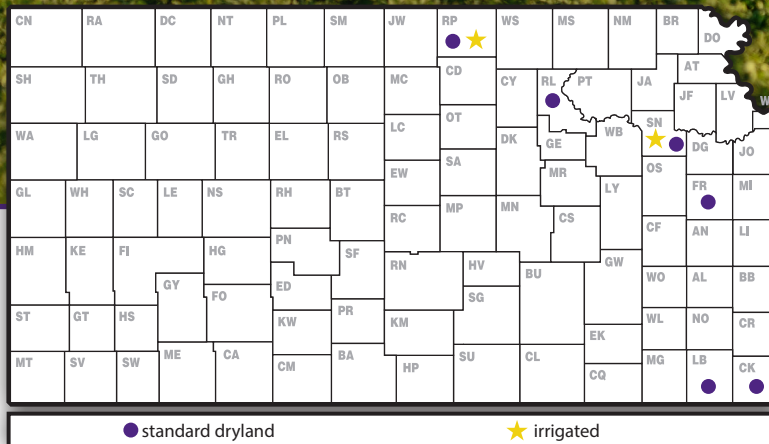
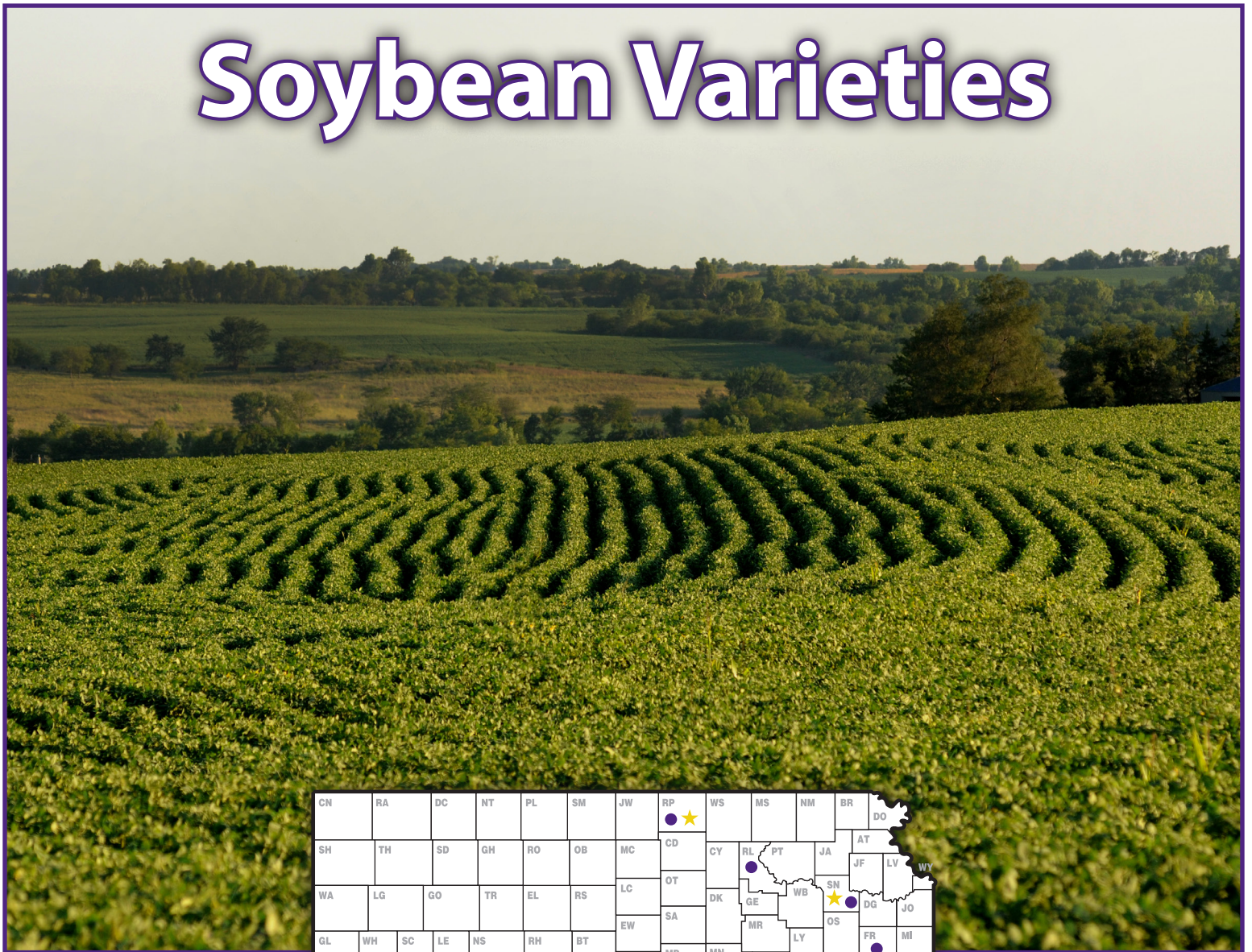


# 2023 Kansas Performance Tests with

# Soybean Varieties



## Report of Progress 1180



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# 2023 KANSAS SOYBEAN PERFORMANCE TESTS

## STATEWIDE GROWING CONDITIONS

Starting from the beginning of 2023, Kansas’s drought condition has been persistent and there were no improvements at all for the last four months. Water supply shortage affected crop growth and yields, as well as livestock conditions.

The average temperature for May was 65.8°F, 1.9°F above normal. This ranked as the 29th warmest May out of 129 years of records, dating back to 1895. Average precipitation for May was 3.58 inches, which was 0.63 inches below normal. This ranked as the 65th driest May on record. The three western climate regions all finished the month above normal. Northwest Kansas was the wettest region. When combined with April’s precipitation, the growing season to date ranks in the top 20 driest in four regions: north-central, central, south-central, and southeast. Northwest and southwest Kansas were the only two regions above normal since April 1.

Rootzone moisture was very dry in the eastern regions in May, while the south-central and western regions were relatively wet due to rainfall in May. Subsoil moisture supplies rated 29% very short, 31% short, 39% adequate, and 1% surplus on May 28.

The average temperature for June was 73.2°F, 1.0°F below normal. The three eastern Kansas regions were above normal; all other divisions were below normal. Average precipitation for June was 4.06 inches, which was 0.01 inches above normal. The three eastern climate regions and north-central had below normal precipitation while the remaining regions were above normal. South-central was the wettest division (6.21 inches) while east-central was the driest (2.25 inches). Soil moisture supplies were rated as follows: 44% very short and short, 55% adequate, and 3% surplus.

The average temperature for July was 78.3°F, 0.7°F below normal. This ranked as the 56th coldest July out of 129 years of records, dating back to 1895. Seven of Kansas’ nine climate regions were below normal; only east central and southeast were above normal.

Average precipitation for June was 4.39 inches, 114% of normal. Southwest (6.09 inches) and south central (6.01 inches) Kansas were the two wettest regions; their totals ranked as the 6th and 7th wettest Julys on record, respectively. North-central and central Kansas tied for driest division (3.14 inches). When combined with April, May, and June, the past 4-month period is the 5th wettest on record in southwest Kansas. Their total of 16.29 inches is 5.80 inches above normal.

In August, accumulated precipitation showed variations from very dry conditions in the northeast to very wet for the northwest of the state. For soil moisture, the central and west regions were under water-stressed conditions. The root zone moisture indicated drought conditions across the eastern portion of the state.

Impressive heat took hold of the region with absolutely no precipitation statewide (Figures 1 and 2). Like corn fields, dryland soybean fields experienced significant heat stress. Despite many areas of the state seeing drought improvement over the season, the duration of record-breaking heat exacerbated in-field moisture stress.

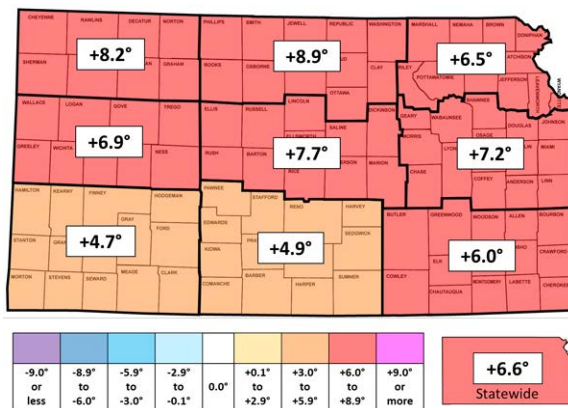


Figure 1. Temperature anomalies (°F) by region for the period August 18-24, 2023. All regions were above normal. Source: Kansas Weather Data Library.

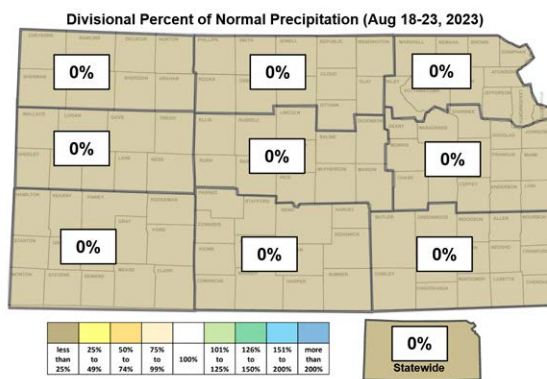


Figure 2. Percent of normal precipitation by region for the time period August 18-23, 2023. All regions recorded negligible precipitation. Source: Kansas Weather Data Library.



The USDA Kansas Crop Progress Report and Condition (August 21, 2023) rated the soybean crop condition as 26% poor or very poor, 34% fair, 34% good, and only 6% as excellent.

Entering the second half of August, most soybean fields had entered into the reproductive period (~94% flowering), with already more than half (~76%) of fields setting pods. The lack of moisture, combined with warmer-than-normal temperatures, likely accelerated the growing season, moving crop phenology along much faster than the overall plant growth. (Ignacio Ciampitti, Farming Systems; and Matt Sittell, Assistant State Climatologist; Department of Agronomy, Kansas State University)

## INSECTS

Soybean production in 2023 was problematic, mainly due to hot, dry conditions. Insect pest problems were really mostly negligible; because of this, insecticide usage was much reduced. A few instances of foliar applications for soybean pod worms were reported from central Kansas, and Japanese beetles caused some concern due to leaf feeding, but had little impact on yield.

Dectes stem borer adults emerged from overwintering sites a couple weeks early and in large numbers in many areas. Thus, the potential for Dectes infestations early on was concerning but did not seem to cause any more problems than usual.

Otherwise, it was a relatively good soybean growing season from a pest perspective. The soybean gall midge was verified for the first in Kansas from a few infested plants in fields close to the Nebraska/Kansas border. Fields in northern Kansas should be monitored next season for this new invasive pest. (Jeff Whitworth, Department of Entomology, Kansas State University)

## TEST OBJECTIVES AND PROCEDURES

Soybean performance tests are conducted each year to provide information on the relative performance of new and established varieties and brands at several locations in Kansas.

Seeds for tests are from private seed companies, certified growers, and agricultural experiment stations (Table 1). Seed quality, including factors such as purity and germination, can be important in determining the performance of a variety. Soybean seed used for private and public entries in the Kansas Crop Performance Tests is prepared professionally and usually meets or exceeds Kansas Crop

Improvement Certification standards. Relative performance of a given variety comparable to that obtained in these tests is best assured under similar environmental conditions and cultural practices and with the use of certified or professionally prepared seed. All companies known to be developing and marketing soybean varieties or brands are invited to submit test seed; interested companies enter on a voluntary, fee-entry basis.

Entries were planted in four-row plots with rows 30 inches apart and were replicated three or four times each. Seeding rate ranged from 7 to 12 seeds per foot of row. The center two rows of each plot were harvested for yield. Harvested row lengths ranged from 11 to 33 feet, depending on location. Cultural practices and rainfall for each test location are presented with each table. Results from this year's tests are presented in Tables 2 through 9. Relative yields of each entry from all locations are shown in Table 10.

## DATA INTERPRETATION

**Yields** are recorded as bushels per acre (60 lb/bushel) adjusted to 13% moisture content, when moisture data are available. Seed yield also is expressed as a percentage of the test average to assist in identifying entries that consistently produce better than the average yield.

**Maturity** is the date on which 95% of the pods have ripened (browned). Delayed leaf drop and green stems are not considered when assigning maturity. About 1 week of good drying weather after maturing is needed before soybeans are ready to harvest.

**Lodging** is rated at maturity by the following scores:

1. Almost all plants erect
2. All plants slightly leaning or a few plants down
3. All plants leaning moderately (45%) or 25 to 50% of plants down
4. All plants leaning considerably or 50 to 80% plants down
5. Almost all plants down

**Height** is the average length from the soil surface to the top of the main stem of mature plants.

## VARIETY OR BRAND SELECTION

Performance of soybean varieties or brands varies from year to year and from location to location, depending on factors such as weather, management

practices, and variety adaptation. When selecting varieties or brands, producers should carefully analyze variety performance for two or more years across locations. Performance averaged over several environments will provide a better estimate of genetic potential and stability than performance based on a few environments.

Small differences in yield between any two varieties or brands usually are not important. Within maturity groups at each location, a LSD (least significant difference) was calculated. The significance level used to calculate the LSD was 10%. Unless two varieties differ in yield by more than the LSD, genetic yield potential of one entry cannot be considered superior to that of another.

The coefficient of variability (CV) represents an estimate of the precision in the replicated yield trials. A CV of less than 10% indicates a good test with a high level of reliability. CVs ranging from 10 to 15% are usually acceptable for performance comparisons. CVs greater than 15% generally lack sufficient precision to provide any more than a rough guide to cultivar performance. For tests in which the precision was insufficient to statistically compare performance among the entries, the LSD value has been replaced with the designation NS, indicating that seed yields were not significantly different.

Test results also can be found online at:  
<https://www.agronomy.k-state.edu/outreach-and-services/crop-performance-tests/soybeans/>

## **Table 1. Entrants in the 2023 Kansas Soybean Performance Tests**

---

**Kansas Ag. Exp. Stn. (AES)**  
Manhattan, KS  
785-532-7243

**Illinois Ag. Exp. Stn. (ILAES)**  
Urbana, IL  
217-333-0460

**Virginia Ag. Exp. Stn. (VAES)**  
Blacksburg, VA  
540-231-6503

**Corteva AgriSciences**  
Johnston, IA  
800-233-7333  
pioneer.com  
\* maturity checks

**Syngenta (NK Hybrids)**  
Greensboro, NC  
800-334-9481  
nkhybrids.com

**Willcross Seed**  
Garden City, MO  
816-802-8203  
neroseed.com

**Ashland Bottoms Experiment Field, K-State, Riley County; Bill Schapaugh, agronomist**

April May June July Aug. Sept. Total

Rainfall: 1.6 3.0 3.5 3.7 1.8 0.9 14.4

Planted 5/22/2023 at 100,000 seeds/ft; harvested 9/27/2023; 10 ft. by 4-row plot; pesticides: 3.75 oz/a Fierce, 5 oz/a Metrobuzin

**Table 2. Ashland Bottoms, Riley County Dryland Soybean Performance Test, 2020-2023**

BRAND	NAME	ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			2023		
		2023	2021	2020	2-Yr. AVG.	3-Yr. AVG.	2023	2021	2020	Mat	Lodge score	Ht (in)
CHECK	MG3.1	<b>50.3</b>	<b>65.1</b>	<b>63.8</b>	57.7	59.7	117	113	110	9/13	1.3	39
CHECK	MG4.0	<b>48.5</b>	54.3	57.9	51.4	53.6	113	95	99	9/17	1.0	39
IL AES	WILLIAMS 82	25.8	--	--	--	--	60	--	--	9/16	3.5	46
KANSAS AES	K18-1247	44.5	--	--	--	--	104	--	--	9/23	1.8	43
KANSAS AES	K18-1396	<b>48.7</b>	--	--	--	--	113	--	--	9/18	1.5	41
KANSAS AES	K18-1994	<b>46.1</b>	--	--	--	--	107	--	--	9/20	1.0	36
KANSAS AES	K18-6776 GT	37.1	61.5	--	49.3	--	86	107	--	9/14	1.3	42
KANSAS AES	K18-6812 GT	32.9	54.7	--	43.8	--	77	95	--	9/12	1.5	39
KANSAS AES	K18-6974 GT	40.4	60.3	--	50.3	--	94	105	--	9/16	1.3	44
KANSAS AES	KS4120NSGT	43.3	59.3	<b>62.3</b>	51.3	55.0	101	103	107	9/19	1.0	36
KANSAS AES	KS4323NS	<b>49.4</b>	61.6	--	--	--	115	107.0	--	9/18	1.0	42
KANSAS AES	KS4423N	<b>47.1</b>	--	--	--	--	110	--	--	9/19	1.0	44
KANSAS AES	KS4520NS	42.2	51.7	55.7	46.9	49.9	98	90	96	9/18	1.3	40
WILLCROSS	WXE8038NS	43.6	--	--	--	--	102	--	--	9/18	1.0	43
WILLCROSS	WXE8236N	<b>48.7</b>	--	--	--	--	113	--	--	9/18	1.0	39
WILLCROSS	WXE8337NS	38.8	--	--	--	--	90	--	--	9/20	1.5	43
	Average	43.0	57.4	58.2	--	--	--	--	--	--	--	--
	CV (%)	9.1	6.8	6.9	--	--	--	--	--	--	--	--
	LSD (0.1)*	5.6	4.4	4.6	--	--	--	--	--	--	--	--

Values in bold are in the upper LSD group.

**Wolf Farm, Kiro, Shawnee County; Eric Adee, agronomist**

April May June July Aug. Sept. Total

Rainfall: 1.5 2.8 3.3 4.3 2.1 1.2 15.1

Planted 5/18/2023 at 100,000 seeds/ft; harvested 10/11/2023; 10 ft. by 4-row plot; pesticides: 6.5 oz/a Authority Supreme, 1.5 pt/a Dual II Mag, 32 oz/a Roundup, Speedway (HCOC), 3.25 oz/a Anthem Maxx, 4 oz/a Pursuit, 2 pt/a Basagran, 12 oz/a Fusilade, Diplomat (HCOC) + AMS

**Table 3. Kiro, Shawnee County Dryland Soybean Performance Test, 2020-2023**

BRAND	NAME	ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			2023		
		2023	2022	2020	2-Yr.	3-Yr.	2023	2022	2020	Mat	Lodge score	Ht (in)
					AVG.	AVG.						
CHECK	MG3.1	59.2	69.7	85.9	64.5	71.6	115	106	101	9/19	1.5	36
CHECK	MG4.0	54.6	65.4	88.8	60.0	69.6	106	99	104	9/21	2.0	36
KANSAS AES	K18-1247	50.1	--	--	--	--	97	--	--	9/26	2.5	42
KANSAS AES	K18-1396	52.0	--	--	--	--	101	--	--	9/21	2.5	40
KANSAS AES	K18-1994	51.9	--	--	--	--	101	--	--	9/28	1.0	37
KANSAS AES	K18-6776 GT	51.3	--	--	--	--	99	--	--	9/22	1.5	38
KANSAS AES	K18-6812 GT	51.0	--	--	--	--	99	--	--	9/20	1.5	36
KANSAS AES	K18-6974 GT	46.5	--	--	--	--	90	--	--	9/22	2.0	35
KANSAS AES	KS4120NSGT	45.1	--	--	--	--	87	--	--	9/24	1.5	35
KANSAS AES	KS4323NS	50.3	--	--	--	--	98	--	--	9/22	2.0	40
KANSAS AES	KS4423N	51.4	--	--	--	--	100	--	--	9/26	1.5	40
KANSAS AES	KS4520NS	47.6	<b>66.7</b>	87.7	57.2	67.3	92	101	103	9/24	1.5	39
NK SEEDS	NK39-M8XF	53.6	--	--	--	--	104	--	--	9/26	1.0	41
NK SEEDS	NK42-T5XF	53.9	--	--	--	--	104	--	--	10/4	1.0	38
NK SEEDS	NK43-Y9XFS	48.4	--	--	--	--	94	--	--	9/29	1.0	41
WILLCROSS	WXE8038NS	54.6	<b>67.8</b>	84.6	61.2	69.0	106	103	99	9/22	1.5	40
WILLCROSS	WXE8043NS	<b>59.9</b>	64.6	<b>92.1</b>	62.3	72.2	116	98	108	10/4	1.5	39
WILLCROSS	WXE8146NS	51.8	59.7	82.7	55.8	64.7	100	91	97	10/5	1.0	41
WILLCROSS	WXE8236N	52.9	<b>65.4</b>	--	59.2	--	103	99	--	9/22	1.0	36
WILLCROSS	WXE8337NS	46.7	--	--	--	--	91	--	--	9/25	1.5	38
	Average	51.6	65.8	71.4	--	--	--	--	--	9/25	1.5	38
	CV (%)	6.3	6.9	6.0	--	--	--	--	--	--	--	--
	LSD (0.1)	3.8	4.9	6.0	--	--	--	--	--	--	--	--

Values in bold are in the upper LSD group.



**Kansas River Valley Irrigated Experiment Field, K-State, Topeka, Shawnee County; Eric Adee, agronomist**

April May June July Aug. Sept. Total  
 Rainfall: 1.5 2.8 3.3 4.3 2.1 1.2 15.1  
 Irrigation: 3.0 2.25 5.25  
 Planted 5/18/2023 at 100,000 seeds/ft; harvested 10/11/2023; 10 ft. by 4-row plot; pesticides: 6.5 oz/a Authority Supreme, 1.5 pt/a Dual II  
 Mag, 32 oz/a Roundup, Speedway (HCOC), 3.25 oz/a Anthem Maxx, 4 oz/a Pursuit, 2 pt/a Basagran, 12 oz/a Fusilade, Diplomat (HCOC) + AMS

**Table 4. Topeka, Shawnee County Irrigated Soybean Performance Test, 2021-2023**

BRAND	NAME	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2023		
		2023	2022	2021	2-Yr.	3-Yr.	2023	2022	2021	Mat	Lodge	Ht
					AVG.	AVG.						
CHECK	MG3.1	<b>81.2</b>	58.7	77.1	70.0	72.3	109	93	100	9/21	1.0	35
CHECK	MG4.0	<b>90.2</b>	55.4	76.7	72.8	74.1	122	88	99	9/27	1.0	34
KANSAS AES	K18-1247	76.6	--	--	--	--	103	--	--	10/4	2.2	42
KANSAS AES	K18-1396	70.2	--	--	--	--	95	--	--	9/24	2.0	39
KANSAS AES	K18-1994	<b>87.8</b>	--	--	--	--	118	--	--	10/4	1.0	36
KANSAS AES	K18-6776 GT	72.4	--	--	--	--	98	--	--	9/26	2.0	39
KANSAS AES	K18-6812 GT	74.6	--	--	--	--	101	--	--	9/25	2.0	38
KANSAS AES	K18-6974 GT	72.0	--	--	--	--	97	--	--	9/26	2.0	39
KANSAS AES	KS4120NSGT	68.9	59.6	76.8	64.3	68.4	93	95	99	9/28	1.5	37
KANSAS AES	KS4323NS	69.7	--	--	--	--	94	--	--	9/26	1.5	56
KANSAS AES	KS4423N	70.5	--	--	--	--	95	--	--	9/29	1.5	37
KANSAS AES	KS4520NS	70.2	<b>66.3</b>	<b>83.3</b>	68.3	73.3	95	105	108	9/30	1.0	39
WILLCROSS	WXE8038NS	74.2	60.9	74.2	67.6	69.8	100	97	96	9/24	1.5	43
WILLCROSS	WXE8043NS	75.5	64.6	<b>87.2</b>	70.1	75.8	102	102	113	10/6	1.5	42
WILLCROSS	WXE8146NS	79.1	55.6	63.7	67.4	66.1	107	88	83	10/6	3.0	43
WILLCROSS	WXE8236N	79.0	<b>67.1</b>	--	73.1	--	106	--	--	9/26	1.5	38
WILLCROSS	WXE8337NS	69.7	--	--	--	--	94	--	--	9/30	2.0	39
	Average	75.4	63.0	77.2	--	--	100	--	--	9/28	1.7	40
	LSD (0.1)	10.1	<b>7.5</b>	7.2	--	--	--	--	--	--	--	--

Values in bold are in the upper LSD group.

**East Central Kansas Experiment Field, K-State, Ottawa, Franklin County; Eric Adee, agronomist; Darren Hibdon, research technician**

Rainfall:            April May June July Aug. Sept. Total  
                          2.8  5.8  3.1  2.8  1.9  1.6  18.0

Planted 5/24/2023 at 144,000 seeds/ft; harvested 10/11/2023; 10 ft. by 4-row plot

**Table 5. Ottawa, Franklin County Dryland Soybean Performance Test, Maturity Groups III-IV, 2020-2023**

BRAND	NAME	ACRE YIELD, BUSHEL					YIELD AS % OF			2023		
		2023	2022	2020	2-Yr.	3-Yr.	TEST AVERAGE			Mat	Lodge	Ht
					AVG.	AVG.	2023	2022	2020			
CHECK	MG3.1	17.5	<b>49.0</b>	59.1	33.3	41.9	61	105	98	9/20	1.0	29
CHECK	MG4.0	30.4	48.1	59.5	39.3	46.0	107	103	99	9/26	1.0	29
IL AES	WILLIAMS 82	13.8	--	--	--	--	48	--	--	9/20	1.0	27
KANSAS AES	K18-1247	25.0	--	--	--	--	88	--	--	9/26	1.0	31
KANSAS AES	K18-1396	<b>37.3</b>	--	--	--	--	131	--	--	9/23	1.0	34
KANSAS AES	K18-1994	<b>32.4</b>	--	--	--	--	114	--	--	9/25	1.0	31
KANSAS AES	K18-6776 GT	<b>35.0</b>	--	--	--	--	123	--	--	9/22	1.0	29
KANSAS AES	K18-6812 GT	<b>33.3</b>	--	--	--	--	117	--	--	9/30	1.0	30
KANSAS AES	K18-6974 GT	27.8	--	--	--	--	98	--	--	9/30	1.0	28
KANSAS AES	KS4120NSGT	31.7	--	--	--	--	111	--	--	9/30	1.0	29
KANSAS AES	KS4323NS	<b>32.4</b>	--	--	--	--	114	--	--	9/20	1.0	30
KANSAS AES	KS4423N	27.8	<b>49.8</b>	--	38.8	--	98	106	--	10/6	1.0	33
KANSAS AES	KS4520NS	27.9	44.0	57.3	36.0	43.1	98	94	95	9/27	1.0	31
NK SEEDS	NK46-B4XFS	31.0	--	--	--	--	109	--	--	10/1	1.0	38
WILLCROSS	WXE8043NS	31.4	<b>53.8</b>	--	42.6	--	110	115	--	9/22	1.0	30
WILLCROSS	WXE8146NS	24.3	47.6	65.2	36.0	45.7	85	102	108	9/26	1.0	33
	Average	28.5	46.8	60.2	37.7	45.2	--	--	--	9/26	1.0	31
	LSD (0.1)	4.9	6.1	4.2	--	--	--	--	--	--	--	--

Values in bold are in the upper LSD group.

**East Central Kansas Experiment Field, K-State, Ottawa, Franklin County; Eric Adee, agronomist; Darren Hibdon, research technician**

Rainfall:            April May June July Aug. Sept. Total  
                          2.8 5.8 3.1 2.8 1.9 1.6 18.0

Planted 5/24/2023 at 100,000 seeds/ft; harvested 10/11/2023; 10 ft. by 4-row plot

**Table 6. Ottawa, Franklin County Dryland Soybean Performance Test, Maturity Groups IV-V, 2021-2023**

BRAND	NAME	ACRE YIELD, BUSHELS					YIELD AS % OF			2023		
		2023	2022	2021	2-Yr.	3-Yr.	TEST AVERAGE			Mat	Lodge	Ht
					AVG.	AVG.	2023	2022	2021			
CHECK	MG5.2	34.3	--	--	--	--	99	--	--	10/4	1.0	30
KANSAS AES	K179229-8	29.9	--	--	--	--	86	--	--	9/29	1.0	26
KANSAS AES	KS4822NS	27.3	50.7	58.3	39.0	45.4	79	100	94	10/6	1.0	31
KANSAS AES	KS4919N	27.4	48.5	57.6	38.0	44.5	79	95	93	10/2	1.0	35
KANSAS AES	KS5120NS	<b>40.0</b>	<b>54.2</b>	59.0	47.1	51.1	115	107	95	10/3	1.0	32
NK SEEDS	NK48-H3XFS	34.9	--	--	--	--	101	--	--	10/5	1.0	36
NK SEEDS	NK49-C2XFS	<b>38.6</b>	--	--	--	--	111	--	--	10/3	1.0	35
NK SEEDS	NK49-T6E3S	<b>37.9</b>	--	--	--	--	109	--	--	9/29	1.0	38
VA AES	HUTCHESON	<b>37.3</b>	--	--	--	--	107	--	--	10/5	1.0	33
WILLCROSS	WXE8248NS	<b>39.5</b>	--	--	--	--	114	--	--	10/3	1.0	35
	Average	34.7	50.8	62.0	--	--	--	--	--	10/2	1.0	33
	CV (%)	11.4	7.7	5.6	--	--	--	--	--	--	--	--
	LSD (0.1)	4.8	4.8	4.2	--	--	--	--	--	--	--	--

Values in bold are in the upper LSD group.

**Southeast Agricultural Research Center, K-State, Parsons, Labette County; Gretchen Sassenrath, agronomist; Garth Blackburn, technician**

April May June July Aug. Sept. Total  
 Rainfall: 1.1 7.3 3.9 2.7 6.7 2.3 24.0

Planted 6/26/2023 at 100,000 seeds/ft; harvested 11/3/2023 ; 17.5 ft. by 4-row plot; pesticides: 32 oz/a glyphosate, 8 oz/a Metribuzin, 32 oz/a Brawl II, 6 oz/a Authority XL

**Table 7. Parsons, Labette County Double-Cropped Soybean Performance Test, Maturity Groups III-V, 2020-2023**

BRAND	NAME	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2023		
		2023	2021	2020	2-Yr. AVG.	3-Yr. AVG.	2023	2021	2020	Mat	Lodge score	Ht (in)
CHECK	MG4.0	<b>42.2</b>	37.8	--	40.0	--	129	108	--	--	--	29.3
CHECK	MG5.2	27.5	35.0	--	31.3	--	84	100	--	--	--	32.8
KANSAS AES	K179229-8	<b>36.9</b>	--	--	--	--	113	--	--	--	--	32.3
KANSAS AES	KS4822NS	33.7	--	--	--	--	103	--	--	--	--	32
KANSAS AES	KS4919N	29.6	--	--	--	--	91	--	--	--	--	32.8
KANSAS AES	KS5120NS	30.6	--	--	--	--	94	--	--	--	--	30.8
VA AES	HUTCHESON	29.8	--	--	--	--	91	--	--	--	--	31
	AVERAGE	32.7	35.2	58.8	--	--	100	--	--	--	--	30.5
	CV (%)	16.2	8.0	4.9	--	--	--	--	--	--	--	7
	LSD (0.1)	6.3	3.2	3.4	--	--	--	--	--	--	--	3

Values in bold are in the upper LSD group.

**Dale Roberds Farm, Pittsburg, Crawford County; Bill Schapaugh, agronomist**

April May June July Aug. Sept. Total  
 Rainfall: 1.3 3.8 3.6 2.6 6.9 3.4 21.5

Planted 6/6//2023 at 100,000 seeds/ft; harvested 11/7/2023; 10 ft. by 4-row plot

**Table 8. Pittsburg, Crawford County No-Till Soybean Performance Test, Maturity Groups III-V, 2021-2023**

BRAND	NAME	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2023		
		2023	2022	2021	2-Yr. AVG.	3-Yr. AVG.	2023	2022	2021	Mat	Lodge score	Ht (in)
CHECK	MG3.1	46.5	--	--	--	--	94	--	--	9/24	1.0	34
CHECK	MG4.0	52.5	44.8	51.8	48.7	49.7	106	100	107	9/25	1.0	33
CHECK	MG5.2	44.5	--	--	--	--	90	--	--	10/12	1.0	37
KANSAS AES	K179229-8	44.7	--	--	--	--	91	--	--	10/14	2.0	33
KANSAS AES	KS4822NS	51.4	44.8	46.2	48.1	47.5	104	100	96	10/5	1.0	35
KANSAS AES	KS4919N	44.7	45.8	47.9	45.3	46.1	90	102	99	10/6	2.0	36
KANSAS AES	KS5120NS	<b>57.2</b>	<b>49.5</b>	50.1	53.4	52.3	116	110	103	10/18	1.0	35
NK SEEDS	NK46-B4XFS	53.2	--	--	--	--	108	--	--	10/3	1.0	40
NK SEEDS	NK48-H3XFS	52.8	--	--	--	--	107	--	--	10/4	1.0	37
NK SEEDS	NK49-C2XFS	<b>53.4</b>	--	--	--	--	108	--	--	10/5	1.0	40
NK SEEDS	NK49-T6E3S	50.0	--	--	--	--	101	--	--	10/6	1.0	42
VA AES	HUTCHESON	38.9	43.2	--	41.1	--	79	--	--	10/18	1.8	47
WILLCROSS	WXE8049N	49.8	--	--	--	--	101	--	--	10/7	1.0	38
WILLCROSS	WXE8248NS	52.0	45.6	--	48.8	--	105	102	--	10/4	1.0	41
	AVERAGES	49.4	45.0	48.3	--	--	--	--	--	10/6	1.2	38
	CV (%)	6.1	5.6	5.3	--	--	--	--	--	--	--	--
	LSD (0.1)	3.6	3.0	3.0	--	--	--	--	--	--	--	--

Values in bold are in the upper LSD group.

**North Central Experiment Field, K-State, Scandia, Republic County; Scott Dooley, agronomist**

April May June July Aug. Sept. Total  
 Rainfall: 0.6 2.0 3.8 2.5 6.4 2.1 17.4  
 Irrigation: 0.9 3.75 3.75 1.25 9.65

Planted 6/15/2023 at 142,000 seeds/ft; harvested 11/1/2023; 30 ft. by 4-row plot; pesticides: 5.25 oz/ac Fierce XLT, 1.5 qt/ac Makaze, 8 oz/ac Fusilade DX, 1 qt/100 Liberate, 2 qt/100 Choice Trio, 1 pt/ac Flexstar, 6 oz/ac Fusilade DX, 1 gal/100 MSO

**Table 9. Scandia, Republic County Irrigated Soybean Performance Test, 2021-2023**

BRAND	NAME	ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE		
		2023	2022	2021	2-Yr. AVG.	3-Yr. AVG.	2023	2022	2021
CHECK	MG3.1	56.1	63.3	--	59.7	--	100	101	--
CHECK	MG4.0	<b>63.9</b>	61.0	65.5	62.5	63.5	114	97	104
KANSAS AES	KS4323NS	54.9	--	--	--	--	98	--	--
KANSAS AES	KS4423N	54.3	--	--	--	--	97	--	--
KANSAS AES	KS4520NS	53.9	64.5	58.4	59.2	58.9	96	103	93
	AVERAGES	55.9	62.8	63.1	--	--	--	--	--
	LSD (0.10)	6.8	4.7	4	--	--	--	--	--

Values in bold are in the upper LSD group.

**North Central Experiment Field, Belleville, Republic County; Scott Dooley, agronomist**

April May June July Aug. Sept. Total  
 Rainfall: 0.4 1.0 2.7 5.4 2.8 1.5 13.7

Planted 6/8/2023 at 142,000 seeds/ft; harvested 11/3/2023; 37 ft. by 4-row plot; pesticides: 16 oz/ac Salvo, 3.0 qt/ac Makaze, 1 qt/100 Liberate, 4 qt/100 Choice Trio, .75 oz/ac Fierce, 1 pt/ac Flexstar, 6 oz/ac Fusilade DX, 1 gal/100 MSO

**Table 10. Belleville, Republic County Dryland Soybean Performance Test, 2021-2023**

BRAND	NAME	ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE		
		2023	2022	2021	2-Yr. AVG.	3-Yr. AVG.	2023	2022	2021
CHECK	MG3.1	37.0	38.9	80.6	38.0	52.2	82	97	111
CHECK	MG4.0	44.4	43.7	50.4	44.1	46.2	99	108	69
KANSAS AES	KS4323NS	43.5	--	--	--	--	97	--	--
KANSAS AES	KS4423N	<b>47.5</b>	--	--	--	--	105	--	--
KANSAS AES	KS4520NS	39.5	--	--	--	--	88	--	--
NK SEEDS	NK46-B4XFS	42.2	--	--	--	--	94	--	--
NK SEEDS	NK48-H3XFS	<b>51.9</b>	--	--	--	--	115	--	--
NK SEEDS	NK49-C2XFS	43.0	--	--	--	--	96	--	--
NK SEEDS	NK49-T6E3S	45.2	--	--	--	--	100	--	--
	Average	45.0	40.3	72.8	--	--	--	--	--
	LSD (0.1)	6.5	7.7	8.8	--	--	--	--	--

Values in bold are in the upper LSD group.

**Table 11. Yield as a Percentage of Test Average from 2023 Soybean Tests**

<b>BRAND/NAME</b>	<b>Maturity group</b>	<b>Riley</b>	<b>Topeka dryland</b>	<b>Topeka irrigated</b>	<b>Ottawa</b>		<b>Parsons</b>		<b>Scandia</b>	<b>Belle-ville</b>	<b>AVG</b>
					<b>MG4</b>	<b>MG5</b>	<b>MG 3-5</b>	<b>Pittsburg</b>			
<b>CHECK</b>											
MG3.1	3.1	117	115	109	104	--	--	94	100	82	103
MG4.0	4.0	113	106	122	99	--	129	106	114	99	111
MG5.2	5.2	--	--	--	--	99	84	90	--	--	91
<b>ILLINOIS AES</b>											
WILLIAMS 82	4.0	60	--	--	48	--	--	--	--	--	54
<b>KANSAS AES</b>											
K179229-8	4.0	--	--	--	--	86	113	91	--	--	97
K18-1247	4.0	104	97	103	88	--	--	--	--	--	98
K18-1396	4.0	113	101	95	131	--	--	--	--	--	110
K18-1994	4.0	107	101	118	114	--	--	--	--	--	110
K18-6776 GT	4.0	86	99	98	123	--	--	--	--	--	102
K18-6812 GT	4.0	77	99	101	117	--	--	--	--	--	99
K18-6974	5.0	94	90	97	98	--	--	--	--	--	95
KS4120SGT	4.1	101	87	93	111	--	--	--	--	--	98
KS4323NS	4.3	115	98	94	114	--	--	--	98	97	103
KS4423N	4.4	110	100	95	98	--	--	--	97	105	101
KS4520NS	4.5	98	92	95	98	--	--	--	96	88	95
KS4822NS	4.8	--	--	--	--	79	103	104	--	--	95
KS4919N	4.9	--	--	--	--	79	91	90	--	--	87
KS5120NS	5.1	--	--	--	--	115	94	116	--	--	108
<b>NK SEEDS</b>											
NK39-M8XF	3.9	--	104	--	--	--	--	--	--	--	104
NK42-T5XF	4.2	--	104	--	--	--	--	--	--	--	104
NK43-Y9XFS	4.3	--	94	--	--	--	--	--	--	--	94
NK46-B4XFS	4.6	--	--	--	109	--	--	108	--	94	104
NK48-H3XFS	4.8	--	--	--	101	--	--	107	--	115	108
NK49-C2XFS	4.9	--	--	--	111	--	--	108	--	95	105
NK49-T6E3S	4.9	--	--	--	109	--	--	101	--	100	103
<b>VIRGINIA AES</b>											
HUTCHESON	5.0	--	--	--	--	107	91	79	--	--	92
<b>WILLCROSS</b>											
WXE8038NS	3.8	102	106	100	--	--	--	--	--	--	103
WXE8043NS	4.3	--	116	102	110	--	--	--	--	--	109
WXE8049N	4.9	--	--	--	--	--	--	101	--	--	101
WXE8146NS	4.6	--	100	106	85	--	--	--	--	--	97
WXS8236N	3.6	113	103	106	--	--	--	--	--	--	107
WXE8248NS	4.8	--	--	--	--	114	--	105	--	--	110
WXE8337NS	3.7	90	91	94	--	--	--	--	--	--	92



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