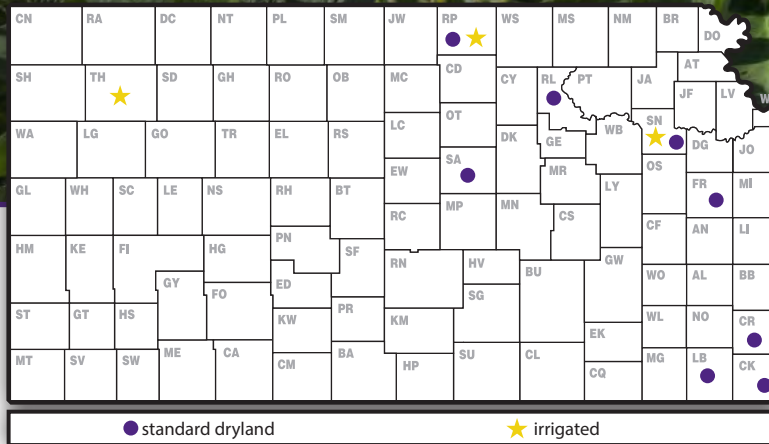
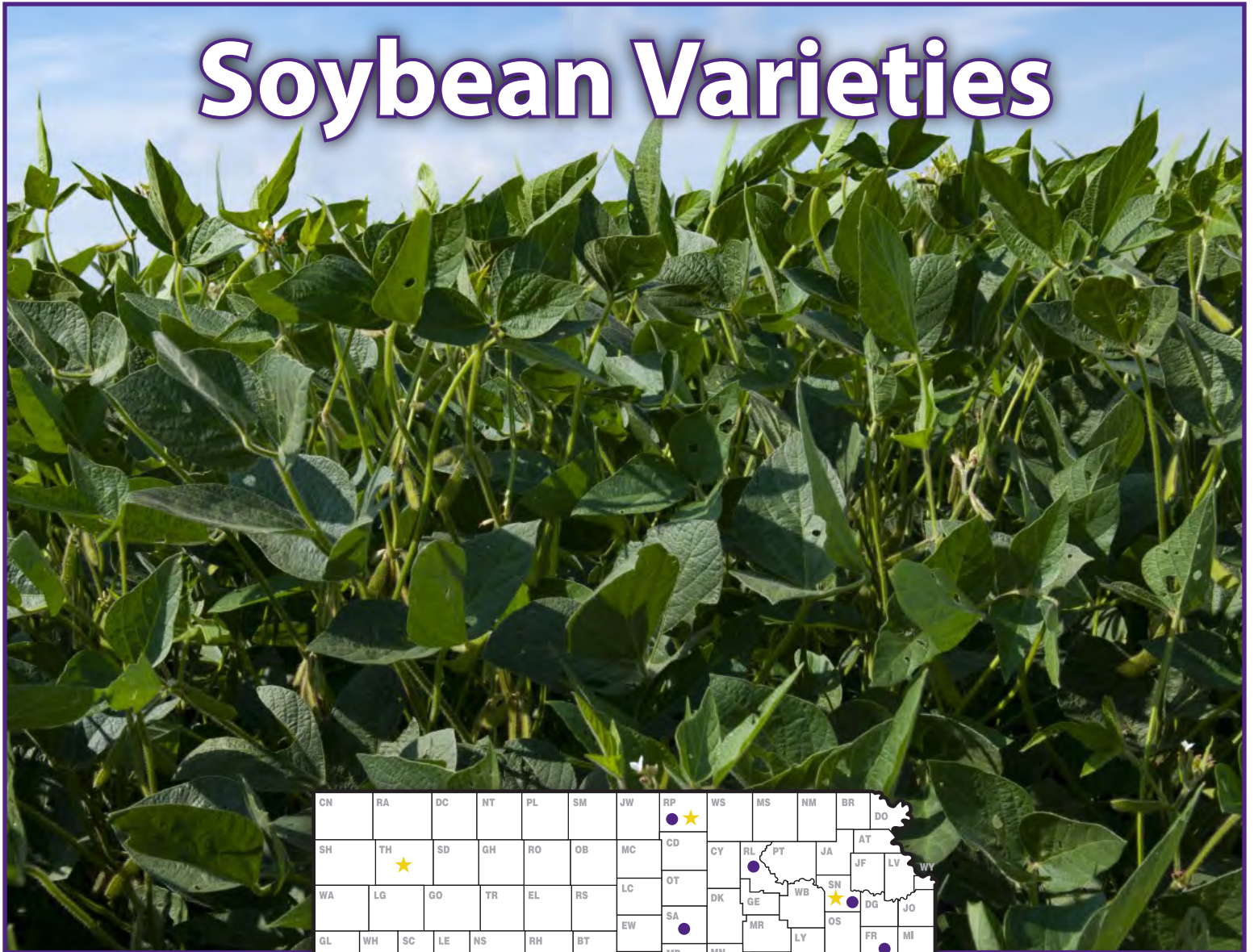


2021 Kansas Performance Tests with

Soybean Varieties



Report of Progress 1167



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2021 KANSAS SOYBEAN PERFORMANCE TESTS

STATEWIDE GROWING CONDITIONS

The 2021 soybean season had a varied but overall favorable weather pattern for the state, but was not without production challenges.

The primary challenge to the soybean crop in 2021 was saturated and over-saturated soils at the start of the growing season. In May, 97% of the state had adequate or surplus subsoil moisture, which delayed planting, slowed emergence, and caused poor stand uniformity. Soybeans can survive if submerged for less than 48 hours, or up to seven days if the temperature is below 80°F. This was often not the case, particularly in southeast Kansas, and many soybean fields in that area had to be replanted.

Wet soils are also susceptible to sidewall compaction and surface crusting when the soil is too wet at planting followed by dry periods, which were frequent issues in Kansas as the weather turned warmer and drier in June.

Dry conditions continued through July and August, and many soybean fields struggled with stress and nutrient deficiencies brought on by the wet start that hindered root and nodule development. Precipitation picked up again for many parts of the state in September and October, but was often too late to have a positive effect on grain fill. Consequently, soybean yield and quality varied across the state, but overall 2021 was a decent year for soybeans in Kansas.

DISEASES

In 2021, soybean disease reports were comparable to previous years. In general, very little frogeye leaf spot was reported. In northeast Kansas, sudden death syndrome was observed, but overall prevalence was low.

Charcoal rot was severe in some locations, particularly in the central part of the state and was likely due to dry weather during June and July.

Phytophthora root rot was present in eastern Kansas. This disease has been increasing in importance in recent years, particularly in soils with high clay content and poor drainage.

White mold, stem canker, pod and stem blight, and Septoria brown spot were occasionally present, but rarely at yield limiting levels. (Rodrigo Borba Onofre, Department of Plant Pathology)

INSECTS

Soybean defoliators were much less visible across the state in 2021 than in the past 3 years. Very few reports of green cloverworms or thistle caterpillars were noted in 2021 and these were the two main defoliators over the past 3 years. Bean leaf beetle populations were also considerably reduced in 2021.

However, a newer defoliator became much more problematic in 2021- Japanese beetles. These relatively large beetles have been quite common in the eastern quadrant of Kansas but have been slowly eating their way west in the state. In 2021, they caused considerable defoliation and thus considerable concern in several counties west of Interstate 35. This Japanese beetle infestation needs to be closely monitored in 2022 as these populations seem to be increasing faster than expected. (Jeff Whitworth, Department of Entomology)

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 15. Relative yields of each entry from all locations are shown in Table 16.

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: <http://www.agronomy.k-state.edu/services/crop-performance-tests/soybean>

Table 1. Entrants in the 2021 Kansas Soybean Performance Tests

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

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

Monsanto
St. Louis, MO
800-768-6387
aganytime.com/asgrow
*maturity checks

University of Arkansas
Fayetteville, AR
479-575-6807

**GDM Seeds, Inc
(DonMario, Virtue)**
Gibson City, IL
217-784-8475

Nutrien (Dyna-Gro)
Goddard, KS
316-794-2231
nutrien.com

Beck's Seed
Atlanta, IN
800-937-2325
beckshybrids.com

Midland
Sylvester Seed Farm
Ottawa, KS
800-819-7333
midlandgenetics.com

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

Biominerall Systems LLC
South Bend, IN
574-222-1332

University of Missouri
Portageville, MO
573-379-5431

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

Dave Regher Farm, Riley, Riley County; Bill Schapaugh, agronomist

Wabash silty clay

Good planting conditions. Planted into standing covercrop with some decomposition of the residue. Surface moisture was fair with mellow top soil conditions.

April May June July Aug. Sept. Total

Rainfall: 1.7 3.3 0.7 9.0 5.0 1.2 22.9

Planted 5/13/2021 at 155,000 seeds/ft; harvested 10/22/2021; 12 ft. by 4-row plot; pesticides: 4/30/2021 Roundup 1 qt/a; 2,4-D 12 oz/a; Dicamba 2 oz/a; Authority XL 3 oz/a. 5/13/21 Authority Supreme 8 oz/a; Sencor 4 oz/a

Table 2. Riley, Riley County Dryland Soybean Performance Test, 2019-2021

BRAND	NAME	TRAIT	ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			2021		
			2021	2020	2019	2-Yr. AVG.	3-Yr. AVG.	2021	2020	2019	Mat	Lodge score	Ht (in)
ASGROW	AS37X71	XF	64.7	--	--	--	--	113	--	--	9/29	1.0	41
ASGROW	AS40XFO	XF/STS	60.4	--	--	--	--	105	--	--	10/2	1.0	39
BECKS	MG3.7	Enlist	64.7	--	--	--	--	113	--	--	9/28	1.0	35
BECKS	MG4.2	Enlist	58.4	--	--	--	--	102	--	--	10/9	1.0	40
CHECK	21MG3.1	RR	65.1	63.8	--	64.5	--	113	110	--	9/30	1.0	38
CHECK	21MG3.9	RR	54.3	57.9	55.5	56.1	55.9	95	99	91	10/5	1.0	38
DONMARIO	DM36F62S	XF/STS	57.2	--	--	--	--	100	--	--	10/3	1.0	38
DONMARIO	DM40E62	E3	62.1	--	--	--	--	108	--	--	10/6	1.0	41
KANSAS AES	K16-1729	C	51.6	55.3	--	53.5	--	90	95	--	9/29	1.0	37
KANSAS AES	K17-1532	C	57.1	--	--	--	--	99	--	--	10/1	1.0	39
KANSAS AES	K17-6185	C	67.0	--	--	--	--	117	--	--	9/30	1.0	38
KANSAS AES	K17-6326	C	56.3	--	--	--	--	98	--	--	10/1	1.0	35
KANSAS AES	K17-6388	C	61.6	--	--	--	--	107	--	--	10/4	1.0	38
KANSAS AES	K17-6484	C	58.2	--	--	--	--	101	--	--	10/1	1.5	35
KANSAS AES	K18-6766 GT	RR1	54.6	--	--	--	--	95	--	--	10/3	1.0	31
KANSAS AES	K18-6776 GT	RR1	61.5	--	--	--	--	107	--	--	10/2	1.0	35
KANSAS AES	K18-6777 GT	RR1	53.9	--	--	--	--	94	--	--	10/1	1.0	33
KANSAS AES	K18-6782 GT	RR1	46.5	--	--	--	--	81	--	--	10/1	1.0	35
KANSAS AES	K18-6805 GT	RR1	51.8	--	--	--	--	90	--	--	10/3	1.0	39
KANSAS AES	K18-6812 GT	RR1	54.7	--	--	--	--	95	--	--	10/1	1.0	32
KANSAS AES	K18-6860 GT	RR1	53.5	--	--	--	--	93	--	--	10/1	1.3	36
KANSAS AES	K18-6882 GT	RR1	55.0	--	--	--	--	96	--	--	10/1	1.0	32
KANSAS AES	K18-6897 GT	RR1	52.7	--	--	--	--	92	--	--	10/3	1.0	31
KANSAS AES	K18-6903 GT	RR1	53.3	--	--	--	--	93	--	--	10/7	1.0	33
KANSAS AES	K18-6908 GT	RR1	57.2	--	--	--	--	100	--	--	10/2	1.0	33
KANSAS AES	K18-6974 GT	RR1	60.3	--	--	--	--	105	--	--	10/1	1.0	35
KANSAS AES	KS4117NS	C, STS	58.8	62.0	62.0	60.4	60.9	102	107	101	10/3	1.0	29
KANSAS AES	KS4120NSGT	RR1, STS	59.3	62.3	57.4	60.8	59.6	103	107	94	10/4	1.0	34
KANSAS AES	KS4520NS	C, STS	51.7	55.7	58.4	53.7	55.3	90	96	95	10/3	1.0	38
VIRTUE SEEDS	V4122S	C/STS	59.9	--	--	--	--	104	--	--	10/1	1.0	43
	AVERAGES		57.4	58.2	61.3								
	CV (%)		6.8	6.9	5.7								
	LSD (0.10)		4.4	4.6	3.9								

Values in bold are in the upper LSD group.

J.D. Hanna, Erma Harden Farm, Kiro, Shawnee County; Eric Adee, agronomist

Soil conditions were good, but it turned cold and wet a couple of days after planting, resulting in damping off. June was hot and relatively dry. July was a little cooler with some rain. August was warm with above average rain.

Rainfall: April May June July Aug. Sept. Total
 2.7 6.8 2.8 3.3 2.2 2.7 20.5

Planted 4/6/2021 at 100,000 seeds/ft; harvested 10/14/2021; 10 ft. by 4-row plot; pesticides: May 7: Authority Maxx 6 oz/a + Cinch 1.5 pt/a + RR Powermax 22 oz/a + Aim 1 oz/a + Enact; June 3: Anthem Maxx 3.25 oz/a + First Rate 0.3 oz/a + Pursuit 4 oz/a + Poast 1.5 pt/a + HSOC + AMS

Table 3. Kiro, Shawnee County Dryland Soybean Performance Test, 2019-2021

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2021		
			2021	2020	2019	2-Yr. AVG.	3-Yr. AVG.	2021	2020	2019	Mat	Lodge score	Ht (in)
ASGROW	AS37X71	XF	88.0	--	--	--	--	103	--	--	9/25	2.4	48
ASGROW	AS40XFO	XF/STS	86.4	--	--	--	--	101	--	--	9/25	0.9	43
BECKS	MG3.7	Enlist	94.2	--	--	--	--	111	--	--	9/21	1.4	37
BECKS	MG4.2	Enlist	75.2	--	--	--	--	88	--	--	10/1	4.8	42
BIOMINERAL	BIOMINERAL-SO	C	84.9	72.6	--	78.7	--	100	102	--	9/15	4.3	40
BIOMINERAL	BIOMINERAL-SY	C	84.9	68.0	--	76.5	--	100	95	--	9/23	4.0	43
CHECK	21MG3.1	RR	85.9	71.8	73.9	78.8	77.2	101	101	89	9/21	3.8	43
CHECK	21MG3.9	RR	88.8	68.1	66.1	78.4	74.3	104	95	80	9/30	1.7	44
CHECK	21MG4.8	RR	78.1	68.0	--	73.1	--	92	95	--	10/13	2.7	37
DONMARIO	DM38F42S	XF/STS	89.1	--	--	--	--	105	--	--	9/25	2.2	42
DONMARIO	DM40E62	E3	92.8	--	--	--	--	109	--	--	10/1	1.7	43
KANSAS AES	K16-1729	C	83.5	--	--	--	--	98	--	--	9/26	1.4	44
KANSAS AES	KS4120NSGT	RR1, STS	82.7	74.0	87.6	78.4	81.4	97	104	106	9/26	1.1	37
KANSAS AES	KS4520NS	C, STS	87.7	72.4	93.2	80.1	84.4	103	101	112	9/29	2.5	40
NK	39-62X	E3	90.5	--	--	--	--	106	--	--	9/27	1.8	51
NK	39-82X	LL/GT27	82.1	--	--	--	--	96	--	--	9/29	2.0	46
VIRTUE SEEDS	V 4520S	C	78.1	68.6	--	73.3	--	92	96	--	10/2	1.8	47
VIRTUE SEEDS	V4122S	C/STS	79.8	--	--	--	--	94	--	--	9/25	2.8	44
WILLCROSS	WX1038NGT/LL	RR	89.6	--	--	--	--	105	--	--	9/29	2.4	47
WILLCROSS	WX1748NLL	LL	86.2	--	--	--	--	101	--	--	10/3	1.7	45
WILLCROSS	WX1839NLL	LL	90.2	--	--	--	--	106	--	--	9/27	1.0	42
WILLCROSS	WXE8038NS	RR/LL	84.6	--	--	--	--	99	--	--	9/23	2.1	46
WILLCROSS	WXE8043NS	RR/LL	92.1	--	--	--	--	108	--	--	10/2	2.1	41
WILLCROSS	WXE8146NS	Enlist	82.7	--	--	--	--	97	--	--	10/3	3.0	48
WILLCROSS	WXE8148NS	Enlist	71.6	--	--	--	--	84	--	--	10/7	2.6	44
	AVERAGES		85.3	71.4	83.0								
	CV (%)		5.8	6.0	6.0								
	LSD (0.10)		5.3	6.0	5.8								

Values in bold are in the upper LSD group.

Kansas River Valley Experiment Field, Topeka, Shawnee County; Eric Adee, agronomist

Soil conditions were good, but it turned cold and wet a couple of days after planting, resulting in damping off. June was hot and relatively dry. July was a little cooler with some rain. August was warm with above normal rain.

April May June July Aug. Sept. Total
 Rainfall: 2.7 5.9 3.3 3.0 3.1 2.7 25.0

Irrigation:

Planted 5/7/2021 at 140000 seeds/ft; harvested 10/7/2021; 10 ft. by 4-row plot; pesticides: May 7: Authority Maxx 6 oz/a + Cinch 1.5 pt/a + RR Powermax 22 oz/a + Aim 1 oz/a + Enact; June 3: Anthem Maxx 3.25 oz/a + First Rate 0.3 oz/a + Pursuit 4 oz/a + Poast 1.5 pt/a + HSOC + AMS

Table 4. Topeka, Shawnee County Irrigated Soybean Performance Test, 2019-2021

BRAND	NAME	TRAIT	ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			2021		
			2021	2020	2019	2-Yr. AVG.	3-Yr. AVG.	2021	2020	2019	Mat	Lodge score	Ht (in)
ASGROW	AS37X71	XF	81.4	--	--	--	--	105	--	--	9/27	2.3	44
ASGROW	AS40XFO	XF/STS	82.7	--	--	--	--	107	--	--	9/25	1.0	42
BECKS	MG3.7	Enlist	79.8	--	--	--	--	103	--	--	9/19	1.5	39
BECKS	MG4.2	Enlist	68.5	--	--	--	--	89	--	--	9/27	2.3	46
CHECK	21MG3.1	RR	77.1	54.4	63.4	65.8	65.0	100	93	102	9/21	4.5	41
CHECK	21MG3.9	RR	76.7	64.9	59.4	70.8	67.0	99	111	95	9/29	1.0	41
CHECK	21MG4.8	RR	72.3	56.5	--	64.4	--	94	96	--	10/4	2.8	41
DONMARIO	DM40E62	E3	68.8	--	--	--	--	89	--	--	9/26	2.5	42
DONMARIO	DM42F62	XF	83.9	--	--	--	--	109	--	--	9/29	2.3	47
KANSAS AES	K16-1729	C	74.9	--	--	--	--	97	--	--	9/27	2.8	39
KANSAS AES	KS4120NSGT	RR1, STS	76.8	60.1	62.2	68.4	66.3	99	102	100	9/26	1.3	36
KANSAS AES	KS4520NS	C, STS	83.3	62.8	66.9	73.0	71.0	108	107	107	9/26	2.5	41
NK	39-62X	E3	84.7	--	--	--	--	110	--	--	9/27	2.3	44
NK	39-82X	LL/GT27	84.2	--	--	--	--	109	--	--	9/27	3.3	43
VIRTUE SEEDS	V 4520S	C	80.2	61.5	--	70.9	--	104	105	--	9/29	2.0	44
VIRTUE SEEDS	V4122S	C/STS	79.7	--	--	--	--	103	--	--	9/27	4.0	41
WILLCROSS	WX1038NGT/LL	RR	73.6	--	69.0	--	--	95	--	110	9/27	3.5	45
WILLCROSS	WX1748NLL	LL	83.2	--	--	--	--	108	--	--	9/28	1.3	43
WILLCROSS	WX1839NLL	LL	78.4	--	--	--	--	102	--	--	9/25	1.5	42
WILLCROSS	WXE8038NS	RR/LL	74.2	--	61.0	--	--	96	--	98	9/21	2.5	42
WILLCROSS	WXE8043NS	RR/LL	87.2	--	76.3	--	--	113	--	122	9/29	2.0	42
WILLCROSS	WXE8146NS	Enlist	63.7	--	--	--	--	83	--	--	9/29	4.0	46
WILLCROSS	WXE8148NS	Enlist	60.2	--	--	--	--	78	--	--	9/29	3.8	43
	AVERAGES		77.2	58.7	62.5								
	CV (%)		6.7	9.5	8.2								
	LSD (0.10)		7.2	7.8	6.0								

Values in bold are in the upper LSD group.

East Central Kansas Experiment Field, Ottawa, Franklin County; Eric Adee, agronomist; Jim Kimball, research techn

Vertical tilled shallow on May 7th. Planted into stale seed bed. Sprayed burn down June 7th. Very favorable yields.

April May June July Aug. Sept. Total

Rainfall: 3.2 12.1 5.5 4.7 2.7 2.7 35.5

Planted 6/7/2021 at 140000 seeds/ft; harvested 10/15/2021; 26 ft. by 4-row plot; pesticides: June 7 RoundUp PowerMax 1 qt/a, Glory (Metribuzin) 5 oz/a, Authority Max 7 oz/a, Dual II; Post sprayed July 21 with Assure 10 oz/a, Zidua 3 oz/a, NIS at 1 qt/100

Table 5. Ottawa, Franklin County Dryland Soybean Performance Test, Maturity Groups III-IV, 2019-2021

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF			2021		
			2021	2020	2019	2-Yr. AVG.	3-Yr. AVG.	TEST AVERAGE			Mat	Lodge score	Ht (in)
ASGROW	AS37X71	XF	65.2	--	--	--	--	108	--	--	9/29	1.0	26
ASGROW	AS40XFO	XF/STS	60.0	--	--	--	--	100	--	--	9/27	1.0	22
BECKS	MG3.7	Enlist	59.1	--	--	--	--	98	--	--	9/26	1.0	19
BECKS	MG4.2	Enlist	63.0	--	--	--	--	105	--	--	10/1	1.0	29
CHECK	21MG3.1	RR	59.1	57.3	72.5	58.2	63.0	98	119	99	9/27	1.0	26
CHECK	21MG3.9	RR	59.5	51.3	72.4	55.4	61.1	99	107	99	10/2	1.0	29
DONMARIO	DM40E62	E3	57.5	--	--	--	--	96	--	--	9/29	1.0	24
DONMARIO	DM42F62	XF	62.3	--	--	--	--	103	--	--	10/4	1.0	24
KANSAS AES	K16-1729	C	57.5	--	--	--	--	96	--	--	9/25	1.0	26
KANSAS AES	KS4120NSGT	RR1, STS	54.1	50.7	75.1	52.4	60.0	90	105	103	9/28	1.0	24
KANSAS AES	KS4520NS	C, STS	57.3	44.4	71.3	50.9	57.7	95	92	98	9/29	1.0	25
NK	39-62X	E3	62.7	--	--	--	--	104	--	--	9/29	1.0	29
NK	39-82X	LL/GT27	63.7	--	--	--	--	106	--	--	9/29	1.0	26
VIRTUE SEEDS	V4122S	C/STS	57.3	--	--	--	--	95	--	--	9/27	1.0	27
WILLCROSS	WXE8146NS	Enlist	65.2	--	--	--	--	108	--	--	10/5	1.0	27
	AVERAGES		60.2	48.0	73.0								
	CV (%)		5.9	6.8	5.5								
	LSD (0.10)		4.2	4.6	4.6								

Values in bold are in the upper LSD group.

East Central Kansas Experiment Field, Ottawa, Franklin County; Eric Adee, agronomist; Jim Kimball, research techn

Vertical tilled shallow on May 7th. Planted into stale seed bed. Sprayed burn down June 7th. Very favorable yields.

April May June July Aug. Sept. Total

Rainfall: 3.2 12.1 5.5 4.7 2.7 2.7 35.5

Planted 6/7/2021 at 140,000 seeds/ft; harvested 10/14/2021; 26 ft. by 4-row plot; pesticides: June 7: RoundUp PowerMax 1 qt/a, Glory (Metribuzin) 5 oz/a, Authority Max 7 oz/a, Dual II; Post sprayed July 21 with Assure 10 oz/a, Zidua 3 oz/a, NIS at 1 qt/100

Table 6. Ottawa, Franklin County Dryland Soybean Performance Test, Maturity Groups IV-V, 2019-2021

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF			2021		
			2021	2020	2019	2-Yr. AVG.	3-Yr. AVG.	TEST AVERAGE			Mat	Lodge score	Ht (in)
BECKS	MG4.8	Enlist	65.0	--	--	--	--	105	--	--	10/8	1.0	27
BECKS	MG5.1		64.4	--	--	--	--	104	--	--	10/7	1.0	28
CHECK	21MG4.8	RR	63.2	54.6	72.0	58.9	63.2	102	112	104	10/12	1.0	29
KANSAS AES	K15-1809	C, STS	64.3	58.8	75.4	61.5	66.2	104	121	109	10/11	1.0	29
KANSAS AES	K15-1874	C, STS	58.3	50.1	67.0	54.2	58.5	94	103	97	10/7	1.0	26
KANSAS AES	KS4919N	C	57.6	46.3	64.6	51.9	56.2	93	95	94	10/12	1.0	29
KANSAS AES	KS5120NS	C, STS	59.0	53.1	70.0	56.0	60.7	95	109	101	10/12	1.0	26
VIRTUE SEEDS	V4720S	C/STS	61.5	--	--	--	--	99	--	--	10/7	1.0	37
WILLCROSS	WX1748NLL	LL	61.2	--	70.7	--	--	99	--	--	10/3	1.0	26
WILLCROSS	WXE8043NS	RR/LL	63.5	--	--	--	--	102	--	--	10/4	1.0	27
WILLCROSS	WXE8148NS	Enlist	63.5	--	--	--	--	103	--	--	10/9	1.0	27
	AVERAGES		62.0	48.6	69.1								
	CV (%)		5.6	7.0	4.4								
	LSD (0.10)		4.2	4.1	3.6								

Values in bold are in the upper LSD group.

Southeast Agricultural Research Center, Parsons, Labette County: Gretchen Sassenrath, agronomist; Lonnie Mengarelli, tech.

Warm and great moisture at planting. Full season had an established root system and was able to come through the dry summer very well. High humidity in the fall slowed down the drying process but harvest went very well.

April May June July Aug. Sept. Total
 Rainfall: 2.3 5.9 7.5 9.9 4.1 1.9 36.1

Planted 6/8/2021 at seeds/ft; harvested 11/9/2021; 14 ft. by 4-row plot; pesticides: 1.5 qt/a glyphosate; 2 pt/a Dual II Mag; .5 lb/a metribuzin; 6 oz/a Authority XL

Table 7. Parsons, Labette County Dryland Soybean Performance Test, Maturity Groups III-V, 2019-2021

BRAND	NAME	TRAIT	ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			2021		
			2021	2020	2019	2-Yr. AVG.	3-Yr. AVG.	2021	2020	2019	Mat	Lodge score	Ht (in)
ARKANSAS	R13-13997	C	29.2	--	--	--	--	83	--	--	--	--	--
ARKANSAS	R15-1587	C	35.8	--	--	--	--	102	--	--	--	--	--
ARKANSAS	R15-2422	C	32.4	58.3	--	45.4	--	92	99	--	--	--	--
ARKANSAS	R16-253	C	32.1	--	--	--	--	91	--	--	--	--	--
ARKANSAS	UA46i20C	E3	38.8	--	--	--	--	110	--	--	--	--	--
ARKANSAS	UA54i19GT	C	35.0	--	--	--	--	100	--	--	--	--	--
BECKS	MG4.2	Enlist	32.2	--	--	--	--	92	--	--	--	--	--
BECKS	MG4.8	Enlist	36.6	--	--	--	--	104	--	--	--	--	--
BECKS	MG5.1		35.0	--	--	--	--	100	--	--	--	--	--
CHECK	21MG3.9	RR	37.8	--	--	--	--	108	--	--	--	--	--
CHECK	21MG4.8	RR	34.7	59.8	51.9	47.3	48.8	99	102	101	--	--	--
DONMARIO	DM46E62	E3	35.2	--	--	--	--	100	--	--	--	--	--
DONMARIO	DM46F62	XF	34.7	--	--	--	--	99	--	--	--	--	--
KANSAS AES	K16-1729	C	35.4	--	--	--	--	101	--	--	--	--	--
KANSAS AES	KS4117NS	C, STS	34.2	29.1	--	--	--	97	91	--	--	--	--
KANSAS AES	KS4120NSGT	RR1, STS	36.5	33.0	--	--	--	104	103	--	--	--	--
KANSAS AES	KS4520NS	C, STS	34.8	28.7	--	--	--	99	88	--	--	--	--
MIDLAND	4412E3S	E3	35.8	--	--	--	--	102	--	--	--	--	--
MIDLAND	4602E3S	E3	41.1	--	--	--	--	117	--	--	--	--	--
MIDLAND	4621XFS	XF	35.9	--	--	--	--	102	--	--	--	--	--
MIDLAND	4677NXS	RR2X/STS	38.1	29.5	--	--	--	108	92	--	--	--	--
MIDLAND	4821XFS	XF	30.4	--	--	--	--	86	--	--	--	--	--
MIDLAND	4880E3S	RR2X	37.6	59.5	--	48.6	--	107	101	--	--	--	--
MIDLAND	4922XFS	XH	37.5	--	--	--	--	107	--	--	--	--	--
MISSOURI	S09-13608C	C	35.9	--	--	--	--	102	--	--	--	--	--
MISSOURI	S16-11644C	C	35.3	58.3	--	46.8	--	100	99	--	--	--	--
MISSOURI	S16-14801C	C	32.6	--	--	--	--	93	--	--	--	--	--
VIRTUE SEEDS	V4720S	C/STS	33.7	--	--	--	--	96	--	--	--	--	--
	AVERAGES		35.2	58.8	51.3								
	CV (%)		8.0	4.9	6.6								
	LSD (0.10)		3.2	3.4	4.0								

Values in bold are in the upper LSD group.

Vernon Egbert Farm, McCune, Crawford County; Bill Schapaugh, agronomist

Cherokee silt loam

Ideal planting conditions were observed with light residue and moist consistent top soil. Normal to above normal rainfall carried through the growing season with only light moisture stress appearing in early August.

April May June July Aug. Sept. Total
 Rainfall: 2.0 5.3 8.1 6.2 2.9 2.6 32.6

Planted 6/16/2021 at seeds/ft; harvested 11/5/2021; 12 ft. by 4-row plot; pesticides: 6/19/2021 Authority Supreme 6 oz/a

Table 8. McCune, Crawford County Dryland Soybean Performance Test, 2019-2021

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2021		
			2021	2020	2019	2-Yr. AVG.	3-Yr. AVG.	2021	2020	2019	Mat	Lodge score	Ht (in)
ARKANSAS	R13-13997	C	52.5	--	--	--	--	101	--	--	10/13	1.3	36
ARKANSAS	R15-1587	C	56.4	--	--	--	--	108	--	--	10/12	1.0	33
ARKANSAS	R15-2422	C	49.8	38.7	--	44.2	--	96	--	--	10/6	1.8	35
ARKANSAS	R16-253	C	50.8	--	--	--	--	98	--	--	10/7	1.0	33
ARKANSAS	UA46i20C	E3	53.9	--	--	--	--	103	--	--	10/7	1.0	32
ARKANSAS	UA54i19GT	C	54.3	--	--	--	--	104	--	--	10/12	1.0	37
BECKS	MG4.2	Enlist	52.5	--	--	--	--	101	--	--	10/1	1.0	34
BECKS	MG4.8	Enlist	52.6	--	--	--	--	101	--	--	10/8	1.0	36
BECKS	MG5.1		48.7	--	--	--	--	94	--	--	10/7	1.0	31
CHECK	21MG3.9	RR	52.8	41.7	--	47.2	--	101	--	--	10/5	1.0	32
CHECK	21MG4.8	RR	53.8	43.8	--	48.8	--	103	--	--	10/13	1.0	29
DONMARIO	DM46E62	E3	51.5	--	--	--	--	99	--	--	10/7	1.0	32
DONMARIO	DM46F62	XF	49.4	--	--	--	--	95	--	--	10/4	1.0	34
KANSAS AES	K15-1809	C, STS	54.1	46.1	--	50.1	--	104	--	--	10/13	1.0	25
KANSAS AES	K15-1874	C, STS	53.2	43.9	--	48.5	--	102	--	--	10/9	1.0	27
KANSAS AES	K17-4406	C	50.6	--	--	--	--	97	--	--	10/13	1.0	29
KANSAS AES	K17-4973	C	49.3	--	--	--	--	95	--	--	10/12	1.0	28
KANSAS AES	K179236-1 GT	RR1	50.9	--	--	--	--	98	--	--	10/12	1.0	30
KANSAS AES	K179247-8 GT	RR1	54.0	--	--	--	--	104	--	--	10/12	1.0	38
KANSAS AES	K18-6996 GT	RR1	47.0	--	--	--	--	90	--	--	10/11	1.0	21
KANSAS AES	K18-7024 GT	RR1	50.9	--	--	--	--	98	--	--	10/9	1.3	29
KANSAS AES	K18-7069 GT	RR1	49.3	--	--	--	--	95	--	--	10/13	1.0	30
KANSAS AES	KS4520NS	C, STS	51.6	36.4	--	44.0	--	99	--	--	9/30	1.0	28
KANSAS AES	KS4919N	C	50.5	46.1	--	48.3	--	97	--	--	10/12	1.0	29
KANSAS AES	KS5120NS	C, STS	55.1	44.6	--	49.9	--	106	--	--	10/12	1.0	25
MIDLAND	4412E3S	E3	52.3	--	--	--	--	100	--	--	9/30	1.0	30
MIDLAND	4602E3S	E3	49.1	--	--	--	--	94	--	--	10/6	1.0	34
MIDLAND	4621XFS	XF	55.3	--	--	--	--	106	--	--	10/7	1.0	35
MIDLAND	4677NXS	RR2X/STS	53.1	--	--	--	--	102	--	--	10/10	1.0	38
MIDLAND	4821XFS	XF	48.2	--	--	--	--	93	--	--	10/4	1.0	31
MIDLAND	4880E3S	RR2X	54.6	--	--	--	--	105	--	--	10/11	1.0	41
MIDLAND	4922XFS	XH	53.3	--	--	--	--	102	--	--	10/10	1.0	31
MISSOURI	S09-13608C	C	49.3	--	--	--	--	95	--	--	10/2	1.0	34
MISSOURI	S16-11644C	C	55.2	45.0	--	50.1	--	106	--	--	10/12	2.0	35
MISSOURI	S16-14801C	C	54.2	--	--	--	--	104	--	--	10/13	2.5	35
VIRTUE SEEDS	V4720S	C/STS	54.8	--	--	--	--	105	--	--	10/2	1.0	33
	AVERAGES		52.1	41.2	--								
	CV (%)		6.0	6.2	--								
	LSD (0.10)		3.6	2.9	--								

Values in bold are in the upper LSD group.

Dale Roberds Farm, Pittsburg, Cherokee County; Bill Schapaugh, agronomist

Parsons Silt Loam

The planting conditions were typical double crop conditions with very heavy standing wheat stubble. Planted into harvest tracks which created a variable stand. The moisture conditions were at the saturation point which created some hairpinning of the heavy residue. Early in the growing season we observed some deer feeding on the plot. The plot had ample moisture throughout the growing season.

	April	May	June	July	Aug.	Sept.	Total
Rainfall:	2.8	4.7	8.3	4.6	2.4	2.8	31.9

Planted 7/8/2021 at 155,000 seeds/ft; harvested 11/9/2021; 24 ft. by 4-row plot; pesticides: 7/3/21 Trivence 6 oz/a; Paraquat 32 oz/a; 9/28/21 Select 12 oz/a spot application

Table 9. Pittsburg, Cherokee County No-Till Soybean Performance Test, Maturity Groups III-V, 2019-2021

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2021		
			2021	2020	2019	2-Yr. AVG.	3-Yr. AVG.	2021	2020	2019	Mat	Lodge score	Ht (in)
ARKANSAS	R13-13997	C	49.2	--	--	--	--	102	--	--	10/29	1.0	31
ARKANSAS	R15-1587	C	47.0	--	--	--	--	97	--	--	10/29	1.8	27
ARKANSAS	R15-2422	C	45.3	42.0	--	43.7	--	94	83	--	10/20	1.0	32
ARKANSAS	UA46i20C	E3	41.9	--	--	--	--	87	--	--	10/19	1.0	28
ARKANSAS	UA54i19GT	C	45.0	--	--	--	--	93	--	--	10/25	1.0	34
BECKS	MG3.7	Enlist	47.1	--	--	--	--	97	--	--	10/14	1.0	23
BECKS	MG4.2	Enlist	49.7	--	--	--	--	103	--	--	10/19	1.0	31
BECKS	MG4.8	Enlist	52.9	--	--	--	--	110	--	--	10/24	1.0	32
BECKS	MG5.1		49.7	--	--	--	--	103	--	--	10/21	1.0	32
CHECK	21MG3.1	RR	46.2	52.0	--	49.1	--	96	102	--	10/14	1.0	25
CHECK	21MG3.9	RR	51.8	53.4	--	52.6	--	107	105	--	10/20	1.0	25
CHECK	21MG4.8	RR	49.9	48.2	--	49.0	--	103	95	--	10/27	1.0	26
DONMARIO	DM46E62	E3	49.8	--	--	--	--	103	--	--	10/22	1.0	27
DONMARIO	DM46F62	XF	47.6	--	--	--	--	99	--	--	10/21	1.0	26
KANSAS AES	K15-1809	C, STS	51.2	54.3	--	52.7	--	106	107	--	10/30	1.0	25
KANSAS AES	K15-1874	C, STS	46.2	54.7	--	50.4	--	96	107	--	10/24	1.0	24
KANSAS AES	K17-4406	C	48.8	--	--	--	--	101	--	--	10/23	1.0	29
KANSAS AES	K17-4973	C	47.8	--	--	--	--	99	--	--	10/23	1.0	24
KANSAS AES	K179236-1 GT	RR1	47.5	--	--	--	--	98	--	--	10/25	1.0	27
KANSAS AES	K179247-8 GT	RR1	49.4	--	--	--	--	102	--	--	10/30	1.5	32
KANSAS AES	K18-6996 GT	RR1	40.0	--	--	--	--	83	--	--	10/18	1.0	20
KANSAS AES	K18-7024 GT	RR1	43.2	--	--	--	--	90	--	--	10/21	1.0	26
KANSAS AES	K18-7069 GT	RR1	46.0	--	--	--	--	95	--	--	10/25	1.0	26
KANSAS AES	KS4919N	C	47.9	57.6	--	52.8	--	99	113	--	10/25	1.0	27
KANSAS AES	KS5120NS	C, STS	50.1	59.8	--	55.0	--	104	117	--	10/27	1.0	23
MIDLAND	4412E3S	E3	47.1	--	--	--	--	98	--	--	10/17	1.0	27
MIDLAND	4602E3S	E3	48.0	--	--	--	--	99	--	--	10/18	1.0	28
MIDLAND	4621XFS	XF	53.8	--	--	--	--	111	--	--	10/24	1.0	31
MIDLAND	4677NXS	RR2X/STS	53.1	55.9	--	54.5	--	110	110	--	10/22	1.0	34
MIDLAND	4821XFS	XF	51.1	--	--	--	--	106	--	--	10/22	1.0	31
MIDLAND	4880E3S	RR2X	47.3	44.5	--	45.9	--	98	87	--	10/24	1.0	38
MIDLAND	4922XFS	XH	49.5	--	--	--	--	103	--	--	10/26	1.0	27
MISSOURI	S09-13608C	C	47.5	--	--	--	--	98	--	--	10/21	1.0	28
MISSOURI	S16-11644C	C	49.6	--	--	--	--	103	--	--	10/26	1.0	28
MISSOURI	S16-14801C	C	49.5	--	--	--	--	103	--	--	10/29	2.5	33
NK	39-82X	LL/GT27	49.0	--	--	--	--	102	--	--	10/24	1.0	26
VIRTUE SEEDS	V 4921S	C	55.0	47.8	--	51.4	--	114	94	--	10/21	1.0	26
WILLCROSS	WX1748NLL	LL	46.6	--	--	--	--	97	--	--	10/21	1.0	28
WILLCROSS	WXE8146NS	Enlist	44.3	--	--	--	--	92	--	--	10/21	1.0	29
WILLCROSS	WXE8148NS	Enlist	45.3	--	--	--	--	94	--	--	10/25	1.0	27
WILLCROSS	WXR7878NS	RR	53.0	--	--	--	--	110	--	--	10/24	1.0	32
	AVERAGES		48.3	50.9	--								
	CV (%)		5.3	6.9	--								
	LSD (0.10)		3.0	4.1	--								

North Central Experiment Field, Scandia, Republic County; Scott Dooley, agronomist

Crete silt loam

Planted into challenging no-till conditions and completed in the rain. Crusting was observed and affected final plot lengths. June was very dry and irrigation supported crop condition throughout the summer. A minor amount of shattering was observed and lodging was severe only in a few plots.

	April	May	June	July	Aug.	Sept.	Total
Rainfall:	1.4	3.1	0.8	1.7	3.4	1.3	14.2
Irrigation:			2.5	5.0	2.5		10.0

Planted 5/24/2021 at 167000 seeds/ft; harvested 10/19/2021; 26 ft. by 2-row plot; pesticides: 5/13/2021: 1.5 qt/a Makaze, 3.75 oz/a Fierce; 6/15/2021: 16 oz/a Intensity One; 7/13/2021: 16 oz/a Intensity One

Table 10. Scandia, Republic County Irrigated Soybean Performance Test, 2019-2021

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2021		
			2021	2020	2019	2-Yr. AVG.	3-Yr. AVG.	2021	2020	2019	Mat	Lodge score	Ht (in)
ASGROW	AS37X71	XF	59.2	--	--	--	--	94	--	--	9/29	1.0	45
ASGROW	AS40XFO	XF/STS	59.1	--	--	--	--	94	--	--	9/29	1.0	44
BECKS	MG3.7	Enlist	69.5	--	--	--	--	110	--	--	9/28	1.0	39
BECKS	MG4.2	Enlist	60.4	--	--	--	--	96	--	--	10/2	1.0	49
CHECK	21MG3.9	RR	65.5	57.7	62.4	61.6	61.9	104	96	98	10/5	1.0	41
DONMARIO	DM38F42S	XF/STS	67.4	--	--	--	--	107	--	--	9/28	2.0	39
DONMARIO	DM40E62	E3	59.8	--	--	--	--	95	--	--	10/2	1.0	39
KANSAS AES	K16-1729	C	62.5	--	--	--	--	99	--	--	9/27	1.0	39
KANSAS AES	KS4120NSGT	RR1, STS	63.8	55.3	61.4	59.5	60.2	101	92	97	9/29	1.0	35
KANSAS AES	KS4520NS	C, STS	58.4	49.7	64.4	54.1	57.5	93	83	101	10/2	2.7	37
NK	39-62X	E3	61.9	--	--	--	--	98	--	--	9/27	1.0	37
NK	39-82X	LL/GT27	69.9	--	--	--	--	111	--	--	9/26	1.7	44
	AVERAGES		63.1	60.3	63.5								
	CV (%)		4.0	10.6	4.7								
	LSD (0.10)		3.5	9.0	4.1								

Values in bold are in the upper LSD group.

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

Crete silt loam

Good planting conditions in May. Heavy Bean Leaf Beetle feeding in late May and early June, but no impact to final yield. Overall excellent yields considering the dry conditions in June and early July. Observed a small amount of shattering and lodging. Dicamba damage noted in the middle of the season. The late maturity check plots were not harvested at this location as they were still green.

	April	May	June	July	Aug.	Sept.	Total
Rainfall:	1.5	3.5	0.5	4.8	5.7	2.1	20.3

Planted at 142,000 seeds/ft; harvested 10/20/2021; 23 ft. by 4-row plot; pesticides: 5/7/21: 1.5 qt/a Makaze, 3.75 oz/a Fierce; 6/15/21: 16 oz/a Intensity One

Table 11. Belleville, Republic County Dryland Soybean Performance Test, 2019-2021

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2021		
			2021	2020	2019	2-Yr. AVG.	3-Yr. AVG.	2021	2020	2019	Mat	Lodge score	Ht (in)
ASGROW	AS37X71	XF	85.9	--	--	--	--	118	--	--	9/26	1.0	41
ASGROW	AS40XFO	XF/STS	76.5	--	--	--	--	105	--	--	9/28	1.3	37
BECKS	MG3.7	Enlist	89.7	--	--	--	--	123	--	--	9/25	1.0	33
BECKS	MG4.2	Enlist	49.7	--	--	--	--	68	--	--	9/28	1.2	43
CHECK	21MG3.1	RR	80.6	72.4	--	76.5	--	111	116	--	9/27	1.3	41
CHECK	21MG3.9	RR	50.4	73.1	--	61.8	--	69	117	--	10/7	1.0	42
DONMARIO	DM36F62S	XF/STS	79.9	--	--	--	--	110	--	--	10/1	1.3	39
DONMARIO	DM40E62	E3	65.2	--	--	--	--	90	--	--	10/9	1.0	34
KANSAS AES	K16-1729	C	68.0	--	--	--	--	93	--	--	10/3	2.1	33
KANSAS AES	KS4120NSGT	RR1, STS	66.3	63.6	--	64.9	--	91	102	--	10/6	1.0	31
KANSAS AES	KS4520NS	C, STS	64.3	45.5	--	54.9	--	88	73	--	10/6	1.7	31
NK	39-62X	E3	88.8	--	--	--	--	122	--	--	9/26	1.0	35
NK	39-82X	LL/GT27	81.3	--	--	--	--	112	--	--	9/26	1.3	37
	AVERAGES		72.8	62.5	--								
	CV (%)		8.9	10.4	--								
	LSD (0.10)		8.8	9.0	--								

Values in bold are in the upper LSD group.

Clayton Short Farm, Assaria, Saline County; Bill Schapaugh, agronomist

Ladysmith silty clay loam

Dry conditions at planting with a hard crust which required a deeper planting depth. Limited residue at planting from a light cover crop. The crop struggled with moisture and heat stress for most of June and July. Some rain in August gave stress relief and allowed the soybeans to complete seed fill.

April May June July Aug. Sept. Total
 Rainfall: 3.4 5.3 2.0 1.8 4.3 3.0 21.8

Planted 6/14/2021 at 155000 seeds/ft; harvested 10/16/2021; 12 ft. by 4-row plot; pesticides: 5/25/2021 Paraquat 32 oz/a; Warrant 48 oz/a; 6/5/2021 Round up 32 oz/a; Authority Supreme 10 oz/a

Table 12. Assaria, Saline County Dryland Soybean Performance Test, 2019-2021

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2021		
			2021	2020	2019	2-Yr. AVG.	3-Yr. AVG.	2021	2020	2019	Mat	Lodge score	Ht (in)
ASGROW	AS37X71	XF	45.4	--	--	--	--	103	--	--	9/30	1.0	29
ASGROW	AS40XFO	XF/STS	45.2	--	--	--	--	102	--	--	10/1	1.0	30
BECKS	MG3.7	Enlist	47.0	--	--	--	--	106	--	--	10/1	1.0	24
BECKS	MG4.2	Enlist	47.9	--	--	--	--	108	--	--	10/6	1.0	34
CHECK	21MG3.1	RR	47.5	59.9	52.3	53.7	53.2	107	101	89	10/2	1.0	28
CHECK	21MG3.9	RR	47.7	59.8	63.2	53.8	56.9	108	101	108	10/5	1.0	32
DONMARIO	DM40E62	E3	37.7	--	--	--	--	85	--	--	10/2	1.0	28
DONMARIO	DM42F62	XF	47.1	--	--	--	--	107	--	--	10/9	1.0	32
KANSAS AES	K16-1729	C	45.6	--	--	--	--	103	--	--	9/30	1.0	26
KANSAS AES	K17-1532	C	46.4	--	--	--	--	105	--	--	9/30	1.0	25
KANSAS AES	K17-6185	C	41.4	--	--	--	--	94	--	--	10/1	1.0	26
KANSAS AES	K17-6326	C	42.9	--	--	--	--	97	--	--	10/1	1.0	27
KANSAS AES	K17-6388	C	48.8	--	--	--	--	110	--	--	10/3	1.0	29
KANSAS AES	K17-6484	C	42.3	--	--	--	--	96	--	--	10/1	1.0	25
KANSAS AES	K18-6766 GT	RR1	43.7	--	--	--	--	99	--	--	10/3	1.0	24
KANSAS AES	K18-6776 GT	RR1	45.8	--	--	--	--	104	--	--	10/1	1.0	24
KANSAS AES	K18-6777 GT	RR1	41.8	--	--	--	--	95	--	--	10/1	1.0	24
KANSAS AES	K18-6782 GT	RR1	36.4	--	--	--	--	82	--	--	9/30	1.0	26
KANSAS AES	K18-6805 GT	RR1	42.9	--	--	--	--	97	--	--	10/2	1.0	26
KANSAS AES	K18-6812 GT	RR1	46.1	--	--	--	--	104	--	--	9/30	1.0	25
KANSAS AES	K18-6860 GT	RR1	40.9	--	--	--	--	93	--	--	10/1	1.0	27
KANSAS AES	K18-6882 GT	RR1	39.7	--	--	--	--	90	--	--	10/1	1.0	25
KANSAS AES	K18-6897 GT	RR1	45.3	--	--	--	--	102	--	--	10/1	1.0	24
KANSAS AES	K18-6903 GT	RR1	40.8	--	--	--	--	92	--	--	10/4	1.0	25
KANSAS AES	K18-6908 GT	RR1	43.2	--	--	--	--	98	--	--	10/1	1.0	25
KANSAS AES	K18-6974 GT	RR1	38.1	--	--	--	--	86	--	--	9/30	1.0	24
KANSAS AES	KS4120NSGT	RR1, STS	42.5	--	64.0	--	--	96	--	98	10/3	1.0	23
KANSAS AES	KS4520NS	C, STS	43.9	--	64.4	--	--	99	--	94	10/4	1.0	26
VIRTUE SEEDS	V4122S	C/STS	45.4	--	--	--	--	103	--	--	10/1	1.0	28
	AVERAGES		44.2	59.3	58.7								
	CV (%)		8.4	5.6	4.8								
	LSD (0.10)		4.2	3.9	3.3								

Values in bold are in the upper LSD group.

Northwest Research-Extension Center, Colby, Thomas County; Rob Aiken, agronomist; Freddie Lamm, irrigation

Woolly bear infestation mid-August.

	April	May	June	July	Aug.	Sept.	Total
Rainfall:	0.8	5.6	1.3	2.1	1.3	1.7	13.3
Irrigation:			1.0	3.0	7.0		11.0

Planted 5/28/2021 at 180,000 seeds/ft; harvested 10/5/2021; 20 ft. by 2-row plot; pesticides: Authority Assist 10 oz/a, Buccaneer 5Extra 32 oz/a 3/11/2021 Zidua 3 oz/a, Spartan Charge 8.5 oz/a, Charger basic 20 oz/a, Buccaneer 5 Extra 22 oz/a 5/28/2021

Table 13. Colby, Thomas County Irrigated Soybean Performance Test, 2019-2021

BRAND	NAME	TRAIT	ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			2021		
			2021	2020	2019	2-Yr. AVG.	3-Yr. AVG.	2021	2020	2019	Mat	Lodge score	Ht (in)
BECKS	MG3.7	Enlist	77.5	--	--	--	--	100	--	--	--	--	30
BECKS	MG4.2	Enlist	77.9	--	--	--	--	101	--	--	--	--	37
CHECK	21MG3.1	RR	92.8	--	63.0	--	--	120	--	108	--	--	33
CHECK	21MG3.9	RR	75.0	--	56.4	--	--	97	--	97	--	--	34
DONMARIO	DM36F62S	XF/STS	79.1	--	--	--	--	102	--	--	--	--	33
DONMARIO	DM40E62	E3	64.3	--	--	--	--	83	--	--	--	--	30
NK	39-82X	LL/GT27	75.7	--	--	--	--	98	--	--	--	--	35
	AVERAGES		77.5	--	58.1								
	CV (%)		10.0	--	6.6								
	LSD (0.10)		8.8	--	4.5								

Values in bold are in the upper LSD group.

Table 14. Yield as a Percentage of Test Average from 2021 Soybean Tests

BRAND/NAME	Riley	Topeka dryland	Topeka irrigated	Ottawa MG4	Ottawa MG5	Parsons MG 3-5	McCune	Pittsburg	Scandia	Belle- ville	Assaria	Colby	AVG
ARKANSAS													
R13-13997	--	--	--	--	--	83	101	102	--	--	--	--	95
R15-1587	--	--	--	--	--	102	108	97	--	--	--	--	102
R15-2422	--	--	--	--	--	92	96	94	--	--	--	--	94
R16-253	--	--	--	--	--	91	98	--	--	--	--	--	94
UA46i20C	--	--	--	--	--	110	103	87	--	--	--	--	100
UA54i19GT	--	--	--	--	--	100	104	93	--	--	--	--	99
ASGROW													
AS37X71	113	103	105	108	--	--	--	--	94	118	103	--	106
AS40XFO	105	101	107	100	--	--	--	--	94	105	102	--	102
BECKS													
MG3.7	113	111	103	98	--	--	--	97	110	123	106	100	107
MG4.2	102	88	89	105	--	92	101	103	96	68	108	101	96
MG4.8	--	--	--	--	105	104	101	110	--	--	--	--	105
MG5.1	--	--	--	--	104	100	94	103	--	--	--	--	100
BIOMINERAL													
BIOMINERAL-SO	--	100	--	--	--	--	--	--	--	--	--	--	100
BIOMINERAL-SY	--	100	--	--	--	--	--	--	--	--	--	--	100
CHECK													
21MG3.1	113	101	100	98	--	--	--	96	--	111	107	120	106
21MG3.9	95	104	99	99	--	108	101	107	104	69	108	97	99
21MG4.8	--	92	94	--	102	99	103	103	--	--	--	--	99
DONMARIO													
DM36F62S	100	--	--	--	--	--	--	--	--	110	--	102	104
DM38F42S	--	105	--	--	--	--	--	--	107	--	--	--	106
DM40E62	108	109	89	96	--	--	--	--	95	90	85	83	94
DM42F62	--	--	109	103	--	--	--	--	--	--	107	--	106
DM46E62	--	--	--	--	--	100	99	103	--	--	--	--	101
DM46F62	--	--	--	--	--	99	95	99	--	--	--	--	97

Table 14 continued. Yield as a Percentage of Test Average from 2021 Soybean Tests

BRAND/NAME	Riley	Topeka dryland	Topeka irrigated	Ottawa MG4	Ottawa MG5	Parsons MG 3-5	McCune	Pittsburg	Scandia	Belle- ville	Assaria	Colby	AVG
KANSAS AES													
K15-1809	--	--	--	--	104	--	104	106	--	--	--	--	105
K15-1874	--	--	--	--	94	--	102	96	--	--	--	--	97
K16-1729	90	98	97	96	--	101	--	--	99	93	103	--	97
K17-1532	99	--	--	--	--	--	--	--	--	--	105	--	102
K17-4406	--	--	--	--	--	--	97	101	--	--	--	--	99
K17-4973	--	--	--	--	--	--	95	99	--	--	--	--	97
K17-6185	117	--	--	--	--	--	--	--	--	--	94	--	105
K17-6326	98	--	--	--	--	--	--	--	--	--	97	--	98
K17-6388	107	--	--	--	--	--	--	--	--	--	110	--	109
K17-6484	101	--	--	--	--	--	--	--	--	--	96	--	98
K179236-1 GT	--	--	--	--	--	--	98	98	--	--	--	--	98
K179247-8 GT	--	--	--	--	--	--	104	102	--	--	--	--	103
K18-6766 GT	95	--	--	--	--	--	--	--	--	--	99	--	97
K18-6776 GT	107	--	--	--	--	--	--	--	--	--	104	--	105
K18-6777 GT	94	--	--	--	--	--	--	--	--	--	95	--	94
K18-6782 GT	81	--	--	--	--	--	--	--	--	--	82	--	82
K18-6805 GT	90	--	--	--	--	--	--	--	--	--	97	--	94
K18-6812 GT	95	--	--	--	--	--	--	--	--	--	104	--	100
K18-6860 GT	93	--	--	--	--	--	--	--	--	--	93	--	93
K18-6882 GT	96	--	--	--	--	--	--	--	--	--	90	--	93
K18-6897 GT	92	--	--	--	--	--	--	--	--	--	102	--	97
K18-6903 GT	93	--	--	--	--	--	--	--	--	--	92	--	93
K18-6908 GT	100	--	--	--	--	--	--	--	--	--	98	--	99
K18-6974 GT	105	--	--	--	--	--	--	--	--	--	86	--	96
K18-6996 GT	--	--	--	--	--	--	90	83	--	--	--	--	87
K18-7024 GT	--	--	--	--	--	--	98	90	--	--	--	--	94
K18-7069 GT	--	--	--	--	--	--	95	95	--	--	--	--	95
KS4117NS	102	--	--	--	--	97	--	--	--	--	--	--	100
KS4120NSGT	103	97	99	90	--	104	--	--	101	91	96	--	98
KS4520NS	90	103	108	95	--	99	99	--	93	88	99	--	97
KS4919N	--	--	--	--	93	--	97	99	--	--	--	--	96
KS5120NS	--	--	--	--	95	--	106	104	--	--	--	--	102

Table 14 continued. Yield as a Percentage of Test Average from 2021 Soybean Tests

BRAND/NAME	Riley	Topeka dryland	Topeka irrigated	Ottawa MG4	Ottawa MG5	Parsons MG 3-5	McCune	Pittsburg	Scandia	Belle- ville	Assaria	Colby	AVG
MIDLAND													
4412E3S	--	--	--	--	--	102	100	98	--	--	--	--	100
4602E3S	--	--	--	--	--	117	94	99	--	--	--	--	103
4621XFS	--	--	--	--	--	102	106	111	--	--	--	--	107
4677NXS	--	--	--	--	--	108	102	110	--	--	--	--	107
4821XFS	--	--	--	--	--	86	93	106	--	--	--	--	95
4880E3S	--	--	--	--	--	107	105	98	--	--	--	--	103
4922XFS	--	--	--	--	--	107	102	103	--	--	--	--	104
MISSOURI													
S09-13608C	--	--	--	--	--	102	95	98	--	--	--	--	98
S16-11644C	--	--	--	--	--	100	106	103	--	--	--	--	103
S16-14801C	--	--	--	--	--	93	104	103	--	--	--	--	100
NK													
39-62X	--	106	110	104	--	--	--	--	98	122	--	--	108
39-82X	--	96	109	106	--	--	--	102	111	112	--	98	105
VIRTUE SEEDS													
V 4520S	--	92	104	--	--	--	--	--	--	--	--	--	98
V 4921S	--	--	--	--	--	--	--	114	--	--	--	--	114
V4122S	104	94	103	95	--	--	--	--	--	--	103	--	100
V4720S	--	--	--	--	99	96	105	--	--	--	--	--	100
WILLCROSS													
WX1038NGT/LL	--	105	95	--	--	--	--	--	--	--	--	--	100
WX1748NLL	--	101	108	--	99	--	--	97	--	--	--	--	101
WX1839NLL	--	106	102	--	--	--	--	--	--	--	--	--	104
WXE8038NS	--	99	96	--	--	--	--	--	--	--	--	--	98
WXE8043NS	--	108	113	--	102	--	--	--	--	--	--	--	108
WXE8146NS	--	97	83	108	--	--	--	92	--	--	--	--	95
WXE8148NS	--	84	78	--	103	--	--	94	--	--	--	--	90
WXR7878NS	--	--	--	--	--	--	--	110	--	--	--	--	110

Table 15. Description of Entries in 2021 Soybean Performance Tests

BRAND	NAME	TRAIT	Maturity Group	Flower color	Hilum color	SCN Resistance					Phytophthora	
						R1	R3	R4	R14	Source	RR	Tolerance
ARKANSAS	R13-13997	C	5.4	M	--	--	--	--	--	--	--	--
ARKANSAS	R15-1587	C	5.1	P	--	--	--	--	--	--	--	--
ARKANSAS	R15-2422	C	4.7	P	--	--	--	--	--	--	--	--
ARKANSAS	R16-253	C	4.6	W	--	--	--	--	--	--	--	--
ARKANSAS	UA46i20C	E3	4.6	--	--	--	--	--	--	PI88788	--	--
ARKANSAS	UA54i19GT	C	5.4	W	--	--	--	--	--	--	--	--
ASGROW	AS37X71	XF	3.7	--	--	--	--	--	--	--	--	--
ASGROW	AS40XFO	XF/STS	4.0	--	--	--	--	--	--	--	--	--
BECKS	MG3.7	Enlist	3.7	--	--	--	--	--	--	--	--	--
BECKS	MG4.2	Enlist	4.2	P	Bl	--	--	--	--	--	--	--
BECKS	MG4.8	Enlist	4.8	W	Bf	--	--	--	--	--	--	--
BECKS	MG5.1		5.1	P	--	--	--	--	--	--	--	--
BIOMINERAL	BIOMINERAL-SO	C	2.7	--	--	--	--	--	--	--	--	--
BIOMINERAL	BIOMINERAL-SS		2.7	--	--	--	--	--	--	--	--	--
BIOMINERAL	BIOMINERAL-SY	C	2.7	--	--	--	--	--	--	--	--	--
CHECK	21MG3.1	RR	3.7	--	--	--	--	--	--	--	--	--
CHECK	21MG3.9	RR	4.0	--	--	--	--	--	--	--	--	--
CHECK	21MG4.8	RR	5.0	--	--	--	--	--	--	--	--	--
DONMARIO	DM36F62S	XF/STS	3.6	--	--	--	--	--	--	--	--	--
DONMARIO	DM38F42S	XF/STS	3.8	--	--	--	--	--	--	--	--	--
DONMARIO	DM40E62	E3	4.0	--	--	--	--	--	--	PI88788	--	--
DONMARIO	DM42F62	XF	4.2	--	--	--	--	--	--	PI88788	--	--
DONMARIO	DM46E62	E3	4.6	--	--	--	--	--	--	--	--	--
DONMARIO	DM46F62	XF	4.6	--	--	--	--	--	--	PI88788	--	--
KANSAS AES	K15-1809	C, STS	5.0	P	Bf	--	MR	--	--	--	--	--
KANSAS AES	K15-1874	C, STS	4.8	W	Br	MR	MR	--	--	--	--	--
KANSAS AES	K16-1729	C	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K17-1532	C	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K17-4406	C	5.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K17-4973	C	5.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K17-6185	C	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K17-6326	C	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K17-6388	C	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K17-6484	C	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K179236-1 GT	RR1	5.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K179247-8 GT	RR1	5.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K179248-1 GT	RR1	5.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K18-6766 GT	RR1	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K18-6776 GT	RR1	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K18-6777 GT	RR1	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K18-6782 GT	RR1	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K18-6805 GT	RR1	4.0	--	--	--	--	--	--	--	--	--

Table 15 continued. Description of Entries in 2021 Soybean Performance Tests

BRAND	NAME	TRAIT	Maturity Group	Flower color	Hilum color	SCN Resistance					Phytophthora	
						R1	R3	R4	R14	Source	RR	Tolerance
KANSAS AES	K18-6812 GT	RR1	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K18-6860 GT	RR1	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K18-6882 GT	RR1	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K18-6897 GT	RR1	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K18-6903 GT	RR1	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K18-6908 GT	RR1	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K18-6974 GT	RR1	4.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K18-6996 GT	RR1	5.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K18-7024 GT	RR1	5.0	--	--	--	--	--	--	--	--	--
KANSAS AES	K18-7069 GT	RR1	5.0	--	--	--	--	--	--	--	--	--
KANSAS AES	KS4117NS	C, STS	4.0	P	Bl	--	MR	--	--	--	--	--
KANSAS AES	KS4120NSGT	RR1, ST	4.1	P	Bl	--	MR	--	--	--	--	--
KANSAS AES	KS4520NS	C, STS	4.0	P	Bl	--	MR	--	--	--	--	--
KANSAS AES	KS4919N	C	5.0	W	Bl	MR	MR	MR	--	--	--	--
KANSAS AES	KS5120NS	C, STS	5.0	W	Br	--	MR	--	--	--	--	--
MIDLAND	4412E3S	E3	4.4	--	--	--	--	--	--	--	--	--
MIDLAND	4602E3S	E3	4.6	P	lb	--	--	--	--	PI88788	--	--
MIDLAND	4621XFS	XF	4.6	P	Bl	--	--	--	--	PI88788	--	--
MIDLAND	4677NXS	RR2X/S	4.6	--	--	--	R	--	MR	PI88788	--	2.0
MIDLAND	4821XFS	XF	4.8	W	Bl	--	--	--	--	PI88788	--	--
MIDLAND	4880E3S	RR2X	4.8	--	--	--	--	--	--	--	--	--
MIDLAND	4922XFS	XH	4.9	W	lb	--	--	--	--	PI88788	--	--
MISSOURI	S09-13608C	C	4.7	W	Bl	--	--	--	--	--	--	--
MISSOURI	S16-11644C	C	4.9	W	Br	--	MR	--	--	--	--	1.0
MISSOURI	S16-14801C	C	5.0	P	Bf	S	--	--	--	--	--	--
NK	39-62X	E3	3.9	--	--	--	--	--	--	--	--	--
NK	39-82X	LL/GT27	3.9	--	--	--	--	--	--	--	--	--
VIRTUE SEEDS	V 4520S	C	4.5	--	--	--	--	--	--	--	--	--
VIRTUE SEEDS	V 4921S	C	4.9	--	--	--	--	--	--	--	--	--
VIRTUE SEEDS	V4122S	C/STS	4.1	--	--	--	--	--	--	PI88788	--	--
VIRTUE SEEDS	V4720S	C/STS	4.7	--	--	--	--	--	--	--	--	--
WILLCROSS	WX1038NGT/LL	RR	3.8	P	--	--	--	--	--	--	--	--
WILLCROSS	WX1748NLL	LL	4.8	W	Bl	--	--	--	--	--	--	--
WILLCROSS	WX1839NLL	LL	3.9	--	--	--	--	--	--	--	--	--
WILLCROSS	WXE8038NS	RR/LL	3.8	W	--	--	--	--	--	--	--	--
WILLCROSS	WXE8043NS	RR/LL	4.7	W	--	--	--	--	--	--	--	--
WILLCROSS	WXE8146NS	Enlist	4.6	P	Bl	--	--	--	--	--	--	--
WILLCROSS	WXE8148NS	Enlist	4.8	W	Bf	--	--	--	--	--	--	--
WILLCROSS	WXR7878NS	RR	4.8	W	B	--	--	--	--	--	--	--

To access crop performance testing information electronically, visit our website. The information contained in this publication, plus more, is available for viewing or downloading at:

www.agronomy.k-state.edu/services/crop-performance-tests/index.html

Excerpts from the University Research Policy Agreement with Cooperating Seed Companies

Permission is hereby given to Kansas State University (KSU) to test varieties and/or hybrids designated on the attached entry forms in the manner indicated in the test announcements. I certify that seed submitted for testing is a true sample of the seed being offered for sale.

I understand that all results from Kansas Crop Performance Tests belong to the University and the public and shall be controlled by the University so as to produce the greatest benefit to the public. Performance data may be used in the following ways: 1) Tables may be reproduced in their entirety provided the source is referenced and data are not manipulated or reinterpreted; 2) Advertising statements by an individual company about the performance of its entries may be made as long as they are accurate statements about the data as published, with no reference to other companies' names or cultivars. In both cases, the following must be included with the reprint or ad citing the appropriate publication number and title: "See the official Kansas State University Agricultural Experiment Station and Cooperative Extension Service Report of Progress 1167, '2021 Kansas Performance Tests with Soybean Varieties,' or the Kansas Crop Performance Test website, www.agronomy.k-state.edu/services/crop-performance-tests/index.html, for details.

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