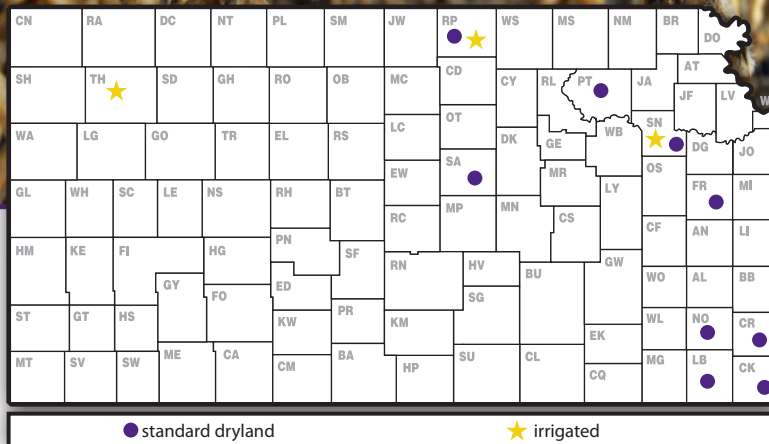


# 2018 Kansas Performance Tests with

# Soybean Varieties



## Report of Progress 1146



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# 2018 KANSAS SOYBEAN PERFORMANCE TESTS

## STATEWIDE GROWING CONDITIONS

The 2018 soybean season had a very distinct weather pattern with a very challenging end of the season. Early-season wet conditions slightly delayed planting during the early side of the crop planting window. Early growth was slow as impacted for wet soil conditions. Delay on planting date may cause yield reductions, primarily under high-yielding environments (>70 bushels per acre).

During the growing season, flooding was an issue in many locations, with the south central and northeast divisions particularly hard hit. Wet conditions early in the season saturated soils, resulting in inhibited root growth, leaf area expansion, increased production issues related to root compaction, and produced yellow leaves. Flooding later in the season, September and October, contributed to lodging issues. Hail was also a problem across the state. There were 526 reports of large hail during the season. Of those events, 223 were reported in May. Hail has a larger impact when it occurs later in the season, September-early October during the grain filling, when the plant depends on the leaves, potentially affecting seed set (both seed number and weight).

As related to the precipitation conditions, all divisions averaged above normal for the period of April 1 through October 15 (Table 1). The greatest departure was in the Southwest, where the divisional average was 23.87 inches or 154% of normal. Unfortunately, the rains weren't evenly distributed across the region or across the season.

For soybean, temperatures weren't as much of a factor. The warmest readings were seen in mid-July, with the highest read of 112°F reported on July 21 at Ashland, Clark County. The biggest factor was the rapid switch from much colder than average temperatures to much warmer temperatures. State-wide average temperatures in April were the coldest since 1895, while state-wide average temperatures in June were the warmest. The first autumn freezes were near average, with Colby dropping to 27°F on the 14th of October, and Concordia reaching 27°F on the 15th.

Luckily, the below-freezing temperatures did not greatly affect soybean since only small specific areas cultivated with soybean were affected (primarily north central and northwest Kansas). Temperatures below 32°F, more absolute temperature than duration of the cold stress, will affect the crop. Necrosis of the leaf canopy is a visible symptom of freeze damage in soybeans. Early grain filling impact and timing of the freeze effect will proportionally produce more yield reduction (via seed set) than if the cold stress takes place close to the end of the season.

Reproductive temperature and precipitation conditions were favorable for seed filling process. Late-season rainy conditions delayed harvest, challenging the harvest progress in some areas. Large parts of the soybean growing areas in Kansas presented poor quality soybeans (due to high levels of Phomopsis and other fungal species) that are being either severely discounted or outright refused at the elevator due to the potential for reducing in feed value.

**Table 1. 2018 temperatures by crop production district**

Division	Extreme Tmax (°F)	Date	Avg Tmax (°F)	Avg Tmin (°F)	Avg Tmean (°F)	Extreme Tmin (°F)	Date
Northwest	104	16-Jun	79.2	51.7	65.5	4	7-Apr
North central	105	29-Jun	78.8	53.4	65.9	4	7-Apr
Northeast	106	28-Jun	79.0	55.7	67.4	12	7-Apr
West central	107	16-Jun	82.0	53.6	67.8	11	8-Apr
Central	107	28-Jun	82.2	57.1	69.6	8	8-Apr
East central	104	29-Jun	81.2	59.0	70.1	15	8-Apr
Southwest	112	21-Jul	83.0	54.8	68.9	14	7-Apr
South central	103	1-Sep	82.1	57.6	69.8	13	7-Apr
Southeast	103	20-Jul	80.7	59.1	69.9	17	16-Apr

Despite the previously mentioned challenges, the U.S. Department of Agriculture forecasted in November a soybean yield of 42 bushels per acre for the 2018 season. This accounts for a 5 bushel per acre increase compared to the final yield recorded for the 2017 growing season. There was an overall increase in production of about 6 million bushels more at the state-level due to the overall increase in yield per unit area, with a slight reduction in the acreage relative to the 2017 season (Ignacio A. Ciampitti, Kansas State University Cropping Systems Specialist, and Mary Knapp, Kansas State University Climatologist).

## 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 3 through 18. Relative yields of each entry from all locations are shown in Table 19.

## 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 2. Entrants and Originators in the 2018 Kansas Soybean Performance Tests**

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<b>Kansas Ag. Exp. Stn. (AES)</b> Manhattan, KS 785-532-7243 785-532-6101	<b>Golden Harvest</b> Minnetonka, MN 785-207-2648 syngenta.com	<b>NeCo Seed Farms, Inc.</b> Willcross Garden City, MO 816-773-8207 necoseed.com
<b>Missouri Ag. Exp. Stn (AES)</b> Portageville, MO 573-379-5431	<b>Hartzler Seeds</b> Prize Harrisonville, MO 816-289-4871	<b>Phillips Seed Farms</b> Hope, KS 785-949-2204 phillipsseed.com
<b>Bayer CropScience</b> Credenz Research Triangle Park, NC 417-880-6873	<b>Hefty Seed Company</b> Garden City, KS 620-805-6400	<b>Stratton Seed</b> Stuttgart, AR 800-264-4433 strattonseed.com
<b>eMerge Genetics</b> West Des Moines, IA 866-769-7200 emergegenetics.com	<b>LG Seeds</b> Waco, TX 254-761-9838 lgseeds.com	<b>Sylvester Seed Farm</b> Midland Ottawa, KS 800-819-7333 midlandgenetics.com
<b>Frontier Seed</b> Warrensburg, MO 1(844)2-FRONTIER newfrontiergenetics.com	<b>Monsanto</b> Asgrow St. Louis, MO 800-768-6387 aganytime.com/asgrow	

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**Lance Rezac Farm, Onaga, Pottawatomie County; Bill Schapaugh, agronomist**

Wabash silty clay

Planting soil conditions were rough and cloddy. Rain from planting through Aug 15 was 3"-5" lower than the 30-year average accumulated precipitation. The field development was set back from Dicamba drift on two separate dates. Insect feeding was present during mid season scouting and warranted Insecticide application. September - October brought in above-average precipitation and kept the field from drying, which delayed harvest.

	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Total</u>
Rainfall:	1.3	3.3	4.1	4.0	4.5	6.1	29.8

Planted 5/11/2018 at 155,000 seeds/ft; harvested 11/19/2018; 12 ft. by 4-row plot; pesticides: Authority 2.5 oz/ac

**Table 3. Onaga, Pottawatomie County Dryland Soybean Performance Test, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG34X7	RR2X	32.3	--	--	--	--	95	--	--	9/22	1.8	34
ASGROW	AG43X7	RR2X/SR	30.9	--	--	--	--	91	--	--	10/7	1.8	39
CHECK	MG3.1	RR	25.1	--	--	--	--	74	--	97	9/17	1.3	30
CHECK	MG3.9	RR	<b>37.3</b>	69.7	<b>72.7</b>	53.5	59.9	109	102	105	10/5	1.3	33
CREDENZ	CZ 3548 LL	LL/STS	31.8	73.4	--	52.6	--	93	107	--	9/21	1.0	27
CREDENZ	CZ 3601 LL	LL	30.9	68.4	--	49.6	--	91	100	--	9/23	1.0	33
CREDENZ	CZ 3841 LL	LL	34.9	68.2	--	51.5	--	102	100	--	9/22	1.5	36
CREDENZ	CZ 4105 LL	LL	<b>36.2</b>	70.8	--	53.5	--	106	103	--	10/5	1.0	32
CREDENZ	CZ 4222 LL	LL/STS	<b>38.1</b>	67.6	--	52.9	--	112	99	--	9/28	1.3	31
CREDENZ	CZ 4308 LL	LL	33.9	69.8	--	51.8	--	99	102	--	10/5	1.3	34
CREDENZ	CZ 4548 LL	LL/STS	<b>36.1</b>	67.4	--	51.7	--	106	98	--	10/8	1.0	33
EMERGE GENETICS	e3796	C	31.3	65.4	--	48.3	--	92	95	--	10/3	1.0	31
EMERGE GENETICS	e4394	C	32.2	66.8	--	49.5	--	95	97	--	10/9	1.0	32
GOLDEN HARVEST	GH3982X	RR2X	32.5	--	--	--	--	95	--	--	9/28	1.0	34
GOLDEN HARVEST	GH4307X	RR2X	33.2	--	--	--	--	97	--	--	9/26	1.5	37
HEFTY	H37x7	RR2X	<b>37.7</b>	--	--	--	--	111	--	--	9/29	1.0	36
HEFTY	H39x8	RR2X	<b>35.9</b>	--	--	--	--	105	--	--	9/27	1.4	33
HEFTY	H42x9	RR2X	<b>37.4</b>	--	--	--	--	110	--	--	9/24	1.0	34
KANSAS AES	K15-1303	C	32.7	--	--	--	--	96	--	--	10/3	1.3	30
KANSAS AES	K15-1310	C	33.3	--	--	--	--	98	--	--	10/7	1.0	30
KANSAS AES	KS4117NS	STS	35.4	65.1	--	50.3	--	104	95	--	10/1	1.0	28
MIDLAND	3537NX	RR2X	<b>36.5</b>	74.8	68.6	55.6	60.0	107	109	99	9/29	1.3	30
MIDLAND	3779NXS	RR2X/STS	<b>36.7</b>	--	--	--	--	108	--	--	9/29	1.0	36
MIDLAND	3938NX	RR2X	33.1	76.5	--	54.8	--	97	112	--	9/25	1.3	35
MIDLAND	4328NX	RR2X	34.8	75.3	--	55.1	--	102	110	--	10/5	1.0	33
PHILLIPS	387 NR2X	RR2X	<b>39.0</b>	--	64.1	--	--	114	--	92	9/23	1.0	33
PHILLIPS	408 NR2XS	RR2X	30.7	--	--	--	--	90	--	--	10/6	1.0	32
	AVERAGES		34.1	68.5	69.4								
	CV (%)		8.2	3.7	6.3								
	LSD (0.10)		3.3	3.0	--								

Values in bold are in the upper LSD group.

Description of traits available in Table 20.

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

The season started off very cold, resulting in some emergence and early growth issues. July was very dry, which had great effect on yields.

April May June July Aug. Sept. Total

Rainfall: 1.0 3.8 4.4 0.6 4.8 1.3 23.0

Planted 5/10/2018 at 100,000 seeds/ft; harvested 10/22/2018; 10 ft. by 4-row plot

**Table 4. Kiro, Shawnee County Dryland Soybean Performance Test, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG34X7	RR2X	<b>63.9</b>	--	--	--	--	111	--	--	9/27	2.5	40
ASGROW	AG43X7	RR2X/SR	<b>58.8</b>	--	--	--	--	102	--	--	10/5	2.0	39
CHECK	MG3.1	RR	55.9	--	--	--	--	97	--	--	9/25	2.8	36
CHECK	MG3.9	RR	<b>65.2</b>	<b>91.0</b>	--	78.1	--	113	110	--	9/27	1.5	42
GOLDEN HARVEST	GH3982X	RR2X	<b>58.1</b>	--	--	--	--	101	--	--	9/29	1.5	38
GOLDEN HARVEST	GH3982X+	+ILevo	<b>61.8</b>	--	--	--	--	107	--	--	9/29	2.0	41
GOLDEN HARVEST	GH4307X	RR2X	<b>60.0</b>	--	--	--	--	104	--	--	9/29	2.5	42
KANSAS AES	K15-1303	C	<b>59.3</b>	--	--	--	--	103	--	--	10/1	2.3	36
KANSAS AES	K15-1310	C	56.2	--	--	--	--	97	--	--	9/30	1.5	29
KANSAS AES	KS3406RR	RR1	56.8	72.3	71.4	64.6	66.8	99	87	94	9/27	2.3	35
KANSAS AES	KS3618Ngr	RR1	55.2	81.0	65.9	68.1	67.4	96	98	87	9/28	2.3	36
KANSAS AES	KS4117NS	STS	<b>58.2</b>	87.1	--	72.7	--	103	105	--	9/29	1.0	29
LG SEEDS	C3985RX	RR2X	<b>61.3</b>	--	--	--	--	106	--	--	9/28	1.5	43
LG SEEDS	C4227RX	RR2X/STS	56.1	--	--	--	--	97	--	--	9/27	1.3	34
LG SEEDS	C4615RX	RR2X/STS	51.7	--	--	--	--	90	--	--	10/15	2.0	51
LG SEEDS	LGS3777RX	RR2X/STS	<b>59.6</b>	--	--	--	--	103	--	--	9/28	2.3	42
LG SEEDS	LGS4573RX	RR2X/STS	55.0	--	--	--	--	96	--	--	10/6	2.0	43
MIDLAND	3537NX	RR2X	<b>59.0</b>	87.8	--	73.4	--	102	106	--	9/27	1.8	38
MIDLAND	3779NXS	RR2X/STS	<b>62.5</b>	--	--	--	--	108	--	--	9/25	2.0	45
MIDLAND	3938NX	RR2X	<b>61.3</b>	86.8	--	74.1	--	106	105	--	9/28	1.5	37
MIDLAND	4488NXS	RR2X/STS	<b>58.0</b>	--	--	--	--	101	--	--	10/8	2.0	43
STINE	43RE02	RR2X	52.1	--	--	--	--	90	--	--	9/29	1.3	31
STINE	43RE02+1	+ILevo	<b>58.8</b>	--	--	--	--	102	--	--	9/29	1.0	34
WILLCROSS	WX3388N	RR2X	<b>64.4</b>	--	--	--	--	112	--	--	9/29	1.5	39
WILLCROSS	WX3467NS	RR2X	49.6	--	--	--	--	86	--	--	10/13	1.5	52
	AVERAGES		<b>57.7</b>	82.8	75.7								
	CV (%)		11.3	5.5	6.9								
	LSD (0.10)		7.7	5.4	6.1								

Values in bold are in the upper LSD group.

Description of traits available in Table 20.



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

The season started off very cold, resulting in some emergence and early growth issues. July was very dry, which had great effect on yields. Irrigation was required by July 10, much earlier than normal. The foliar symptoms of SDS showed up relatively late, resulting in minimal yield loss due to SDS.

	April	May	June	July	Aug.	Sept.	Total
Rainfall:	1.4	4.6	5.9	2.2	4.0	2.6	27.3
Irrigation:				2.0	1.4		3.4

Planted 5/10/2018 at 140,000 seeds/ft; harvested 10/19/2018; 10 ft. by 4-row plot

**Table 5. Topeka, Shawnee County Irrigated Soybean Performance Test, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG34X7	RR2X	53.6	--	--	--	--	95	--	--	9/21	3.3	40
ASGROW	AG43X7	RR2X/SR	51.8	--	--	--	--	92	--	--	--	3.0	49
CHECK	MG3.1	RR	51.3	--	--	--	--	91	--	--	9/20	2.8	33
CHECK	MG3.9	RR	53.4	71.8	59.0	62.6	61.4	95	102	104	9/22	2.5	39
CREDENZ	CZ 3548 LL	LL/STS	50.2	71.9	--	61.1	--	89	102	--	9/19	3.3	36
CREDENZ	CZ 3601 LL	LL	53.8	<b>81.5</b>	--	67.7	--	96	116	--	9/22	2.5	36
CREDENZ	CZ 3841 LL	LL	57.6	<b>82.8</b>	--	70.2	--	102	118	--	9/21	2.8	43
CREDENZ	CZ 4105 LL	LL	48.7	72.2	--	60.4	--	87	103	--	9/29	1.5	38
CREDENZ	CZ 4222 LL	LL/STS	57.8	75.3	--	66.6	--	103	107	--	9/25	2.5	41
CREDENZ	CZ 4308 LL	LL	55.1	71.9	--	63.5	--	98	102	--	9/26	1.8	44
CREDENZ	CZ 4548 LL	LL/STS	51.6	63.7	--	57.7	--	92	91	--	9/24	2.8	46
GOLDEN HARVEST	GH3982X+	+LLevo	<b>64.2</b>	--	--	--	--	114	--	--	--	--	--
HEFTY	H31x9	RR2X	52.6	--	--	--	--	93	--	--	9/23	2.3	37
HEFTY	H35x8	RR2X	52.8	--	--	--	--	94	--	--	9/28	1.5	32
HEFTY	H37x7	RR2X	54.4	--	--	--	--	97	--	--	9/25	3.8	46
HEFTY	H39x8	RR2X	57.8	--	--	--	--	103	--	--	9/25	1.8	43
HEFTY	H42x9	RR2X	57.9	--	--	--	--	103	--	--	9/21	2.2	43
LG SEEDS	C3985RX	RR2X	<b>63.7</b>	--	--	--	--	113	--	--	9/23	1.3	41
LG SEEDS	C4227RX	RR2X/STS	<b>66.1</b>	--	--	--	--	117	--	--	9/23	2.3	42
LG SEEDS	C4615RX	RR2X/STS	<b>61.7</b>	--	--	--	--	110	--	--	10/14	2.0	54
LG SEEDS	LGS3777RX	RR2X/STS	57.8	--	--	--	--	103	--	--	9/25	3.0	46
LG SEEDS	LGS4573RX	RR2X/STS	55.9	--	--	--	--	99	--	--	10/10	3.0	48
MIDLAND	3537NX	RR2X	53.7	74.3	54.8	64.0	60.9	95	106	97	9/24	1.8	35
MIDLAND	3779NXS	RR2X/STS	57.3	--	--	--	--	102	--	--	9/25	2.5	42
MIDLAND	3938NX	RR2X	<b>62.0</b>	<b>79.5</b>	--	70.8	--	110	113	--	9/23	2.3	40
MIDLAND	4328NX	RR2X	57.9	65.8	--	61.9	--	103	93	--	9/26	2.0	45
MIDLAND	4488NXS	RR2X/STS	58.1	--	--	--	--	103	--	--	10/6	2.5	43
MISSOURI	S13-10590C	C	58.0	--	--	--	--	103	--	--	9/29	2.3	36
MISSOURI	S13-3851C	C	50.7	--	--	--	--	90	--	--	10/3	2.0	37
MISSOURI	S14-15138R	RR/STS	47.6	--	--	--	--	85	--	--	10/9	1.8	44
MISSOURI	S14-9051R	RR	56.0	<b>75.5</b>	--	65.7	--	100	107	--	10/7	2.0	37
STINE	43RE02	RR2X	<b>64.6</b>	--	--	--	--	115	--	--	--	--	--
STINE	43RE02+	+LLevo	<b>65.2</b>	--	--	--	--	116	--	--	--	--	--
WILLCROSS	WX3388N	RR2X	54.8	--	--	--	--	97	--	--	9/23	1.5	38
WILLCROSS	WX3467NS	RR2X	54.1	--	--	--	--	96	--	--	10/7	1.8	54
	AVERAGES		56.3	70.4	56.8								
	CV (%)		8.7	8.9	13.5								
	LSD (0.10)		5.7	7.4	9.0								

Values in bold are in the upper LSD group.

Description of traits available in Table 20.



**East Central Kansas Experiment Field, Ottawa, Franklin County; Eric Adee, agronomist; Jim Kimball, technician**

Woodson silt loam

June and July were extremely dry, however the temperatures were not extremely hot throughout most of the season. The beans virtually shut down from lack of moisture stress a couple of times throughout the growing season. Conditions were very wet during pod fill and maturity, lowering seed quality and delaying harvest.

	April	May	June	July	Aug.	Sept.	Total
Rainfall:	1.4	3.2	1.6	1.6	4.9	3.3	27.6

Planted 5/16/2018 at 140,000 seeds/ft; harvested 10/29/2018; 26 ft. by 4-row plot; pesticides: 3.5 oz/ac Zidua, 7 oz/ac Authority XL, 1.5 Dual Magnum, 12 oz/ac Select Max, First Rate .6 oz/ac

**Table 6. Ottawa, Franklin County Dryland Soybean Performance Test, Maturity Groups III-IV, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG34X7	RR2X	41.1	--	--	--	--	91	--	--	10/1	1.0	29
ASGROW	AG43X7	RR2X/SR	45.2	--	--	--	--	100	--	--	10/5	1.0	32
CHECK	MG3.1	RR	37.3	--	--	--	--	83	--	--	9/27	1.0	28
CHECK	MG3.9	RR	43.3	<b>76.9</b>	68.3	60.1	62.8	96	107	101	9/30	1.0	27
CREDENZ	CZ 3548 LL	LL/STS	41.1	--	--	--	--	91	--	--	9/30	1.0	25
CREDENZ	CZ 3601 LL	LL	40.0	--	--	--	--	89	--	--	9/29	1.0	30
CREDENZ	CZ 3841 LL	LL	42.1	71.4	--	56.8	--	94	99	--	10/2	1.0	33
CREDENZ	CZ 4105 LL	LL	<b>49.3</b>	66.2	--	57.8	--	110	92	--	9/29	1.0	29
CREDENZ	CZ 4222 LL	LL/STS	45.5	71.9	--	58.7	--	101	100	--	10/5	1.0	27
CREDENZ	CZ 4308 LL	LL	44.1	<b>73.4</b>	--	58.8	--	98	102	--	10/4	1.0	29
CREDENZ	CZ 4548 LL	LL/STS	<b>51.0</b>	71.0	--	61.0	--	113	99	--	10/4	1.0	32
CREDENZ	CZ 4649 LL	LL	46.1	--	--	--	--	102	--	--	10/5	1.0	31
EMERGE GENETICS	e3796	C	<b>48.6</b>	66.3	--	57.5	--	108	92	--	9/30	1.0	27
EMERGE GENETICS	e4394	C	45.2	67.9	62.6	56.6	58.6	100	95	92	9/30	1.0	28
GOLDEN HARVEST	GH3982X	RR2X	45.4	--	--	--	--	101	--	--	9/29	1.0	28
HEFTY	H35x8	RR2X	36.2	--	--	--	--	80	--	--	10/3	1.0	24
HEFTY	H37x7	RR2X	41.9	--	--	--	--	93	--	--	10/5	1.0	29
HEFTY	H39x8	RR2X	41.5	--	--	--	--	92	--	--	10/5	1.0	29
HEFTY	H42x9	RR2X	40.6	--	--	--	--	90	--	--	10/4	1.0	30
KANSAS AES	K15-1303	C	40.2	--	--	--	--	89	--	--	10/5	1.0	25
KANSAS AES	K15-1310	C	37.1	--	--	--	--	82	--	--	10/7	1.0	25
KANSAS AES	KS4117NS	STS	<b>52.2</b>	<b>74.1</b>	<b>76.2</b>	63.2	67.5	116	103	112	10/1	1.0	25
MIDLAND	4328NX	RR2X	42.6	66.3	--	54.5	--	95	92	--	10/5	1.0	31
MIDLAND	4488NXS	RR2X/STS	<b>54.0</b>	--	--	--	--	120	--	--	10/7	1.0	34
MIDLAND	4677NXS	RR2X/STS	<b>52.4</b>	<b>73.8</b>	--	63.1	--	116	103	--	10/7	2.0	39
MISSOURI	S13-10590C	C	40.7	67.8	--	54.3	--	90	95	--	10/7	1.0	33
MISSOURI	S13-3851C	C	<b>51.4</b>	71.5	--	61.5	--	114	100	--	10/4	1.0	28
PRIZE	DINAMO	C	42.0	--	--	--	--	93	--	--	10/3	1.0	29
STINE	43RE02+	+ILevo	<b>51.7</b>	--	--	--	--	115	--	--	10/5	1.0	28
STINE	47LF32	RR	<b>47.9</b>	--	--	--	--	106	--	--	10/7	1.0	32
STRATTON	AGS GS46X17	RR2X	<b>49.3</b>	--	--	--	--	110	--	--	10/5	1.0	28
STRATTON	Go Soy 43C17S	STS	<b>49.4</b>	--	--	--	--	110	--	--	10/1	1.0	24
STRATTON	Go Soy 50G17	RR	46.8	--	--	--	--	104	--	--	10/8	2.0	38
STRATTON	Go Soy E4510S	STS	41.5	--	--	--	--	92	--	--	10/6	1.0	29
WILLCROSS	WX3467NS	RR2X	<b>51.0</b>	--	--	--	--	113	--	--	10/6	2.0	40
	AVERAGES		45.0	71.8	67.9								
	CV (%)		11.9	8.2	5.7								
	LSD (0.10)		6.2	6.9	4.5								

Values in bold are in the upper LSD group.

Description of traits available in Table 20.

**Table 7. Ottawa, Franklin County Dryland Soybean Performance Test, Maturity Groups IV-V, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG48X7	RR2X/SR	59.2	--	--	--	--	107	--	--	10/7	1.0	37
CHECK	MG4.9	RR	51.5	--	--	--	--	93	--	--	10/7	1.0	33
CREDENZ	CZ 4748 LL	LL	49.0	71.9	--	60.5	--	88	102	--	10/8	1.0	34
CREDENZ	CZ 4820 LL	LL	53.4	--	--	--	--	96	--	--	10/7	1.0	35
CREDENZ	CZ 4938 LL	LL	54.5	72.8	--	63.7	--	98	104	--	10/6	1.0	29
HEFTY	H42x9	RR2X	55.1	--	--	--	--	99	--	--	10/1	1.0	30
HEFTY	H49x7	RR2X	53.4	--	--	--	--	96	--	--	10/7	1.0	34
KANSAS AES	K13-1830	C	59.7	--	70.0	--	--	107	--	94	10/6	1.0	30
KANSAS AES	K14-1686	C	57.9	--	--	--	--	104	--	--	10/7	1.0	31
KANSAS AES	K15-1681	STS	<b>64.7</b>	--	--	--	--	116	--	--	10/4	2.0	27
KANSAS AES	K15-1788	C	<b>65.7</b>	--	--	--	--	118	--	--	10/6	1.0	28
KANSAS AES	K15-1800	C	58.2	--	--	--	--	105	--	--	10/7	1.0	25
KANSAS AES	K15-1809	C	61.2	--	--	--	--	110	--	--	10/8	1.0	28
KANSAS AES	K15-1855	C	<b>67.4</b>	--	--	--	--	121	--	--	10/8	1.0	26
KANSAS AES	K15-1874	C	54.3	--	--	--	--	98	--	--	10/6	1.0	28
KANSAS AES	KS5004N	C	51.0	--	67.7	--	--	92	--	91	10/5	1.0	31
KANSAS AES	KS5518	C	57.3	--	81.1	--	--	103	--	109	10/7	2.0	33
MIDLAND	4956NXS	RR2X	56.7	72.0	--	64.4	--	102	102	--	10/8	1.0	38
MISSOURI	S14-15138R	RR/STS	46.7	--	--	--	--	84	--	--	10/7	1.0	32
MISSOURI	S14-9051R	RR	36.0	<b>76.0</b>	--	--	--	65	--	--	10/7	1.0	29
STRATTON	AGS GS51X18S	RR2X/STS	51.6	--	--	--	--	93	--	--	10/8	1.0	31
STRATTON	Go Soy 49G16	RR	53.2	--	--	--	--	96	--	--	10/5	2.0	36
STRATTON	Go Soy 50G17	RR	50.4	--	--	--	--	91	--	--	10/7	2.0	37
STRATTON	Go Soy e4993	C	<b>62.4</b>	--	--	--	--	112	--	--	10/7	1.0	32
WILLCROSS	WX3487NS	RR2X	58.8	--	--	--	--	106	--	--	10/7	1.0	37
	AVERAGES		55.6	70.4	74.3								
	CV (%)		9.3	8.8	6.0								
	LSD (0.10)		6.1	7.4	5.3								

Values in bold are in the upper LSD group.

Description of traits available in Table 20.

**Southeast Agricultural Research Center, Parsons, Labette County: Lonnie Mengarelli, research technician**

Parsons Silt Loam

Planting and emergence was good. The weather turned hot and very dry for 2 middle weeks of July and then again for the first half of August. The last 3 weeks of September were also very dry and on October 4 it turned cool and very wet and had a hard time drying out enough to dry down plants to harvest.

	April	May	June	July	Aug.	Sept.	Total
Rainfall:	1.3	7.6	2.4	3.4	8.8	3.4	31.8

Planted 6/8/2018 at 100,000 seeds/ft; harvested 11/29/2018; 14 ft. by 4-row plot; pesticides: 2 pt/ac Gramoxone, 2 pt/ac Dual II Magnum, 1.5 lb/ac metribuzin, 6 oz/ac Authority XL

**Table 8. Parsons, Labette County Dryland Soybean Performance Test, Maturity Groups III-IV, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG34X7	RR2X	46.2	--	--	--	--	91	--	--	10/1	1.0	25
ASGROW	AG43X7	RR2X/SR	<b>64.3</b>	--	--	--	--	126	--	--	10/9	1.0	31
CHECK	MG3.1	RR	31.8	--	--	--	--	62	--	--	9/25	1.0	21
CHECK	MG3.9	RR	48.7	40.3	52.6	44.5	47.2	96	86	99	10/1	1.0	16
CREDENZ	CZ 3841 LL	LL	44.9	38.1	--	41.5	--	88	81	--	10/1	1.0	24
CREDENZ	CZ 4105 LL	LL	48.7	42.2	--	45.5	--	96	90	--	10/1	1.0	24
CREDENZ	CZ 4222 LL	LL/STS	49.8	45.3	--	47.6	--	98	97	--	10/1	1.0	28
CREDENZ	CZ 4308 LL	LL	55.1	49.9	--	52.5	--	108	107	--	10/9	1.0	29
CREDENZ	CZ 4548 LL	LL/STS	57.9	44.4	--	51.1	--	114	95	--	10/9	1.0	26
CREDENZ	CZ 4649 LL	LL	59.7	--	--	--	--	117	--	--	10/9	1.0	25
HEFTY	H35x8	RR2X	32.9	--	--	--	--	65	--	--	10/2	1.0	15
HEFTY	H37x7	RR2X	49.4	--	--	--	--	97	--	--	10/2	1.0	32
HEFTY	H39x8	RR2X	54.0	--	--	--	--	106	--	--	10/7	1.0	27
HEFTY	H42x9	RR2X	51.9	--	--	--	--	102	--	--	10/7	1.0	23
MIDLAND	4488NXS	RR2X/STS	<b>67.5</b>	--	--	--	--	133	--	--	10/15	1.0	27
MIDLAND	4677NXS	RR2X/STS	58.7	<b>51.7</b>	<b>58.1</b>	55.2	56.2	115	111	109	10/16	1.0	34
STRATTON	AGS GS46X17	RR2X	52.7	--	--	--	--	103	--	--	10/7	1.0	26
STRATTON	Go Soy 43C17S	STS	47.3	--	--	--	--	93	--	--	10/2	1.0	21
STRATTON	Go Soy 50G17	RR	48.7	--	--	--	--	96	--	--	10/18	1.0	27
STRATTON	Go Soy E4510S	STS	48.5	--	--	--	--	95	--	--	10/9	1.0	21
	AVERAGES		50.9	46.8	53.4								
	CV (%)		9.6	6.8	9.5								
	LSD (0.10)		5.8	3.5	6.0								

Values in bold are in the upper LSD group.

Description of traits available in Table 20.

**Table 9. Parsons, Labette County Dryland Soybean Performance Test, Maturity Groups IV-V, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG48X7	RR2X/SR	<b>60.3</b>	--	--	--	--	112	--	--	10/18	1.0	25
CHECK	MG4.9	RR	<b>54.4</b>	--	--	--	--	101	--	--	10/8	1.0	29
CREDENZ	CZ 4748 LL	LL	43.5	48.7	--	46.1	--	80	98	--	10/15	1.0	29
CREDENZ	CZ 4820 LL	LL	45.2	--	--	--	--	84	--	--	10/9	1.0	29
CREDENZ	CZ 4938 LL	LL	52.2	<b>53.0</b>	--	52.6	--	97	107	--	10/9	1.0	22
EMERGE GENETICS	e4993	C	<b>55.5</b>	<b>54.4</b>	--	55.0	--	103	110	--	10/18	1.0	30
EMERGE GENETICS	e4996	C	52.5	49.7	--	51.1	--	97	100	--	10/16	1.0	28
HEFTY	H42x9	RR2X	<b>57.3</b>	--	--	--	--	106	--	--	10/5	1.0	28
HEFTY	H50x9	RR2X	<b>55.3</b>	--	--	--	--	102	--	--	10/14	1.0	30
KANSAS AES	K13-1830	C	<b>60.1</b>	47.7	--	53.9	--	111	96	--	10/23	1.0	22
KANSAS AES	K14-1686	C	<b>58.1</b>	--	--	--	--	108	--	--	10/18	1.0	29
KANSAS AES	K15-1681	STS	42.6	--	--	--	--	79	--	--	10/15	1.0	13
KANSAS AES	K15-1788	C	<b>55.1</b>	--	--	--	--	102	--	--	10/22	1.0	17
KANSAS AES	K15-1800	C	51.5	--	--	--	--	95	--	--	10/23	1.0	14
KANSAS AES	K15-1809	C	<b>55.0</b>	--	--	--	--	102	--	--	10/23	1.0	18
KANSAS AES	K15-1855	C	<b>61.0</b>	--	--	--	--	113	--	--	10/22	1.0	15
KANSAS AES	K15-1874	C	50.6	--	--	--	--	94	--	--	10/17	1.0	19
KANSAS AES	KS5004N	C	53.2	43.7	--	48.5	--	98	88	--	10/7	1.0	23
KANSAS AES	KS5518	C	<b>57.9</b>	<b>52.9</b>	--	55.4	--	107	106	--	10/22	1.0	15
MIDLAND	4956NXS	RR2X	<b>55.9</b>	<b>51.2</b>	<b>57.6</b>	53.5	54.9	104	103	105	10/18	1.0	33
STRATTON	AGS GS51X18S	RR2X/STS	<b>56.8</b>	--	--	--	--	105	--	--	10/18	1.0	29
STRATTON	Go Soy 49G16	RR	<b>59.6</b>	--	--	--	--	110	--	--	10/17	1.0	27
STRATTON	Go Soy 50G17	RR	52.8	--	--	--	--	98	--	--	10/23	1.0	24
STRATTON	Go Soy e4993	C	50.5	--	--	--	--	93	--	--	10/21	1.0	25
	AVERAGES		54.0	49.7	54.9								
	CV (%)		10.7	6.0	5.8								
	LSD (0.10)		6.8	3.5	3.8								

Values in bold are in the upper LSD group.

Description of traits available in Table 20.

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

Planting soil conditions were favorable, with good emergence. Accumulated precipitation from planting through Aug 17 was 2.25" to 5" below the 30-year average. Mid season to harvest field received above- average precipitation. Insect feeding was present and warranted an insecticide application. November cool temperatures and snow events delayed harvest.

	April	May	June	July	Aug.	Sept.	Total
Rainfall:	1.6	3.9	1.1	3.9	8.9	1.8	21.1

Planted 6/6/2018 at 100,000 seeds/ft; harvested 11/29/2018; 12 ft. by 4-row plot; pesticides: Authority 5 oz/ac

**Table 10. McCune, Crawford County Dryland Soybean Performance Test, Maturity Groups III-IV, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG34X7	RR2X	57.2	--	--	--	--	94	--	--	9/30	1.0	37
ASGROW	AG43X7	RR2X/SR	61.9	--	--	--	--	101	--	--	10/7	1.0	44
CHECK	MG3.1	RR	56.8	--	--	--	--	93	--	--	9/28	1.0	32
CHECK	MG3.9	RR	59.7	--	50.8	--	--	98	--	--	10/5	1.0	32
KANSAS AES	KS4117NS	STS	61.3	--	--	--	--	100	--	--	10/5	1.0	29
MIDLAND	4488NXS	RR2X/STS	<b>69.5</b>	--	--	--	--	114	--	--	10/11	1.0	40
MIDLAND	4677NXS	RR2X/STS	60.6	--	<b>61.3</b>	--	--	99	--	--	10/10	1.5	48
STRATTON	AGS GS46X17	RR2X	63.4	--	--	--	--	104	--	--	10/7	1.0	38
STRATTON	Go Soy 43C17S	STS	61.3	--	--	--	--	100	--	--	10/5	1.0	28
STRATTON	Go Soy 50G17	RR	59.5	--	--	--	--	97	--	--	10/19	3.3	45
	AVERAGES		61.1	--	56.9								
	CV (%)		4.7	--	4.5								
	LSD (0.10)		3.5	--	3.0								

Values in bold are in the upper LSD group.

Description of traits available in Table 20.

**Table 11. McCune, Crawford County Dryland Soybean Performance Test, Maturity Groups IV-V, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG48X7	RR2X/SR	62.4	--	--	--	--	100	--	--	10/18	1.0	43
CHECK	MG4.9	RR	<b>67.4</b>	--	<b>55.2</b>	--	--	108	--	--	10/11	1.0	42
CREDENZ	CZ 4820 LL	LL	<b>66.2</b>	--	--	--	--	106	--	--	10/9	1.0	39
CREDENZ	CZ 4938 LL	LL	<b>66.4</b>	--	--	--	--	107	--	--	10/8	1.0	37
EMERGE GENETICS	e4993	C	59.3	--	--	--	--	95	--	--	10/12	1.0	42
EMERGE GENETICS	e4996	C	62.1	--	--	--	--	100	--	--	10/12	1.0	36
KANSAS AES	K13-1830	C	58.8	--	--	--	--	94	--	--	10/17	1.0	35
KANSAS AES	K14-1686	C	<b>63.8</b>	--	--	--	--	102	--	--	10/19	1.3	39
KANSAS AES	K15-1681	STS	59.9	--	--	--	--	96	--	--	10/15	1.8	33
KANSAS AES	K15-1788	C	62.8	--	--	--	--	101	--	--	10/19	1.0	31
KANSAS AES	K15-1800	C	62.2	--	--	--	--	100	--	--	10/19	1.0	32
KANSAS AES	K15-1809	C	<b>65.2</b>	--	--	--	--	105	--	--	10/20	1.0	31
KANSAS AES	K15-1855	C	63.3	--	--	--	--	102	--	--	10/19	1.0	34
KANSAS AES	K15-1874	C	62.6	--	--	--	--	100	--	--	10/15	1.0	33
KANSAS AES	KS5004N	C	54.5	--	--	--	--	87	--	--	10/19	1.3	39
KANSAS AES	KS5518	C	57.6	--	--	--	--	92	--	--	10/19	2.8	45
MIDLAND	4956NXS	RR2X	<b>65.3</b>	--	54.1	--	--	105	--	--	10/13	1.0	44
STRATTON	AGS GS51X18S	RR2X/STS	<b>66.4</b>	--	--	--	--	107	--	--	10/10	1.0	43
STRATTON	Go Soy 48C17S	STS	57.9	--	--	--	--	93	--	--	10/19	3.0	44
STRATTON	Go Soy 49G16	RR	62.4	--	--	--	--	100	--	--	10/16	3.0	43
	AVERAGES		62.3	--	54.9								
	CV (%)		5.5	--	4.7								
	LSD (0.10)		4.0	--	3.0								

Values in bold are in the upper LSD group.

Description of traits available in Table 20.

**Joe Harris Farm, Erie, Neosho County; Gretchen Sassenrath, agronomist; Lonnie Mengarelli, research technician**

Lanton Silt Loam

Planting went very well and emergence was good. The weather turned hot and very dry for 2 middle weeks of July and then again for the first half of August. The last 3 weeks of September were also very dry and on October 4th it turned cool and very wet and had a hard time drying out enough to dry down plants and mud enough to harvest.

	April	May	June	July	Aug.	Sept.	Total
Rainfall:	1.1	6.2	1.9	3.9	6.9	2.6	28.3

Planted 6/8/2018 at 100,000 seeds/ft; harvested 12/10/2018; 10 ft. by 4-row plot; pesticides: 2 pt/ac Gramoxone, 2 pt/ac Dual II Magnum, 1.5 lb/ac metribuzin, 6 oz/ac Athority XL

**Table 12. Erie, Neosho County Dryland Soybean Performance Test, Maturity Groups III-IV, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG34X7	RR2X	56.6	--	--	--	--	97	--	--	10/7	1.0	44
ASGROW	AG43X7	RR2X/SR	59.7	--	--	--	--	102	--	--	10/11	1.0	46
CHECK	MG3.1	RR	51.4	--	--	--	--	88	--	--	10/7	1.0	36
CHECK	MG3.9	RR	60.4	42.1	<b>48.6</b>	51.3	50.4	103	92	109	10/7	1.0	39
KANSAS AES	KS4117NS	STS	61.8	--	--	--	--	106	--	--	10/7	1.0	32
MIDLAND	4488NXS	RR2X/STS	<b>67.3</b>	--	--	--	--	115	--	--	10/16	1.0	44
MIDLAND	4677NXS	RR2X/STS	59.8	<b>49.4</b>	<b>45.3</b>	54.6	51.5	102	108	101	10/17	1.0	50
PHILLIPS	456 NR2XS	RR2X	<b>64.5</b>	--	--	--	--	110	--	--	10/16	1.0	43
STRATTON	AGS GS46X17	RR2X	56.5	--	--	--	--	97	--	--	10/11	1.0	34
STRATTON	Go Soy 43C17S	STS	57.3	--	--	--	--	98	--	--	10/7	1.0	31
STRATTON	Go Soy 50G17	RR	52.3	--	--	--	--	89	--	--	10/18	1.0	44
STRATTON	Go Soy E4510S	STS	54.4	--	--	--	--	93	--	--	10/9	1.0	38
	AVERAGES		58.5	45.8	44.7								
	CV (%)		7.5	12.7	10.4								
	LSD (0.10)		5.2	6.5	5.6								

**Table 13. Erie, Neosho County Dryland Soybean Performance Test, Maturity Groups IV-V, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG48X7	RR2X/SR	61.7	--	--	--	--	99	--	--	10/18	1.0	40
CHECK	MG4.9	RR	62.7	46.2	42.3	54.5	50.3	101	--	--	10/17	1.0	46
CREDENZ	CZ 4820 LL	LL	56.0	--	--	--	--	90	--	--	10/16	1.0	41
CREDENZ	CZ 4938 LL	LL	61.5	--	--	--	--	99	--	--	10/14	1.0	42
EMERGE GENETICS	e4993	C	<b>64.8</b>	46.9	--	55.8	--	104	108	--	10/17	1.0	45
EMERGE GENETICS	e4996	C	<b>65.6</b>	41.7	--	53.7	--	105	96	--	10/16	1.0	37
KANSAS AES	K13-1830	C	63.1	39.1	--	51.1	--	102	90	--	10/21	1.0	34
KANSAS AES	K14-1686	C	62.4	--	--	--	--	100	--	--	10/16	1.0	41
KANSAS AES	K15-1681	STS	59.6	--	--	--	--	96	--	--	10/14	1.0	31
KANSAS AES	K15-1788	C	<b>67.1</b>	--	--	--	--	108	--	--	10/18	1.0	37
KANSAS AES	K15-1800	C	<b>66.1</b>	--	--	--	--	106	--	--	10/18	1.0	31
KANSAS AES	K15-1809	C	<b>70.2</b>	--	--	--	--	113	--	--	10/21	1.0	33
KANSAS AES	K15-1855	C	58.9	--	--	--	--	95	--	--	10/23	1.0	27
KANSAS AES	K15-1874	C	61.2	--	--	--	--	98	--	--	10/14	1.0	35
KANSAS AES	KS5004N	C	<b>67.2</b>	43.2	--	55.2	--	108	100	--	10/22	1.0	34
KANSAS AES	KS5518	C	54.0	36.5	--	45.2	--	87	84	--	10/21	1.0	37
MIDLAND	4956NXS	RR2X	63.6	<b>48.9</b>	<b>48.0</b>	56.3	53.5	102	113	110	10/17	1.0	44
PHILLIPS	478 NR2XSE	RR2X	<b>67.9</b>	--	--	--	--	109	--	--	10/16	1.0	49
STRATTON	AGS GS51X18S	RR2X/STS	<b>65.7</b>	--	--	--	--	106	--	--	10/18	1.0	42
STRATTON	Go Soy 48C17S	STS	55.7	--	--	--	--	90	--	--	10/21	1.0	43
STRATTON	Go Soy 49G16	RR	57.9	--	--	--	--	93	--	--	10/16	1.0	47
STRATTON	Go Soy e4993	C	55.7	--	--	--	--	90	--	--	10/16	1.0	38
	AVERAGES		62.2	43.3	43.5								
	CV (%)		7.6	11.9	9.9								
	LSD (0.10)		5.6	6.1	--								

Values in bold are in the upper LSD group.

Description of traits available in Table 20.

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

Parsons Silt Loam

Double crop soil conditions at planting were firm but good moisture available near 2". Achieved excellent emergence and stands. Accumulated precipitation from planting through harvest was just below the 30-year average. No precipitation occurred from July 18 - Aug 18. Insect feeding was present during pod development and resulted in insecticide application. November cool temperatures and snow events delayed harvest.

	April	May	June	July	Aug.	Sept.	Total
Rainfall:	1.6	3.9	1.1	3.9	8.9	1.8	21.1

Planted 6/18/2018 at 155,000 seeds/ft; harvested 11/16/2018; 24 ft. by 4-row plot; pesticides: 1 qt/ac gramoxone, 5 oz/ac Trivence

**Table 14. Pittsburg, Cherokee County No-Till Soybean Performance Test, Maturity Groups IV-V, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG43X7	RR2X/SR	<b>56.0</b>	--	--	--	--	104	--	--	10/21	1.8	40
ASGROW	AG48X7	RR2X/SR	51.0	--	--	--	--	95	--	--	10/31	2.0	41
CHECK	MG4.9	RR	51.9	--	<b>65.6</b>	--	--	96	--	--	10/26	1.5	36
CREDENZ	CZ 4820 LL	LL	<b>57.6</b>	--	--	--	--	107	--	--	10/23	1.3	36
CREDENZ	CZ 4938 LL	LL	53.5	--	--	--	--	99	--	--	10/25	1.0	31
EMERGE GENETICS	e4993	C	53.4	--	--	--	--	99	--	--	10/31	1.8	36
EMERGE GENETICS	e4996	C	50.4	45.2	--	47.8	--	94	85	--	10/31	1.3	35
KANSAS AES	K13-1830	C	<b>56.3</b>	--	--	--	--	104	--	--	11/2	2.3	33
KANSAS AES	K14-1686	C	<b>57.3</b>	--	--	--	--	106	--	--	11/3	3.0	32
KANSAS AES	K15-1681	STS	52.5	--	--	--	--	97	--	--	11/1	3.0	32
KANSAS AES	K15-1788	C	53.9	--	--	--	--	100	--	--	11/3	1.8	33
KANSAS AES	K15-1800	C	53.8	--	--	--	--	100	--	--	11/3	2.0	35
KANSAS AES	K15-1809	C	52.5	--	--	--	--	97	--	--	11/5	2.0	31
KANSAS AES	K15-1855	C	54.2	--	--	--	--	101	--	--	11/4	1.8	27
KANSAS AES	K15-1874	C	54.9	--	--	--	--	102	--	--	11/1	2.0	33
KANSAS AES	KS5004N	C	<b>55.8</b>	--	--	--	--	104	--	--	10/29	2.8	37
KANSAS AES	KS5518	C	52.0	--	--	--	--	97	--	--	11/2	3.5	35
PHILLIPS	456 NR2XS	RR2X	<b>58.0</b>	--	--	--	--	108	--	--	10/26	2.3	38
PHILLIPS	478 NR2XSE	RR2X	<b>58.3</b>	--	--	--	--	108	--	--	10/31	1.0	40
PHILLIPS	506 NR2XS	RR2X	51.8	--	--	--	--	96	--	--	10/30	1.8	40
STRATTON	AGS GS46X17	RR2X	<b>55.9</b>	--	--	--	--	104	--	--	10/23	1.0	33
STRATTON	AGS GS51X18S	RR2X/STS	<b>56.4</b>	--	--	--	--	105	--	--	11/2	2.0	36
STRATTON	Go Soy 43C17S	STS	49.6	--	--	--	--	92	--	--	10/17	1.0	29
STRATTON	Go Soy 48C17S	STS	53.3	--	--	--	--	99	--	--	11/2	3.5	35
STRATTON	Go Soy 49G16	RR	54.6	--	--	--	--	101	--	--	10/29	3.5	39
STRATTON	Go Soy 50G17	RR	52.2	--	--	--	--	97	--	--	11/2	3.3	48
STRATTON	Go Soy E4510S	STS	46.8	--	--	--	--	87	--	--	10/21	1.0	33
STRATTON	Go Soy e4993	C	51.7	--	--	--	--	96	--	--	11/1	2.5	38
WILLCROSS	WX3487NS	RR2X	<b>57.2</b>	53.9	--	55.6	--	106	101	--	10/29	1.3	37
	AVERAGES		53.9	53.3	59.3								
	CV (%)		4.8	8.3	7.2								
	LSD (0.10)		3.0	4.4	5.1								

Values in bold are in the upper LSD group.

Description of traits available in Table 20.



**North Central Experiment Field, Scandia, Republic County; Andrew Esser, agronomist**

Growing conditions were slightly dry at planting with minimal precipitation until the middle of June with very warm temperatures. It dried out again until the end of July where the conditions changed to wet with sufficient rain from the end of July until the beginning of September with overall milder temperatures through this period and favorable conditions until the end of the season.

	April	May	June	July	Aug.	Sept.	Total
Rainfall:	0.8	2.1	6.8	2.6	4.5	4.1	25.4
Irrigation:				2.8	1.3		4.1

Planted 5/22/2018 at 167,000 seeds/ft; harvested 10/29/2018; 26 ft. by 2-row plot; pesticides: 3/8: 0.5 qt/ac Dicamba, 0.75 pt/ac 2,4-D; 5/15: 1 qt/ac Glyphosate, 3.75 oz/ac Fierce; 6/27: 0.6 oz/acre FirstRate, 10 oz/ac Intensity One

**Table 15. Scandia, Republic County Irrigated Soybean Performance Test, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG34X7	RR2X	<b>50.7</b>	--	--	--	--	102	--	--	9/30	1.0	41
ASGROW	AG43X7	RR2X/SR	47.3	--	--	--	--	95	--	--	10/14	1.0	39
CHECK	MG3.1	RR	45.4	--	55.0	--	--	92	--	93	9/23	1.0	40
CHECK	MG3.9	RR	43.7	66.0	<b>60.3</b>	54.9	56.7	88	104	102	9/23	1.0	41
CREDENZ	CZ 3548 LL	LL/STS	<b>51.3</b>	62.3	--	56.8	--	104	98	--	9/23	1.0	41
CREDENZ	CZ 3601 LL	LL	44.7	<b>71.3</b>	--	58.0	--	90	112	--	9/23	1.0	43
CREDENZ	CZ 3841 LL	LL	44.0	66.7	--	55.3	--	89	105	--	10/10	1.0	39
CREDENZ	CZ 4105 LL	LL	<b>52.0</b>	64.7	--	58.3	--	105	102	--	9/23	1.0	42
CREDENZ	CZ 4222 LL	LL/STS	45.3	<b>74.7</b>	--	60.0	--	91	117	--	10/10	1.0	41
CREDENZ	CZ 4308 LL	LL	50.0	59.3	--	54.7	--	101	93	--	10/10	1.0	45
CREDENZ	CZ 4548 LL	LL/STS	50.1	61.3	--	55.7	--	101	96	--	9/23	1.0	40
HEFTY	H31x9	RR2X	<b>51.3</b>	--	--	--	--	104	--	--	10/10	1.0	43
HEFTY	H35x8	RR2X	44.0	--	--	--	--	89	--	--	9/23	1.0	40
HEFTY	H37x7	RR2X	47.9	--	--	--	--	97	--	--	9/30	1.0	40
HEFTY	H39x8	RR2X	43.0	--	--	--	--	87	--	--	9/23	1.0	43
HEFTY	H42x9	RR2X	50.0	--	--	--	--	101	--	--	9/30	1.0	40
HEFTY	H42x9	RR2X	<b>58.7</b>	--	--	--	--	119	--	--	10/14	1.0	40
KANSAS AES	K15-1303	C	<b>56.7</b>	--	--	--	--	114	--	--	9/30	1.0	41
KANSAS AES	K15-1310	C	47.3	--	--	--	--	95	--	--	10/10	1.0	40
KANSAS AES	KS3406RR	RR1	49.0	--	58.0	--	--	99	--	98	10/10	1.0	40
KANSAS AES	KS3618Ngr	RR1	<b>52.7</b>	59.1	57.3	55.9	56.4	106	93	97	9/23	1.0	38
KANSAS AES	KS4117NS	STS	<b>51.3</b>	65.0	--	58.2	--	104	102	--	10/10	1.0	41
LG SEEDS	C3985RX	RR2X	46.3	--	--	--	--	93	--	--	9/23	1.0	42
LG SEEDS	C4227RX	RR2X/STS	<b>54.0</b>	--	--	--	--	109	--	--	10/10	1.0	39
LG SEEDS	LGS3660RX	RR2X	47.7	--	--	--	--	96	--	--	10/10	1.0	43
LG SEEDS	LGS3777RX	RR2X/STS	<b>55.0</b>	--	--	--	--	111	--	--	10/10	1.0	42
LG SEEDS	LGS4141RX	RR2X	<b>56.3</b>	--	--	--	--	114	--	--	10/10	1.0	37
MIDLAND	3537NX	RR2X	<b>51.3</b>	<b>68.5</b>	<b>63.7</b>	59.9	61.2	104	108	107	9/22	1.0	40
MIDLAND	3779NXS	RR2X/STS	<b>51.9</b>	--	--	--	--	105	--	--	10/10	1.0	40
MIDLAND	3938NX	RR2X	<b>52.3</b>	<b>68.0</b>	--	60.2	--	106	107	--	9/30	1.0	40
MISSOURI	S13-10590C	C	<b>51.7</b>	61.7	--	56.7	--	104	97	--	10/10	1.0	42
MISSOURI	S13-3851C	C	<b>57.3</b>	67.0	--	62.2	--	116	105	--	10/10	1.0	44
MISSOURI	S14-15138R	RR/STS	49.0	--	--	--	--	99	--	--	9/23	1.0	41
MISSOURI	S14-9051R	RR	40.3	65.0	--	52.7	--	81	102	--	9/23	1.0	40
PHILLIPS	348 NR2X	RR2X	<b>50.7</b>	62.5	--	56.6	--	102	98	--	10/10	1.0	39
PHILLIPS	379 NR2XSE	RR2X	48.3	--	--	--	--	98	--	--	10/10	1.0	40
PHILLIPS	387 NR2X	RR2X	45.0	62.7	<b>62.3</b>	53.8	56.7	91	98	105	10/10	1.0	42
PHILLIPS	408 NR2XS	RR2X	48.7	<b>68.0</b>	--	58.4	--	98	107	--	10/10	1.0	46
	AVERAGES		49.5	63.7	59.4								
	CV (%)		12.4	8.3	7.8								
	LSD (0.10)		8.4	7.2	6.3								

Values in bold are in the upper LSD group.

Description of traits available in Table 20.

**North Central Kansas Experiment Field, Belleville, Republic County; Andrew Esser, agronomist**

Growing conditions were slightly dry at planting with minimal precipitation until the middle of June with very warm temperatures. It dried out again until the end of July where the conditions changed to wet with sufficient rain from the end of July until the beginning of September with overall milder temperatures through this period and favorable conditions until the end of the season.

	April	May	June	July	Aug.	Sept.	Total
Rainfall:	1.2	2.6	4.3	6.9	4.2	5.1	34.8

Planted 5/22/2018 at 142,000 seeds/ft; harvested 10/22/2018; 23 ft. by 4-row plot; pesticides: 4/19, 1 qt/ac Glyphosate, 1 pt/ac w,4-D; 5/15: 1 qt/ac glyphosate, 3.75 oz/ac Fierce; 6/19: 0.6 oz/ac; 12 oz/ac Intensity one

**Table 16. Belleville, Republic County Dryland Soybean Performance Test, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG34X7	RR2X	57.0	--	--	--	--	98	--	--	9/30	1.0	31
ASGROW	AG43X7	RR2X/SR	59.0	--	--	--	--	102	--	--	10/10	1.0	40
CHECK	MG3.1	RR	53.0	--	55.1	--	--	91	--	85	9/23	1.0	29
CHECK	MG3.9	RR	56.3	<b>59.7</b>	62.9	58.0	59.6	97	111	98	10/10	1.0	29
CREDENZ	CZ 3548 LL	LL/STS	53.7	<b>56.7</b>	--	55.2	--	92	105	--	9/30	1.0	27
CREDENZ	CZ 3601 LL	LL	<b>61.0</b>	<b>56.9</b>	--	58.9	--	105	105	--	9/30	1.0	31
CREDENZ	CZ 3841 LL	LL	58.3	50.7	--	54.5	--	100	94	--	9/30	1.0	33
CREDENZ	CZ 4105 LL	LL	51.3	49.4	--	50.3	--	88	92	--	10/10	1.0	31
CREDENZ	CZ 4222 LL	LL/STS	<b>63.3</b>	<b>56.0</b>	--	59.7	--	109	104	--	10/10	1.0	31
CREDENZ	CZ 4308 LL	LL	55.0	49.3	--	52.2	--	95	92	--	10/10	1.0	34
CREDENZ	CZ 4548 LL	LL/STS	55.3	47.3	--	51.3	--	95	88	--	10/10	1.0	34
KANSAS AES	K15-1303	C	54.0	--	--	--	--	93	--	--	10/10	1.0	30
KANSAS AES	K15-1310	C	54.7	--	--	--	--	94	--	--	10/10	1.0	31
KANSAS AES	KS3406RR	RR1	56.0	--	65.4	--	--	96	--	101	9/30	1.0	33
KANSAS AES	KS3618Ngr	RR1	57.3	44.4	56.5	50.8	52.7	99	82	88	10/10	1.0	33
KANSAS AES	KS4117NS	STS	<b>61.7</b>	<b>54.4</b>	--	58.0	--	106	101	--	10/10	1.0	28
LG SEEDS	C3550RX	RR2X	<b>63.3</b>	--	--	--	--	109	--	--	9/30	1.0	28
LG SEEDS	C3985RX	RR2X	<b>61.1</b>	--	--	--	--	105	--	--	10/10	1.0	32
LG SEEDS	LGS3660RX	RR2X	56.5	--	--	--	--	97	--	--	9/23	1.0	31
LG SEEDS	LGS3777RX	RR2X/STS	56.5	--	--	--	--	97	--	--	9/30	1.0	35
LG SEEDS	LGS4141RX	RR2X	<b>61.0</b>	--	--	--	--	105	--	--	10/10	1.0	34
MIDLAND	3537NX	RR2X	<b>64.3</b>	<b>58.7</b>	67.1	61.5	63.4	111	109	104	10/10	1.0	30
MIDLAND	3779NXS	RR2X/STS	53.0	--	--	--	--	91	--	--	10/10	1.0	35
MIDLAND	3938NX	RR2X	<b>61.0</b>	56.3	--	58.7	--	105	104	--	10/10	1.0	35
MIDLAND	4328NX	RR2X	<b>61.3</b>	54.7	--	58.0	--	106	101	--	10/10	1.0	35
PHILLIPS	348 NR2X	RR2X	<b>60.3</b>	57.3	--	58.8	--	104	106	--	9/30	1.0	28
PHILLIPS	379 NR2XSE	RR2X	55.5	--	--	--	--	96	--	--	10/10	1.0	35
PHILLIPS	387 NR2X	RR2X	<b>63.0</b>	<b>55.0</b>	<b>69.7</b>	59.0	62.6	108	102	108	9/30	1.0	34
PHILLIPS	408 NR2XS	RR2X	<b>60.7</b>	<b>56.7</b>	--	58.7	--	105	105	--	10/10	1.0	34
	AVERAGES		58.1	54.0	64.5								
	CV (%)		5.8	9.6	5.0								
	LSD (0.10)		4.6	7.1	4.4								

Values in bold are in the upper LSD group.

Description of traits available in Table 20.

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

Ladysmith silty clay loam

Planting soil conditions were moderately cloddy but with good moisture. Accumulated precipitation from planting until October were marginally lower than the 30-year average. Dry conditions through June into July. October 4th to harvest precipitation was notably above the 30-year average. The field development was set back from Dicamba drift mid season. October weather kept field from drying, which delayed harvest.

	April	May	June	July	Aug.	Sept.	Total
Rainfall:	1.2	2.1	6.2	3.1	4.6	5.4	28.3

Planted 5/24/2018 at 155,000 seeds/ft; harvested 11/1/2018; 12 ft. by 4-row plot; pesticides: 3.3 oz/ac Zidua, 4 oz/ac Authority

**Table 17. Assaria, Saline County Dryland Soybean Performance Test, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG34X7	RR2X	46.5	--	--	--	--	92	--	--	9/24	1.0	29
ASGROW	AG43X7	RR2X/SR	<b>55.3</b>	--	--	--	--	109	--	--	10/6	1.0	36
ASGROW	AG48X7	RR2X/SR	45.2	--	--	--	--	89	--	--	10/15	1.0	34
CHECK	MG3.1	RR	41.4	--	--	--	--	82	--	--	9/18	1.0	26
CHECK	MG3.9	RR	<b>52.6</b>	28.0	62.4	40.3	47.7	104	90	107	10/1	1.0	26
HEFTY	H35x8	RR2X	45.6	--	--	--	--	90	--	--	9/25	1.0	26
HEFTY	H37x7	RR2X	<b>54.6</b>	--	--	--	--	108	--	--	10/1	1.0	33
HEFTY	H39x8	RR2X	<b>55.0</b>	--	--	--	--	108	--	--	9/28	1.0	29
HEFTY	H42x9	RR2X	<b>51.1</b>	--	--	--	--	101	--	--	9/29	1.0	29
HEFTY	H46x8S	RR2X	47.2	--	--	--	--	93	--	--	10/1	1.0	31
HEFTY	H50x9	RR2X	<b>51.2</b>	--	--	--	--	101	--	--	10/11	1.0	37
KANSAS AES	K15-1303	C	46.9	--	--	--	--	92	--	--	9/27	1.0	25
KANSAS AES	K15-1310	C	46.3	--	--	--	--	91	--	--	10/1	1.0	25
KANSAS AES	KS3406RR	RR1	48.0	<b>31.1</b>	--	39.6	--	95	100	--	9/28	1.0	25
KANSAS AES	KS3618Ngr	RR1	<b>51.4</b>	27.9	--	39.7	--	101	90	--	9/26	1.0	29
KANSAS AES	KS4117NS	STS	<b>54.3</b>	<b>30.9</b>	--	42.6	--	107	99	--	9/28	1.0	25
LG SEEDS	C4227RX	RR2X/STS	<b>52.2</b>	--	--	--	--	103	--	--	9/28	1.0	30
LG SEEDS	C4615RX	RR2X/STS	49.9	--	--	--	--	98	--	--	10/10	1.0	43
LG SEEDS	LGS3777RX	RR2X/STS	<b>53.1</b>	--	--	--	--	105	--	--	10/1	1.0	32
LG SEEDS	LGS4141RX	RR2X	<b>53.9</b>	--	--	--	--	106	--	--	10/3	1.0	28
LG SEEDS	LGS4573RX	RR2X/STS	<b>56.1</b>	--	--	--	--	111	--	--	10/10	1.3	34
PHILLIPS	408 NR2XS	RR2X	<b>52.7</b>	<b>33.0</b>	--	42.9	--	104	106	--	10/4	1.0	26
PHILLIPS	456 NR2XS	RR2X	<b>53.5</b>	<b>33.1</b>	<b>66.4</b>	43.3	51.0	105	106	113	10/7	1.0	36
PHILLIPS	478 NR2XSE	RR2X	<b>54.4</b>	<b>32.0</b>	--	43.2	--	107	103	--	10/10	1.0	36
	AVERAGES		50.8	31.1	58.6								
	CV (%)		8.4	7.1	5.0								
	LSD (0.10)		5.0	2.6	3.5								

Values in bold are in the upper LSD group.

Description of traits available in Table 20.

**Northwest Research-Extension Center, Colby, Thomas County; Rob Aiken, agronomist; Raenette Martin, technician**

Herbicide damage after planting. Hailstorm on June 30, no water  
June 30 - July 19.

	April	May	June	July	Aug.	Sept.	Total
Rainfall:	1.0	4.4	3.3	2.5	2.8	0.6	18.1
Irrigation:			0.9	2.7	5.0	1.0	9.6

Planted 5/8/2018 at 180,000 seeds/ft; harvested 10/23/2018; 20 ft. by 2-row plot; pesticides: Spartan Charge was applied on 5/9/18; Warrant applied 7/11/18

**Table 18. Colby, Thomas County Irrigated Soybean Performance Test, 2016-2018**

BRAND	NAME	TRAIT	ACRE YIELD, BUSHEL					YIELD AS % OF TEST AVERAGE			2018		
			2018	2017	2016	2-Yr. AVG.	3-Yr. AVG.	2018	2017	2016	Mat	Lodge score	Ht (in)
ASGROW	AG34X7	RR2X	60.9	--	--	--	--	95	--	--	--	2.3	20
ASGROW	AG43X7	RR2X/SR	67.0	--	--	--	--	104	--	--	--	2.0	32
CHECK	MG3.1	RR	54.0	--	70.9	--	--	84	--	94	--	1.0	20
CHECK	MG3.9	RR	<b>70.3</b>	76.4	<b>85.3</b>	73.3	77.3	109	101	113	--	1.0	22
CREDENZ	CZ 2928 LL	LL	64.2	--	--	--	--	100	--	--	--	1.0	19
CREDENZ	CZ 3233 LL	LL	50.1	--	--	--	--	78	--	--	--	1.0	20
CREDENZ	CZ 3548 LL	LL/STS	64.5	--	--	--	--	100	--	--	--	1.0	22
CREDENZ	CZ 3601 LL	LL	59.2	--	--	--	--	92	--	--	--	1.0	24
CREDENZ	CZ 3841 LL	LL	66.4	--	--	--	--	103	--	--	--	1.0	23
HEFTY	H35x8	RR2X	59.4	--	--	--	--	92	--	--	--	1.0	23
HEFTY	H37x7	RR2X	68.0	--	--	--	--	106	--	--	--	2.3	29
HEFTY	H39x8	RR2X	<b>75.4</b>	--	--	--	--	117	--	--	--	2.0	28
HEFTY	H42x9	RR2X	<b>72.6</b>	--	--	--	--	113	--	--	--	2.3	26
KANSAS AES	KS4117NS	STS	69.0	73.2	--	71.1	--	107	97	--	--	1.4	25
LG SEEDS	C3489RX	RR2X	56.9	78.7	--	67.8	--	88	104	--	--	1.0	22
LG SEEDS	C3550RX	RR2X	67.3	<b>81.2</b>	78.8	74.3	75.8	105	107	105	--	1.0	27
LG SEEDS	LGS3140RX	RR2X	65.7	--	--	--	--	102	--	--	--	1.0	22
LG SEEDS	LGS3357RX	RR2X	60.7	--	--	--	--	94	--	--	--	1.0	24
LG SEEDS	LGS3660RX	RR2X	66.8	--	--	--	--	104	--	--	--	1.0	25
PHILLIPS	348 NR2X	RR2X	68.5	<b>80.0</b>	--	74.2	--	106	106	--	--	1.0	25
	AVERAGES		64.3	75.8	75.4								
	CV (%)		7.7	5.9	6.6								
	LSD (0.10)		5.8	5.1	5.8								

Values in bold are in the upper LSD group.

Description of traits available in Table 20.

**Table 19. Yield as a Percentage of Test Average from Soybean Tests**

BRAND/NAME	Kiro		Topeka	Ottawa		Parsons		McCune		Erie		Pittsburg	Belle-		Assaria	Colby	AVG
	Emmett	dryland	irrigated	MG4	MG 5	MG4	MG 5	MG 4	MG 5	MG 4	MG 5	MG 5	Scandia	ville			
<b>ASGROW</b>																	
AG34X7	95	111	95	91	--	91	--	94	--	97	--	--	102	98	92	95	96
AG43X7	91	102	92	100	--	126	--	101	--	102	--	104	95	102	109	104	102
AG48X7	--	--	--	--	107	--	112	--	100	--	99	95	--	--	89	--	100
<b>CHECK</b>																	
MG3.1	74	97	91	83	--	62	--	93	--	88	--	--	92	91	82	84	85
MG3.9	109	113	95	96	--	96	--	98	--	103	--	--	88	97	104	109	101
MG4.9	--	--	--	--	93	--	101	--	108	--	101	96	--	--	--	--	100
<b>CREDENZ</b>																	
CZ 2928 LL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	100
CZ 3233 LL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	78	78
CZ 3548 LL	93	--	89	91	--	--	--	--	--	--	--	--	104	92	--	100	95
CZ 3601 LL	91	--	96	89	--	--	--	--	--	--	--	--	90	105	--	92	94
CZ 3841 LL	102	--	102	94	--	88	--	--	--	--	--	--	89	100	--	103	97
CZ 4105 LL	106	--	87	110	--	96	--	--	--	--	--	--	105	88	--	--	99
CZ 4222 LL	112	--	103	101	--	98	--	--	--	--	--	--	91	109	--	--	102
CZ 4308 LL	99	--	98	98	--	108	--	--	--	--	--	--	101	95	--	--	100
CZ 4548 LL	106	--	92	113	--	114	--	--	--	--	--	--	101	95	--	--	103
CZ 4649 LL	--	--	--	102	--	117	--	--	--	--	--	--	--	--	--	--	110
CZ 4748 LL	--	--	--	--	88	--	80	--	--	--	--	--	--	--	--	--	84
CZ 4820 LL	--	--	--	--	96	--	84	--	106	--	90	107	--	--	--	--	97
CZ 4938 LL	--	--	--	--	98	--	97	--	107	--	99	99	--	--	--	--	100
<b>EMERGE GENETICS</b>																	
e3796	92	--	--	108	--	--	--	--	--	--	--	--	--	--	--	--	100
e4394	95	--	--	100	--	--	--	--	--	--	--	--	--	--	--	--	97
e4993	--	--	--	--	--	--	103	--	95	--	104	99	--	--	--	--	100
e4996	--	--	--	--	--	--	97	--	100	--	105	94	--	--	--	--	99
<b>GOLDEN HARVEST</b>																	
GH3982X+Levo	--	107	114	--	--	--	--	--	--	--	--	--	--	--	--	--	111
GH3982X	95	101	--	101	--	--	--	--	--	--	--	--	--	--	--	--	99
GH4307X	97	104	--	--	--	--	--	--	--	--	--	--	--	--	--	--	101
<b>HEFTY</b>																	
H31x9	--	--	93	--	--	--	--	--	--	--	--	--	104	--	--	--	99
H35x8	--	--	94	80	--	65	--	--	--	--	--	--	89	--	90	92	86
H37x7	111	--	97	93	--	97	--	--	--	--	--	--	97	--	108	106	102
H39x8	105	--	103	92	--	106	--	--	--	--	--	--	87	--	108	117	104
H42x9	110	--	103	90	--	102	106	--	--	--	--	--	110	--	101	113	107
H46x8S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	93	--	93
H50x9	--	--	--	--	--	--	102	--	--	--	--	--	--	--	101	--	102

**Table 19 continued. Yield as a Percentage of Test Average from Soybean Tests**

BRAND/NAME	Kiro		Topeka	Ottawa		Parsons		McCune		Erie		Pittsburg	Belle-			AVG
	Emmett	dryland	irrigated	MG4	MG 5	MG4	MG 5	MG 4	MG 5	MG 4	MG 5	MG 5	Scandia	ville	Assaria	
<b>KANSAS AES</b>																
K13-1830	--	--	--	--	107	--	111	--	94	--	102	104	--	--	--	104
K14-1686	--	--	--	--	104	--	108	--	102	--	100	106	--	--	--	104
K15-1303	96	103	--	89	--	--	--	--	--	--	--	--	114	93	92	98
K15-1310	98	97	--	82	--	--	--	--	--	--	--	--	95	94	91	93
K15-1681	--	--	--	--	116	--	79	--	96	--	96	97	--	--	--	97
K15-1788	--	--	--	--	118	--	102	--	101	--	108	100	--	--	--	106
K15-1800	--	--	--	--	105	--	95	--	100	--	106	100	--	--	--	101
K15-1809	--	--	--	--	110	--	102	--	105	--	113	97	--	--	--	105
K15-1855	--	--	--	--	121	--	113	--	102	--	95	101	--	--	--	106
K15-1874	--	--	--	--	98	--	94	--	100	--	98	102	--	--	--	98
KS3406RR	--	99	--	--	--	--	--	--	--	--	--	--	99	96	95	97
KS3618Ngr	--	96	--	--	--	--	--	--	--	--	--	--	106	99	101	100
KS4117NS	104	103	--	116	--	--	--	100	--	106	--	--	104	106	107	106
KS5004N	--	--	--	--	92	--	98	--	87	--	108	104	--	--	--	98
KS5518	--	--	--	--	103	--	107	--	92	--	87	97	--	--	--	97
<b>LG SEEDS</b>																
C3489RX	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	88 88
C3550RX	--	--	--	--	--	--	--	--	--	--	--	--	--	109	--	105 107
C3985RX	--	106	113	--	--	--	--	--	--	--	--	--	93	105	--	105
C4227RX	--	97	117	--	--	--	--	--	--	--	--	--	109	--	103	107
C4615RX	--	90	110	--	--	--	--	--	--	--	--	--	--	--	98	99
LGS3140RX	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	102 102
LGS3357RX	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	94 94
LGS3660RX	--	--	--	--	--	--	--	--	--	--	--	--	96	97	--	104 99
LGS3777RX	--	103	103	--	--	--	--	--	--	--	--	--	111	97	105	104
LGS4141RX	--	--	--	--	--	--	--	--	--	--	--	--	114	105	106	108
LGS4573RX	--	96	99	--	--	--	--	--	--	--	--	--	--	--	111	102
<b>MIDLAND</b>																
3537NX	107	102	95	--	--	--	--	--	--	--	--	--	104	111	--	104
3779NXS	108	108	102	--	--	--	--	--	--	--	--	--	105	91	--	103
3938NX	97	106	110	--	--	--	--	--	--	--	--	--	106	105	--	105
4328NX	102	--	103	95	--	--	--	--	--	--	--	--	--	106	--	101
4488NXS	--	101	103	120	--	133	--	114	--	115	--	--	--	--	--	114
4677NXS	--	--	--	116	--	115	--	99	--	102	--	--	--	--	--	108
4956NXS	--	--	--	--	102	--	104	--	105	--	102	--	--	--	--	103
<b>MISSOURI</b>																
S13-10590C	--	--	103	90	--	--	--	--	--	--	--	--	104	--	--	99
S13-3851C	--	--	90	114	--	--	--	--	--	--	--	--	116	--	--	107
S14-15138R	--	--	85	--	84	--	--	--	--	--	--	--	99	--	--	89
S14-9051R	--	--	100	--	65	--	--	--	--	--	--	--	81	--	--	82

**Table 19 continued. Yield as a Percentage of Test Average from Soybean Tests**

BRAND/NAME	Emmett	Kiro	Topeka	Ottawa		Parsons		McCune		Erie		Pittsburg	Belle-			AVG	
		dryland	irrigated	MG4	MG 5	MG4	MG 5	MG 4	MG 5	MG 4	MG 5	MG 5	Scandia	ville	Assaria		Colby
<b>PHILLIPS</b>																	
348 NR2X	--	--	--	--	--	--	--	--	--	--	--	--	102	104	--	106	104
379 NR2XSE	--	--	--	--	--	--	--	--	--	--	--	--	98	96	--	--	97
387 NR2X	114	--	--	--	--	--	--	--	--	--	--	--	91	108	--	--	105
408 NR2XS	90	--	--	--	--	--	--	--	--	--	--	--	98	105	104	--	99
456 NR2XS	--	--	--	--	--	--	--	--	--	110	--	108	--	--	105	--	108
478 NR2XSE	--	--	--	--	--	--	--	--	--	--	109	108	--	--	107	--	108
506 NR2XS	--	--	--	--	--	--	--	--	--	--	--	96	--	--	--	--	96
<b>PRIZE</b>																	
DINAMO	--	--	--	93	--	--	--	--	--	--	--	--	--	--	--	--	93
<b>STINE</b>																	
43RE02	--	90	115	--	--	--	--	--	--	--	--	--	--	--	--	--	103
43RE02+ILevo	--	102	116	115	--	--	--	--	--	--	--	--	--	--	--	--	111
47LF32	--	--	--	106	--	--	--	--	--	--	--	--	--	--	--	--	106
<b>STRATTON</b>																	
AGS GS46X17	--	--	--	110	--	103	--	104	--	97	--	104	--	--	--	--	103
AGS GS51X18S	--	--	--	--	93	--	105	--	107	--	106	105	--	--	--	--	103
Go Soy 43C17S	--	--	--	110	--	93	--	100	--	98	--	92	--	--	--	--	99
Go Soy 48C17S	--	--	--	--	--	--	--	--	93	--	90	99	--	--	--	--	94
Go Soy 49G16	--	--	--	--	96	--	110	--	100	--	93	101	--	--	--	--	100
Go Soy 50G17	--	--	--	104	91	96	98	97	--	89	--	97	--	--	--	--	96
Go Soy E4510S	--	--	--	92	--	95	--	--	--	93	--	87	--	--	--	--	92
Go Soy e4993	--	--	--	--	112	--	93	--	--	--	90	96	--	--	--	--	98
<b>WILLCROSS</b>																	
WX3388N	--	112	97	--	--	--	--	--	--	--	--	--	--	--	--	--	105
WX3467NS	--	86	96	113	--	--	--	--	--	--	--	--	--	--	--	--	98
WX3487NS	--	--	--	--	106	--	--	--	--	--	--	106	--	--	--	--	106



**Table 20. Description of Entries in 2018 Soybean Performance Tests**

BRAND	NAME	TRAIT	Maturity group	Flower color	Hilum color	SCN resistance					Phytophthora	
						R1	R3	R4	R14	Source	RR	Tolerance
ASGROW	AG34X7	RR2X	3.4	--	--	--	--	--	--	--	--	--
ASGROW	AG43X7	RR2X/S	4.3	--	--	--	--	--	--	--	--	--
ASGROW	AG48X7	RR2X/S	4.8	--	--	--	--	--	--	--	--	--
CHECK	MG3.1	RR	3.1	--	--	--	--	--	--	--	--	--
CHECK	MG3.9	RR	3.9	--	--	--	--	--	--	--	--	--
CHECK	MG4.9	RR	4.9	--	--	--	--	--	--	--	--	--
CREDENZ	CZ 2601 LL	LL	2.6	P	Bl	--	MR	--	MR	PI88788	RPS1C	3.0
CREDENZ	CZ 2928 LL	LL	2.9	P	Bl	--	MR	--	MR	PI88788	RPS1C	4.0
CREDENZ	CZ 3233 LL	LL	3.2	P	Bl	--	MR	--	--	PI88788	Rps1c	4.0
CREDENZ	CZ 3548 LL	LL/STS	3.5	P	Bl	--	MR	--	MR	PI88788	Rps1c	4.0
CREDENZ	CZ 3601 LL	LL	3.6	W	Bl	--	MR	--	MR	PI88788	Rps1z	3.0
CREDENZ	CZ 3841 LL	LL	3.7	W	Bl	--	MR	--	MR	PI88788	Rps1a	2.0
CREDENZ	CZ 4105 LL	LL	4.1	W	Bl	--	MR	--	MR	PI88788	Rps1c	4.0
CREDENZ	CZ 4222 LL	LL/STS	4.2	P	Bl	--	MR	--	MR	PI88788	Rps1a	4.0
CREDENZ	CZ 4308 LL	LL	4.3	P	Bl	--	MR	--	MR	PI88788	Rps1k	4.0
CREDENZ	CZ 4548 LL	LL/STS	4.5	P	Bl	--	MR	--	MR	PI88788	Rps1k	4.0
CREDENZ	CZ 4649 LL	LL	4.6	P	Bf	--	MR	--	MR	PI88788	--	4.0
CREDENZ	CZ 4748 LL	LL	4.7	W	Bl	--	MR	--	MR	PI88788	Rps1a	5.0
CREDENZ	CZ 4820 LL	LL	4.8	W	Bl	--	MR	--	MR	PI88788	RPS1A	4.0
CREDENZ	CZ 4938 LL	LL	4.9	P	Bl	--	MR	--	MR	PI88788	Rps2k	4.0
EMERGE GENETICS	e3796	C	3.7	--	--	--	--	--	--	--	--	--
EMERGE GENETICS	e4394	C	4.3	--	--	--	--	--	--	--	--	--
EMERGE GENETICS	e4993	C	4.9	--	--	--	--	--	--	--	--	--
EMERGE GENETICS	e4996	C	4.9	--	--	--	--	--	--	--	--	--
GOLDEN HARVEST	GH3982X	RR2X	3.9	P	Bl	--	R	--	MR	PI88788	--	4.0
GOLDEN HARVEST	GH4307X	RR2X	4.3	P	Bl	--	R	--	MR	PI88788	--	4.0
HEFTY	H31x9	RR2X	3.1	--	--	--	--	--	--	--	Rps1c	--
HEFTY	H35x8	RR2X	3.5	--	--	R	--	R	--	--	Rps1c	7.0
HEFTY	H37x7	RR2X	3.7	--	--	R	--	R	--	--	Rps1c	7.0
HEFTY	H39x8	RR2X	3.9	--	--	R	--	R	--	--	Rps1c	7.0
HEFTY	H42x9	RR2X	4.2	--	--	--	--	--	--	--	--	--
HEFTY	H46x8S	RR2X	4.6	--	--	R	--	R	--	--	Rps1c	7.0
HEFTY	H50x9	RR2X	5.1	--	--	--	--	--	--	--	--	--
KANSAS AES	K13-1830	C	5.0	P	lb	--	R	--	--	--	--	--
KANSAS AES	K14-1686	C	5.0	W	Bl	--	--	--	--	--	--	--
KANSAS AES	K15-1303	C	4.0	P	Bl	--	--	--	--	--	--	--
KANSAS AES	K15-1310	C	4.0	P	Bl	--	--	--	--	--	--	--
KANSAS AES	K15-1681	STS	4.3	P	lb	--	--	--	--	--	--	--
KANSAS AES	K15-1788	C	5.0	W	Br	--	--	--	--	--	--	--
KANSAS AES	K15-1800	C	5.0	E	Br	--	--	--	--	--	--	--
KANSAS AES	K15-1809	C	5.0	P	Bf	--	--	--	--	--	--	--
KANSAS AES	K15-1855	C	5.0	W	Br	--	--	--	--	--	--	--
KANSAS AES	K15-1874	C	4.5	W	Br	--	--	--	--	--	--	--
KANSAS AES	KS3406RR	RR1	3.4	--	--	--	--	--	--	--	--	--
KANSAS AES	KS3618Ngr	RR1	3.6	W	Bl	--	R	--	MR	--	--	--
KANSAS AES	KS4117NS	STS	4.0	P	Bl	--	R	--	MR	--	--	--
KANSAS AES	KS5004N	C	5.0	--	--	--	R	--	MR	--	--	--
KANSAS AES	KS5518	C	5.5	w	Bf	--	--	--	--	--	--	--

**Table 20 continued. Description of Entries in 2018 Soybean Performance Tests**

BRAND	NAME	TRAIT	Maturity group	Flower color	Hilum color	SCN resistance					Phytophthora	
						R1	R3	R4	R14	Source	RR	Tolerance
LG SEEDS	C3489RX	RR2X	3.4	P	lb	--	R	--	R	PI88788	Rps1c	--
LG SEEDS	C3550RX	RR2X	3.5	P	lb	--	R	--	R	PI88788	Rps1c	--
LG SEEDS	C3985RX	RR2X	3.9	P	lb	--	R	--	R	PI88788	--	--
LG SEEDS	C4227RX	RR2X/STS	4.2	P	lb	--	R	--	R	PI88788	--	--
LG SEEDS	C4615RX	RR2X/STS	4.6	P	lb	--	R	--	R	PI88788	Rps1c	--
LG SEEDS	LGS3140RX	RR2X	3.1	P	lb	--	R	--	R	--	RPS1C	--
LG SEEDS	LGS3357RX	RR2X	3.3	P	lb	--	R	--	R	--	RPS1C	--
LG SEEDS	LGS3660RX	RR2X	3.6	P	lb	--	R	--	R	--	RPS1C	--
LG SEEDS	LGS3777RX	RR2X/STS	3.7	W	Bl	--	R	--	R	--	RPS1C	--
LG SEEDS	LGS4141RX	RR2X	4.1	P	Bl	--	R	--	R	--	RPS1C	--
LG SEEDS	LGS4573RX	RR2X/S	4.5	W	Bl	--	R	--	R	--	RPS1C	--
MIDLAND	3537NX	RR2X	3.5	--	--	--	R	--	MR	PI88788	--	2.0
MIDLAND	3779NXS	RR2X/STS	3.7	--	--	--	R	--	R	PI88788	--	2.0
MIDLAND	3938NX	RR2X	3.9	--	--	--	R	--	MR	PI88788	--	2.0
MIDLAND	4328NX	RR2X	4.3	--	--	--	R	--	MR	PI88788	--	2.0
MIDLAND	4488NXS	RR2X/STS	4.4	--	--	--	R	--	R	PI88788	--	2.0
MIDLAND	4677NXS	RR2X/STS	4.6	--	--	--	R	--	MR	PI88788	--	2.0
MIDLAND	4956NXS	RR2X	4.9	--	--	--	R	--	MR	PI88788	--	2.0
MISSOURI	S13-10590C	C	4.3	W	Bl	--	--	--	--	--	--	--
MISSOURI	S13-3851C	C	4.4	P	Bl	--	--	--	--	--	--	--
MISSOURI	S14-15138R	RR/STS	4.8	W	Bf	--	MR	--	MR	--	--	--
MISSOURI	S14-9051R	RR	4.7	W	lb	--	--	--	--	--	--	--
PHILLIPS	328 NR2X	RR2X	3.2	W	Bf	--	R	--	MR	PI88788	RPS1C	9.0
PHILLIPS	348 NR2X	RR2X	3.4	--	lb	--	R	--	MR	PI88788	RPS1c	8.0
PHILLIPS	379 NR2XSE	RR2X	3.7	W	Bl	--	R	--	MR	PI88788	RPS1C	1.0
PHILLIPS	387 NR2X	RR2X	3.8	P	lb	--	R	--	R	PI88788	Rps1c	1.0
PHILLIPS	408 NR2XS	RR2X	4.0	P	Bl	--	R	--	MR	PI88788	RPS1C	2.0
PHILLIPS	456 NR2XS	RR2X	4.5	P	Bl	--	R	--	R	PI88788	Rps1a	2.0
PHILLIPS	478 NR2XSE	RR2X	4.7	P	lb	--	R	--	MR	PI88788	RPS1C	1.0
PHILLIPS	506 NR2XS	RR2X	5.0	P	Bl	--	R	--	R	PI88788	Rps1a	2.0
PRIZE	DINAMO		4.4	W	Bl	--	--	--	--	--	--	--
STRATTON	AGS GS46X17	RR2X	4.6	P	Bl	--	R	--	R	PI88788	--	2.0
STRATTON	AGS GS51X18S	RR2X/STS	5.1	W	lb	--	--	--	--	--	--	3.0
STRATTON	Go Soy 43C17S	STS	4.3	P	Bl	--	--	--	--	--	--	--
STRATTON	Go Soy 48C17S	STS	4.8	P	Bl	--	R	--	R	PI88788	--	2.0
STRATTON	Go Soy 49G16	RR	4.9	P	Bl	R	R	--	R	Hartwig	--	2.0
STRATTON	Go Soy 50G17	RR	5.0	P	Bl	R	R	--	R	Hartwig	--	2.0
STRATTON	Go Soy E4510S	STS	4.5	P	Bl	--	R	--	R	PI88788	--	2.0
STRATTON	Go Soy e4993	C	4.9	W	Bl	--	R	--	R	PI88788	--	2.0
WILLCROSS	WX3388N	RR2X	3.8	--	--	--	--	--	--	--	--	--
WILLCROSS	WX3467NS	RR2X	4.6	--	--	--	--	--	--	--	--	--
WILLCROSS	WX3487NS	RR2X	4.8	P	Bl	--	--	--	--	--	--	--

C = conventional varieties; LL= LibertyLink; RR/RR1 = Roundup Resistant; RR2 = 2nd generation Roundup Ready; RR2X = Roundup Ready 2 Xtend; SR/STS= Sulfonylurea-tolerant; +ILeVo = ILeVo seed treatment added.

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**[www.agronomy.k-state.edu/services/crop-performance-tests/index.html](http://www.agronomy.k-state.edu/services/crop-performance-tests/index.html)**

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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.

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