2019 Soybean Variety Performance Trial Results

Wheat Tech Agronomy
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Wheat Tech Agronomy
2019 Soybean Variety Performance Test

General Information:

The 2019 Soybean Variety Performance Tests were conducted in four different locations: Cecilia, KY Trenton, KY, Franklin, KY, and Charleston, MO. The Cecilia, KY location was the only full season soybean test and it was planted behind corn; the other two KY locations were true double cropped tests planted behind wheat. The Charleston, MO location was planted behind soybeans but at a double crop timing. None of the plots were irrigated in 2019.

The varieties were separated into three maturity groups: ≤ 4.4, 4.5 – 4.7, and ≥ 4.8. There were a total of 60 varieties in the Cecilia, KY test. At both the Trenton, KY and Franklin, KY locations there were a total of 50 varieties, while, in Missouri, there were 40 varieties. The plots were planted four rows wide by 40 feet long with a Voltra planter, manufactured by Kincaid Mfg. The tests at all locations were replicated 4 times. Tests were conducted using 15-inch row spacing. The Kentucky double crop locations were planted at a population of 160,000 seeds per acre, while the Missouri and the Kentucky Full Season locations were planted at 140,000 seeds per acre. The pre and post sprays were conducted by Wheat Tech. All locations were sprayed with conventional herbicides to accommodate multiple herbicide tolerances. Locations were harvested using a Kincaid 8-XP combine with a HarvestMaster HM800 Classic GrainGage for data collection.

Growing Season: Cecilia, KY

The plot was planted on May 16th. Planting method was no-till into corn residue and plants emerged 6 days later. The soil type was Crider Silt Loam (CrB). The months of May and June had ideal rainfall and mild to warm average temperatures, creating an excellent growing environment for the soybeans through vegetative growth stages. That being said, plant heights were very short; 31.9" on average, with the 3-year average being 40.5". With such short plants, lodging was almost non-existent.

The months of July and August were extremely hot and dry. Average temperatures were in the mid 70's (highs over 90) and rainfall totaled 2.62" and 2.41" respectively. This environment led to extremely low disease pressure. While some disease still developed (particularly Frogeye Leaf Spot *'Cercospora sojina'*) the highest pressure was less than 1% of total plot area. The entire month of September brought only 0.13" of rain to this plot, and high temperatures persisted. This drought greatly affected the yield potential of these beans that had previously been thriving.

While the entire plot was negatively affected, the group most adversely affected by the drought was the 4.5-4.7 maturity range, due to the growth stage of the soybeans when the environment was driest. According to ISU Special Report No. 53

> *"The period from R4.5 (late pod formation) to about R5.5 is especially critical because flowering becomes complete and cannot compensate, and because young pods and seeds are more prone to abort under stress than older pods and seeds. Yield reductions at this time result mainly from reductions in total pod numbers per plant, with lesser reductions occurring in beans per pod and possibly seed size. Seed size may actually compensate somewhat if growing conditions are favorable after R5.5. However, compensation by seed size is genetically limited. Thus, the plant essentially has limited ability to compensate for abortion-causing stresses that occur during R4.5 to R5.5."*

In this particular instance, the 3.9-4.4 maturity range had just entered into the R6 growth stage, or full seed, making abortion less likely, but still dramatically shrinking seed size, and the 4.8-5.1 maturity range was still in the crucial R4.5-R5.5 stage taking advantage of the 0.13" of precipitation on September 23rd, and was able to slightly recover some yield. All of this is reflected by the maturity group break-downs listed in the data charts in this report. The plot was harvested on October 14th.

Growing Season: Bootheel of Missouri

The Charleston, Missouri location was planted on July 2nd. Seeds were planted at a depth of 1" into Caruthersville very fine sandy loam. Conditions were true no-till, behind soybeans, with a burndown being sprayed just prior to planting. With timely and adequate rainfall, the soybeans were able to receive the moisture needed for growth, but most especially, residual herbicides were able to be activated, playing a major role in the control of Palmer Amaranth.

This location, also, had very little disease pressure and low lodging scores; plant heights averaged 28.53" (10" shorter than the 3 year average), but this was due to many plots being damaged by Root knot as well as Soybean Cyst Nematodes. While Charleston only received 0.43" of rain the entire month of September, it was not impacted nearly as much as the Cecilia plot, for reasons mentioned above; the growth stage of the soybeans at the time of the drought (R3 on September 1st). "*...stress at these stages [R3] may result in an increase in the number of beans per pod and weight per bean, which also help compensate for the aborted flowers and young pods.*" (ISU Special Report No. 53) So, while the nematode population created tremendous variability, the infestations were limited to only portions of the trial, allowing us to collect data on unaffected replications.

This was our highest yielding location. The plot was sprayed with conventional herbicides and achieved excellent weed control. Harvest occurred on the 5th of November.

Growing Season: South Central Kentucky

Planting conditions were fair at both of our double cropped locations this year. Both of these locations were planted at 1- 1.25" depth. The Trenton, KY location followed wheat, and was planted on June 3rd. The other double cropped plot, also following wheat, was located in Franklin, KY, and was planted on July 1st. Both of these locations had adequate moisture at planting which allowed for quick emergence. Both locations were planted no-till into wheat straw.

The Trenton plot had emerged by June 18th and grew very well throughout the entire season. 2019 is the third year that Wheat Tech R&D has allowed seed companies to participate in a fungicide treated vs untreated test on the entered varieties. This year, 50 varieties were entered by 11 different seed companies. Each variety was replicated 8 times throughout the field (4 treated with fungicide at R3, and the other 4 with no fungicide application). While there was very little disease pressure at R3, at our Trenton location, several varieties still showed positive yield responses to a fungicide application, while some showed no response, and others responded negatively. This information is invaluable from a grower standpoint, as the question arises every year; to spray a fungicide or not.

The Franklin plot got off to a good start, as well, but the plants stayed much shorter than their earlier planted counterparts in Trenton; 30.4" vs 36.5" on average. The Franklin plot experienced a late infection of Frogeye Leaf Spot just prior to R6. While we were able to collect some good disease data, this did not seem to negatively impact the yield of even the most infected varieties, as the disease arrived so late.

Again, here in southern KY, the same droughty conditions swept across both plots. The 4.5-4.7 and 4.8-5.1 maturity groups showed the largest reduction in yield at the Trenton plot, averaging 10-12 bu/ac less than the earlier maturities. While the drought was certainly still detrimental to the yields in Franklin, there was not as large of a spread in growth stages during the driest part of the month, therefore reducing overall variability, lowering the CV, suggesting a more reliable data set. Harvest of Trenton took place on October 23rd and Franklin on October 24th.

Data Interpretation:
>The tables on the following pages have been prepared with the entries listed in order of performance, the highest-yielding entry being listed first. All yields presented have been adjusted to 13% moisture. At the bottom of the tables are three different values: LSD (Least Significant Difference), CV (Coefficient of Variation), and Grand Mean. The mean yields of any two varieties being compared must differ by at least the LSD amount shown to be considered different in yielding ability at the 5% level of probability of significance, which is represented by a letter to the right of the corresponding number. CV is a measure of the error variability found within each experiment. It is the ratio of the standard deviation to the mean. Grand Mean is the mean of all values in the group.

Acknowledgements

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Participating Companies:

AgriGold
Armor Seed
BASF Credenz
Channel Seed
CROPLAN by Winfield
Dekalb/Asgrow
Dyna-Gro Seed
LG Seeds
Mayberry Seed Co./AgVenture
Mission Seed Solutions
Mycogen Seeds
Pioneer – Corteva Agriscience
Progeny Ag Products
Stewart Seeds

Supporting Chemical Companies:

BASF Ag Products
Bayer CropSciences
Corteva AgriSciences – Agriculture Division of DowDupont
FMC Corporation
Syngenta Crop Protection, LLC.

Wheat Tech Research & Development Division:

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Wheat Tech Agronomy
2019 Kentucky Full Season Soybean Variety Performance Test
Cecilia, KY

Brand/Variety	Maturity	Yield (BU/A)		TW‡ (LB/BU)	Plant HT‡ (IN)
LG Seeds C4227RX	4.2	58.1	a†	56.5	36
Dyna-Gro S41XS98	4.1	57.1	a	55.8	35
Asgrow AG43X7	4.3	56.6	ab	56.2	36
Pioneer variety P42A96X	4.2	56.0	ab	55.6	33
AgriGold G4255RX	4.2	55.4	abc	55.6	35
Asgrow AG49X9	4.9	55.3	abc	56.4	35
ARMOR 42-D27	4.2	54.0	a-d	55.6	33
ARMOR 44-D92	4.4	53.7	a-d	55.0	35
Croplan RX4316 S	4.3	53.3	a-e	56.5	36
AgriGold G3850RX	3.8	53.2	a-e	54.5	33
AgriGold G4190RX	4.1	53.1	a-e	56.3	34
Progeny P4816RX	4.8	52.3	a-f	56.4	33
Credenz CZ 4820 LL	4.8	51.7	a-g	55.7	33
Progeny P4821RX	4.8	51.1	a-h	55.0	32
Dyna-Gro S43XS70	4.3	51.1	a-h	55.8	35
Progeny P5170RX	5.1	51.1	a-h	55.5	37
Croplan RX4150 S	4.1	51.0	a-h	55.8	32
Pioneer variety P48A60X	4.8	51.0	a-h	56.8	31
Croplan RX5010 S	5.0	50.6	a-i	56.5	35
Credenz CZ 4918 LL	4.9	49.8	a-j	56.2	31
Progeny P4999RX	4.9	49.8	a-j	56.5	35
Credenz CZ 3929 GTLL	3.9	49.6	a-k	55.8	34
Croplan RX3950	3.9	49.4	a-l	55.8	34
Mission A4950X	4.9	49.3	a-l	57.8	33
Asgrow AG42X9	4.2	48.0	b-m	55.5	40
Progeny P5016RXS	5.0	48.0	b-n	57.4	35
AgriGold G3722RX	3.7	47.0	c-n	54.2	33
Mission A4448X	4.4	45.6	d-o	55.3	29
LG Seeds LGS4899RX	4.8	45.3	d-p	56.7	31
Dyna-Gro S49XS76	4.9	44.4	e-q	57.1	33
Mission A4979X	4.9	43.9	f-q	56.8	36
LG Seeds LGS4931RX	4.9	43.9	f-q	57.5	33
LG Seeds C4845RX	4.8	43.5	f-r	56.9	31
Credenz CZ 4105 LL	4.1	43.3	g-r	55.6	30
Asgrow AG48X9	4.8	42.6	h-r	56.0	31
Mission A4828X	4.8	41.6	i-s	56.6	35
LG Seeds LGS4420RX	4.4	41.3	j-s	56.9	33
AgriGold G4579RX	4.5	41.0	j-t	55.9	30
Pioneer variety P46A16R	4.6	40.7	k-t	58.6	29
Pioneer variety P46A57BX	4.6	40.5	l-t	58.4	30
Dyna-Gro S48XT56	4.8	40.0	m-u	57.3	29
Asgrow AG47X9	4.7	39.5	m-u	56.1	31
ARMOR X48D25	4.8	39.3	m-u	56.7	29

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Wheat Tech Agronomy
2019 Kentucky Full Season Soybean Variety Performance Test - Con.
Cecilia, KY

Brand/Variety	Maturity	Yield (BU/A)		TW‡ (LB/BU)	Plant HT‡ (IN)
LG Seeds LGS4597RX	4.5	39.2	m-u	57.1	27
Credenz CZ 5147 LL	5.1	39.1	m-u	58.7	32
Dyna-Gro S45XS37	4.5	39.0	m-u	57.3	28
Credenz CZ 3519 GTLL	3.5	39.0	n-u	56.1	33
Credenz CZ 5150 LL	5.1	37.3	o-u	58.0	30
Dyna-Gro S49EN79	4.9	37.2	o-u	56.3	33
Mission A4618X	4.6	37.1	o-u	56.1	28
Asgrow AG46X6	4.6	36.9	o-u	55.5	27
Dyna-Gro S48XT90	4.8	36.9	o-u	56.1	32
Mission A4608X	4.6	36.8	o-u	56.3	37
ARMOR X46D09	4.6	36.8	o-u	55.6	29
Croplan RX4510 S	4.5	36.6	p-u	57.1	26
Mission A4518X	4.5	35.9	q-u	57.0	27
Progeny P4620RXS	4.6	35.6	q-u	57.3	30
Croplan RX4719 S	4.7	34.8	r-u	56.5	30
Progeny P4670RX	4.6	33.2	stu	56.9	26
AgriGold G4645RX	4.6	32.3	tu	55.4	29
Credenz CZ 4539 GTLL	4.5	31.4	u	56.8	26
Dyna-Gro S46EN29	4.6	31.4	u	56.9	27
LSD P=.05		9.0		.	.
CV		14.4		.	.
Grand Mean		**44.7**		**56.4**	**32**

Planted: May 16, 2019; Harvested: October 14, 2019

†Means followed by same letter do not significantly differ (P=.05, LSD)

‡Abbreviations: TW: Test Weight, HT: Height

Wheat Tech Agronomy
2019 Kentucky Full Season Soybean Variety Performance Test
Early Maturity Group (3.5-4.4)

Brand/Variety	Maturity	Yield (BU/A)		TW‡ (LB/BU)	Plant HT‡ (IN)
LG Seeds C4227RX	4.2	58.1	a†	56.5	36
Dyna-Gro S41XS98	4.1	57.1	ab	55.8	35
Asgrow AG43X7	4.3	56.6	ab	56.2	36
Pioneer variety P42A96X	4.2	56.0	abc	55.6	33
AgriGold G4255RX	4.2	55.4	abc	55.6	35
ARMOR 42-D27	4.2	54.0	a-d	55.6	33
ARMOR 44-D92	4.4	53.7	a-d	55.0	35
Croplan RX4316 S	4.3	53.3	a-d	56.5	36
AgriGold G3850RX	3.8	53.2	a-d	54.5	33
AgriGold G4190RX	4.1	53.1	a-d	56.3	34
Dyna-Gro S43XS70	4.3	51.1	a-e	55.8	35
Croplan RX4150 S	4.1	51.0	a-e	55.8	32
Credenz CZ 3929 GTLL	3.9	49.6	a-f	55.8	34
Croplan RX3950	3.9	49.4	a-f	55.8	34
Asgrow AG42X9	4.2	48.0	b-g	55.5	40
AgriGold G3722RX	3.7	47.0	c-g	54.2	33
Mission A4448X	4.4	45.6	d-g	55.3	29
Credenz CZ 4105 LL	4.1	43.3	efg	55.6	30
LG Seeds LGS4420RX	4.4	41.3	fg	56.9	33
Credenz CZ 3519 GTLL	3.5	39.0	g	56.1	33
LSD P=.05		9.5		.	.
CV		13.1		.	.
Grand Mean		**50.8**		**55.7**	**34**

Planted: May 16, 2019; Harvested: October 14, 2019

†Means followed by same letter do not significantly differ (P=.05, LSD)

‡Abbreviations: TW: Test Weight, HT: Height

Wheat Tech Agronomy
2019 Kentucky Full Season Soybean Variety Performance Test
Medium Maturity Group (4.5-4.7)

Brand/Variety	Maturity	Yield (BU/A)		TW‡ (LB/BU)	Plant HT‡ (IN)
AgriGold G4579RX	4.5	41.0	a†	55.9	30
Pioneer variety P46A16R	4.6	40.7	a	58.6	29
Pioneer variety P46A57BX	4.6	40.5	a	58.4	30
Asgrow AG47X9	4.7	39.5	ab	56.1	31
LG Seeds LGS4597RX	4.5	39.2	ab	57.1	27
Dyna-Gro S45XS37	4.5	39.0	ab	57.3	28
Mission A4618X	4.6	37.1	abc	56.1	28
Asgrow AG46X6	4.6	36.9	a-d	55.5	27
Mission A4608X	4.6	36.8	a-d	56.3	37
ARMOR X46D09	4.6	36.8	a-d	55.6	29
Croplan RX4510 S	4.5	36.6	a-d	57.1	26
Mission A4518X	4.5	35.9	a-d	57.0	27
Progeny P4620RXS	4.6	35.6	a-d	57.3	30
Croplan RX4719 S	4.7	34.8	bcd	56.5	30
Progeny P4670RX	4.6	33.2	cd	56.9	26
AgriGold G4645RX	4.6	32.3	cd	55.4	29
Credenz CZ 4539 GTLL	4.5	31.4	d	56.8	26
Dyna-Gro S46EN29	4.6	31.4	d	56.9	27
LSD P=.05		5.6		.	.
CV		10.8		.	.
Grand Mean		**36.6**		**56.7**	**29**

Planted: May 16, 2019; Harvested: October 14, 2019

†Means followed by same letter do not significantly differ (P=.05, LSD)

‡Abbreviations: TW: Test Weight, HT: Height

Wheat Tech Agronomy
2019 Kentucky Full Season Soybean Variety Performance Test
Late Maturity Group (4.8-5.1)

Brand/Variety	Maturity	Yield (BU/A)		TW‡ (LB/BU)	Plant HT‡ (IN)
Asgrow AG49X9	4.9	55.3	a†	56.4	35
Progeny P4816RX	4.8	52.3	ab	56.4	33
Credenz CZ 4820 LL	4.8	51.7	ab	55.7	33
Progeny P4821RX	4.8	51.1	abc	55.0	32
Progeny P5170RX	5.1	51.1	abc	55.5	37
Pioneer variety P48A60X	4.8	51.0	abc	56.8	31
Croplan RX5010 S	5.0	50.6	abc	56.5	35
Credenz CZ 4918 LL	4.9	49.8	a-d	56.2	31
Progeny P4999RX	4.9	49.8	a-d	56.5	35
Mission A4950X	4.9	49.3	a-d	57.8	33
Progeny P5016RXS	5.0	48.0	a-e	57.4	35
LG Seeds LGS4899RX	4.8	45.3	b-f	56.7	31
Dyna-Gro S49XS76	4.9	44.4	b-f	57.1	33
Mission A4979X	4.9	43.9	b-f	56.8	36
LG Seeds LGS4931RX	4.9	43.9	b-f	57.5	33
LG Seeds C4845RX	4.8	43.5	b-f	56.9	31
Asgrow AG48X9	4.8	42.6	b-f	56.0	31
Mission A4828X	4.8	41.6	c-f	56.6	35
Dyna-Gro S48XT56	4.8	40.0	def	57.3	29
ARMOR X48D25	4.8	39.3	ef	56.7	29
Credenz CZ 5147 LL	5.1	39.1	ef	58.7	32
Credenz CZ 5150 LL	5.1	37.3	f	58.0	30
Dyna-Gro S49EN79	4.9	37.2	f	56.3	33
Dyna-Gro S48XT90	4.8	36.9	f	56.1	32
LSD P=.05		9.9		.	.
CV		15.2		.	.
Grand Mean		**45.6**		**56.7**	**33**

Planted: May 16, 2019; Harvested: October 14, 2019

†Means followed by same letter do not significantly differ (P=.05, LSD)

‡Abbreviations: TW: Test Weight, HT: Height

Wheat Tech Agronomy
2019 Kentucky Double Crop (Early) Soybean Variety Performance Test
Trenton, KY

Brand/Variety	Maturity	Yield (BU/A)		TW‡ (LB/BU)	Plant HT‡ (IN)	FELS‡ (0-10)
Dyna-Gro S41XS98	4.1	60.1	a†	57.2	36	1
Stewart 4228R2X	4.2	58.5	ab	56.3	38	1
AgriGold G4255RX	4.2	58.3	ab	57.0	36	0
Croplan RX4150 S	4.1	58.2	ab	57.1	34	1
Dyna-Gro S43XS70	4.3	58.0	ab	56.7	34	1
Croplan RX4316 S	4.3	57.5	abc	57.4	39	1
Asgrow AG43X7	4.3	57.1	a-d	56.9	39	1
Progeny P4999RX	4.9	57.1	a-d	59.1	37	1
Channel 4420R2X	4.4	57.1	a-d	57.4	37	0
Channel 4218R2X	4.2	56.9	a-d	56.6	38	1
Croplan RX5010 S	5.0	56.2	a-e	57.4	41	1
Asgrow AG42X9	4.2	55.7	a-f	55.7	40	0
Asgrow AG49X9	4.9	54.5	a-g	57.8	36	0
Dyna-Gro S45XS37	4.5	53.9	a-h	58.3	39	0
Pioneer variety P46A16R	4.6	53.8	a-i	57.7	37	0
LG Seeds LGS4420RX	4.4	53.4	a-j	57.3	38	0
Dyna-Gro S49XS76	4.9	53.4	a-j	58.2	41	1
LG Seeds LGS4931RX	4.9	53.2	a-k	57.6	42	1
Stewart 4339R2X	4.3	53.0	a-k	56.9	32	1
Channel 4919R2X	4.9	52.9	a-k	58.1	38	2
AgriGold G4645RX	4.6	51.4	a-l	57.3	37	1
Stewart 4927R2X	4.9	51.3	a-m	58.6	41	1
Dyna-Gro S48XT56	4.8	49.8	a-m	57.5	33	1
AgriGold G4579RX	4.5	49.5	b-n	57.2	41	1
AgriGold G4815RX	4.8	49.3	b-n	56.6	37	1
Croplan RX4510 S	4.5	49.2	b-n	58.4	37	1
Stewart 4527R2X	4.5	49.0	b-o	57.3	33	1
Progeny P4620RXS	4.6	48.4	b-p	58.8	39	0
Croplan RX4719 S	4.7	48.3	b-p	58.4	40	1
Progeny P5016RXS	5.0	47.6	c-p	58.0	38	1
Progeny P5170RX	5.1	46.8	d-p	57.7	41	1
AgriGold G5000RX	5.0	46.5	e-p	58.8	41	0
LG Seeds LGS4899RX	4.8	46.3	e-p	58.0	34	1
ARMOR X47D18	4.7	46.1	e-p	57.3	38	1
Progeny P4816RX	4.8	45.9	e-p	56.6	33	1
Asgrow AG47X9	4.7	45.7	f-p	57.0	36	0
AgriGold G4605RX	4.6	45.7	f-p	57.2	42	0
Channel 4519R2X	4.5	45.1	g-p	58.3	36	1
Pioneer variety P48A60X	4.8	44.6	g-p	57.6	33	1
ARMOR 46-D08	4.6	44.6	g-p	58.4	42	0
Stewart 4720R2X	4.7	43.8	h-p	58.3	35	2
Asgrow AG48X9	4.8	43.4	i-p	57.5	33	1
Progeny P4821RX	4.8	43.1	j-p	55.4	37	2
LG Seeds C4845RX	4.8	42.9	k-p	57.7	31	1
ARMOR X48D25	4.8	41.7	l-p	57.6	35	2
ARMOR X46D09	4.6	41.6	l-p	57.7	32	1
Pioneer variety P46A57BX	4.6	41.0	m-p	59.4	40	0
Channel 4820R2X	4.8	39.2	nop	57.3	35	2
Progeny P4670RX	4.6	38.7	op	58.7	35	1
Asgrow AG46X6	4.6	38.6	p	57.9	37	2
LSD P=.05		10.4		.	.	.
CV		12.9		.	.	.
Grand Mean		**49.7**		**57.6**	**37**	**1**

Planted: June 3, 2019; Harvested: October 23, 2019

†Means followed by same letter do not significantly differ (P=.05, LSD); ‡Abbreviations: TW: Test Weight, HT: Height, FELS:
Frogeye Leaf Spot Cercospora sojina taken on October 19, 2019 on a 0-10 scale where 10 equals extreme pressure and 0 equals none.

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Wheat Tech Agronomy
2019 Kentucky Double Crop (Early) Soybean Variety Performance Test
Early Maturity Group (4.1-4.4)

Brand/Variety	Maturity	Yield (BU/A)		TW‡ (LB/BU)	Plant HT‡ (IN)	FELS‡ (0-10)
Dyna-Gro S41XS98	4.1	60.1	a†	57.2	36	1
Stewart 4228R2X	4.2	58.5	ab	56.3	38	1
AgriGold G4255RX	4.2	58.3	ab	57.0	36	0
Croplan RX4150 S	4.1	58.2	ab	57.1	34	1
Dyna-Gro S43XS70	4.3	58.0	ab	56.7	34	1
Croplan RX4316 S	4.3	57.5	ab	57.4	39	1
Asgrow AG43X7	4.3	57.1	ab	56.9	39	1
Channel 4420R2X	4.4	57.1	ab	57.4	37	0
Channel 4218R2X	4.2	56.9	ab	56.6	38	1
Asgrow AG42X9	4.2	55.7	ab	55.7	40	0
LG Seeds LGS4420RX	4.4	53.4	b	57.3	38	0
Stewart 4339R2X	4.3	53.0	b	56.9	32	1
LSD P=.05		5.8		.	.	.
CV		6.1		.	.	.
Grand Mean		**57.0**		**56.9**	**37**	**1**

Planted: June 3, 2019; Harvested: October 23, 2019

†Means followed by same letter do not significantly differ (P=.05, LSD)
‡Abbreviations: TW: Test Weight, HT: Height, FELS: Frogeye Leaf Spot *Cercospora sojina*
FELS ratings were taken on October 19, 2019 on a 0-10 scale where 10 equals extreme pressure and 0 equals none.

2019 Kentucky Double Crop (Early) Soybean Variety Performance Test
Medium Maturity Group (4.5-4.7)

Brand/Variety	Maturity	Yield (BU/A)		TW‡ (LB/BU)	Plant HT‡ (IN)	FELS‡ (0-10)
Dyna-Gro S45XS37	4.5	53.9	a†	58.3	39	0
Pioneer variety P46A16R	4.6	53.8	a	57.7	37	0
AgriGold G4645RX	4.6	51.4	ab	57.3	37	1
AgriGold G4579RX	4.5	49.5	abc	57.2	41	1
Croplan RX4510 S	4.5	49.2	abc	58.4	37	1
Stewart 4527R2X	4.5	49.0	abc	57.3	33	1
Progeny P4620RXS	4.6	48.4	abc	58.8	39	0
Croplan RX4719 S	4.7	48.3	abc	58.4	40	1
ARMOR X47D18	4.7	46.1	a-d	57.3	38	1
Asgrow AG47X9	4.7	45.7	a-d	57.0	36	0
AgriGold G4605RX	4.6	45.7	a-d	57.2	42	0
Channel 4519R2X	4.5	45.1	a-d	58.3	36	1
ARMOR 46-D08	4.6	44.6	bcd	58.4	42	0
Stewart 4720R2X	4.7	43.8	bcd	58.3	35	2
ARMOR X46D09	4.6	41.6	cd	57.7	32	1
Pioneer variety P46A57BX	4.6	41.0	cd	59.4	40	0
Progeny P4670RX	4.6	38.7	d	58.7	35	1
Asgrow AG46X6	4.6	38.6	d	57.9	37	2
LSD P=.05		9.1		.	.	.
CV		11.8		.	.	.
Grand Mean		**46.4**		**58.0**	**38**	**1**

Planted: June 3, 2019; Harvested: October 23, 2019

†Means followed by same letter do not significantly differ (P=.05, LSD)
‡Abbreviations: TW: Test Weight, HT: Height, FELS: Frogeye Leaf Spot *Cercospora sojina*
FELS ratings were taken on October 19, 2019 on a 0-10 scale where 10 equals extreme pressure and 0 equals none.

Wheat Tech Agronomy
2019 Kentucky Double Crop (Early) Soybean Variety Performance Test
Late Maturity Group (4.8-5.1)

Brand/Variety	Maturity	Yield (BU/A)		TW‡ (LB/BU)	Plant HT‡ (IN)	FELS‡ (0-10)
Progeny P4999RX	4.9	57.1	a†	59.1	37	1
Croplan RX5010 S	5.0	56.2	ab	57.4	41	1
Asgrow AG49X9	4.9	54.5	abc	57.8	36	0
Dyna-Gro S49XS76	4.9	53.4	abc	58.2	41	1
LG Seeds LGS4931RX	4.9	53.2	a-d	57.6	42	1
Channel 4919R2X	4.9	52.9	a-d	58.1	38	2
Stewart 4927R2X	4.9	51.3	a-d	58.6	41	1
Dyna-Gro S48XT56	4.8	49.8	a-e	57.5	33	1
AgriGold G4815RX	4.8	49.3	a-e	56.6	37	1
Progeny P5016RXS	5.0	47.6	a-e	58.0	38	1
Progeny P5170RX	5.1	46.8	a-e	57.7	41	1
AgriGold G5000RX	5.0	46.5	a-e	58.8	41	0
LG Seeds LGS4899RX	4.8	46.3	a-e	58.0	34	1
Progeny P4816RX	4.8	45.9	a-e	56.6	33	1
Pioneer variety P48A60X	4.8	44.6	b-e	57.6	33	1
Asgrow AG48X9	4.8	43.4	cde	57.5	33	1
Progeny P4821RX	4.8	43.1	cde	55.4	37	2
LG Seeds C4845RX	4.8	42.9	cde	57.7	31	1
ARMOR X48D25	4.8	41.7	de	57.6	35	2
Channel 4820R2X	4.8	39.2	e	57.3	35	2
LSD P=.05		11.6		.	.	.
CV		14.5		.	.	.
Grand Mean		**48.3**		**57.6**	**37**	**1**

Planted: June 3, 2019; Harvested: October 23, 2019

†Means followed by same letter do not significantly differ (P=.05, LSD)

‡Abbreviations: TW: Test Weight, HT: Height, FELS: Frogeye Leaf Spot *Cercospora sojina*

FELS ratings were taken on October 19, 2019 on a 0-10 scale where 10 equals extreme pressure and 0 equals none.

Wheat Tech Agronomy
2019 KY Double Crop (Early) Soybean Variety Fungicide Treated (T) vs Untreated (UT)
Trenton, KY

Brand/Variety	Mat.	UT Yield (BU/A)		T Yield (BU/A)		Yield Resp. (BU/A)	UT TW‡ (LB/BU)	T TW‡ (LB/BU)	UT Plant HT‡ (IN)	T Plant HT‡ (IN)
Dyna-Gro S41XS98	4.1	60.1	a†	58.0	a-f†	-2.1	57.2	57.3	36	37
Stewart 4228R2X	4.2	58.5	ab	53.3	b-m	-5.2	56.3	56.6	38	36
AgriGold G4255RX	4.2	58.3	ab	60.7	ab	2.4	57.0	56.8	36	36
Croplan RX4150 S	4.1	58.2	ab	64.2	a	6.0	57.1	57.3	34	34
Dyna-Gro S43XS70	4.3	58.0	ab	59.1	a-e	1.1	56.7	57.0	34	37
Croplan RX4316 S	4.3	57.5	abc	64.2	a	6.7	57.4	57.2	39	38
Asgrow AG43X7	4.3	57.1	a-d	55.0	b-j	-2.1	56.9	56.7	39	38
Progeny P4999RX	4.9	57.1	a-d	58.0	a-f	0.9	59.1	58.6	37	36
Channel 4420R2X	4.4	57.1	a-d	55.6	a-j	-1.5	57.4	56.8	37	40
Channel 4218R2X	4.2	56.9	a-d	57.1	a-h	0.2	56.6	56.8	38	34
Croplan RX5010 S	5.0	56.2	a-e	57.6	a-g	1.4	57.4	58.0	41	40
Asgrow AG42X9	4.2	55.7	a-f	58.3	a-e	2.6	55.7	56.2	40	41
Asgrow AG49X9	4.9	54.5	a-g	60.0	abc	5.5	57.8	57.6	36	39
Dyna-Gro S45XS37	4.5	53.9	a-h	55.0	b-j	1.1	58.3	58.4	39	40
Pioneer variety P46A16R	4.6	53.8	a-i	53.5	b-m	-0.3	57.7	57.4	37	38
LG Seeds LGS4420RX	4.4	53.4	a-j	56.6	a-i	3.2	57.3	56.7	38	38
Dyna-Gro S49XS76	4.9	53.4	a-j	52.0	b-m	-1.4	58.2	57.6	41	42
LG Seeds LGS4931RX	4.9	53.2	a-k	55.8	a-j	2.6	57.6	59.1	42	43
Stewart 4339R2X	4.3	53.0	a-k	59.7	a-d	6.7	56.9	57.4	32	35
Channel 4919R2X	4.9	52.9	a-k	55.8	a-j	2.9	58.1	58.4	38	41
AgriGold G4645RX	4.6	51.4	a-l	53.1	b-m	1.7	57.3	57.4	37	37
Stewart 4927R2X	4.9	51.3	a-m	58.1	a-f	6.8	58.6	59.5	41	43
Dyna-Gro S48XT56	4.8	49.8	a-m	52.3	b-m	2.5	57.5	58.0	33	32
AgriGold G4579RX	4.5	49.5	b-n	53.8	b-l	4.3	57.2	56.7	41	41
AgriGold G4815RX	4.8	49.3	b-n	51.9	c-m	2.6	56.6	57.8	37	41
Croplan RX4510 S	4.5	49.2	b-n	47.6	j-n	-1.6	58.4	57.7	37	34
Stewart 4527R2X	4.5	49.0	b-o	51.4	c-m	2.4	57.3	57.2	33	36
Progeny P4620RXS	4.6	48.4	b-p	51.8	c-m	3.4	58.8	58.3	39	38
Croplan RX4719 S	4.7	48.3	b-p	52.1	b-m	3.8	58.4	58.0	40	39
Progeny P5016RXS	5.0	47.6	c-p	52.3	b-m	4.7	58.0	59.1	38	40
Progeny P5170RX	5.1	46.8	d-p	50.6	e-m	3.8	57.7	57.6	41	41
AgriGold G5000RX	5.0	46.5	e-p	54.2	b-k	7.7	58.8	59.0	41	44
LG Seeds LGS4899RX	4.8	46.3	e-p	49.4	f-n	3.1	58.0	58.5	34	36
ARMOR X47D18	4.7	46.1	e-p	46.0	k-n	-0.1	57.3	56.5	38	37
Progeny P4816RX	4.8	45.9	e-p	55.1	b-j	9.2	56.6	56.9	33	33
Asgrow AG47X9	4.7	45.7	f-p	53.3	b-m	7.6	57.0	57.4	36	36
AgriGold G4605RX	4.6	45.7	f-p	48.8	h-n	3.1	57.2	57.1	42	46
Channel 4519R2X	4.5	45.1	g-p	48.9	g-n	3.8	58.3	58.4	36	37
Pioneer variety P48A60X	4.8	44.6	g-p	49.1	g-n	4.5	57.6	57.5	33	34
ARMOR 46-D08	4.6	44.6	g-p	49.0	g-n	4.4	58.4	57.8	42	38
Stewart 4720R2X	4.7	43.8	h-p	45.8	k-n	2.0	58.3	58.4	35	33
Asgrow AG48X9	4.8	43.4	i-p	51.0	d-m	7.6	57.5	57.1	33	36
Progeny P4821RX	4.8	43.1	j-p	53.0	b-m	9.9	55.4	56.2	37	39
LG Seeds C4845RX	4.8	42.9	k-p	52.1	b-m	9.2	57.7	57.7	31	34
ARMOR X48D25	4.8	41.7	l-p	45.4	lmn	3.7	57.6	57.8	35	35
ARMOR X46D09	4.6	41.6	l-p	45.0	mn	3.4	57.7	58.0	32	33
Pioneer variety P46A57BX	4.6	41.0	m-p	48.1	i-n	7.1	59.4	58.9	40	37
Channel 4820R2X	4.8	39.2	nop	45.8	k-n	6.6	57.3	57.4	35	35
Progeny P4670RX	4.6	38.7	op	41.1	n	2.4	58.7	57.9	35	35
Asgrow AG46X6	4.6	38.6	p	47.1	j-n	8.5	57.9	57.1	37	38
LSD P=.05		10.4		8.7		.	.	.	.	.
CV		12.9		10.2		.	.	.	.	.
Grand Mean		**49.7**		**53.1**		**3.4**	**57.6**	**57.6**	**37**	**38**

Planted: June 3, 2019; Harvested: October 23, 2019

†Means followed by same letter do not significantly differ (P=.05, LSD); ‡Abbreviations: TW: Test Weight, HT: Height, UT: Untreated, T: Treated
Application of fungicide was made on August 20, 2019

Wheat Tech Agronomy
2019 Kentucky Double Crop (Late) Soybean Variety Performance Test
Franklin, KY

Brand/Variety	Maturity	Yield (BU/A)		TW‡ (LB/BU)	Plant HT‡ (IN)	FELS‡ (0-10)
Pioneer variety P46A16R	4.6	53.7	a†	56.7	32	1
LG Seeds LGS4931RX	4.9	53.1	ab	55.1	36	3
Pioneer variety P46A57BX	4.6	53.1	ab	56.5	35	1
Croplan RX4316 S	4.3	52.7	abc	55.5	29	3
AgriGold G4579RX	4.5	52.4	a-d	55.4	34	1
AgriGold G4645RX	4.6	52.1	a-e	55.6	31	3
Progeny P4670RX	4.6	51.7	a-f	55.6	29	1
Dyna-Gro S48XT56	4.8	50.9	a-g	55.1	29	3
Dyna-Gro S41XS98	4.1	50.8	a-g	54.5	29	2
LG Seeds C4845RX	4.8	49.8	a-h	55.1	29	3
Progeny P4999RX	4.9	49.5	a-i	56.4	30	4
Pioneer variety P48A60X	4.8	49.1	a-i	55.9	30	3
Channel 4519R2X	4.5	48.6	a-i	55.9	34	6
Croplan RX5010 S	5.0	48.2	a-j	54.7	33	3
Channel 4919R2X	4.9	48.0	a-k	55.6	34	7
LG Seeds LGS4420RX	4.4	47.8	b-l	55.8	33	1
ARMOR X48D25	4.8	47.7	b-l	55.9	30	4
Stewart 4927R2X	4.9	47.6	b-l	55.6	33	2
Stewart 4228R2X	4.2	47.6	b-l	55.2	32	4
ARMOR X46D09	4.6	47.4	c-l	55.2	30	3
Dyna-Gro S45XS37	4.5	47.2	c-l	55.9	35	1
ARMOR X47D18	4.7	47.2	c-l	55.0	35	3
Progeny P4821RX	4.8	47.2	c-l	54.3	32	4
Asgrow AG42X9	4.2	46.7	d-l	54.3	33	2
Asgrow AG43X7	4.3	46.4	e-l	54.6	31	2
Stewart 4527R2X	4.5	46.4	f-l	55.4	30	3
Stewart 4339R2X	4.3	46.3	f-l	55.1	29	1
Asgrow AG48X9	4.8	46.1	f-m	56.3	29	5
Progeny P5170RX	5.1	46.1	f-m	55.8	34	3
AgriGold G4815RX	4.8	46.1	f-n	55.8	31	4
AgriGold G4605RX	4.6	45.7	g-o	56.0	34	3
Channel 4820R2X	4.8	45.6	g-o	55.0	28	6
Dyna-Gro S49XS76	4.9	45.3	g-p	54.9	34	3
Channel 4218R2X	4.2	45.3	g-p	54.5	30	4
LG Seeds LGS4899RX	4.8	44.3	h-q	55.8	30	5
ARMOR 46-D08	4.6	44.0	i-q	56.1	34	2
Asgrow AG47X9	4.7	43.9	i-r	55.4	31	1
Croplan RX4150 S	4.1	42.9	j-r	54.6	28	3
Asgrow AG46X6	4.6	42.5	k-r	55.3	30	5
Progeny P5016RXS	5.0	42.5	k-r	55.3	29	4
Asgrow AG49X9	4.9	42.4	k-r	55.2	30	1
Stewart 4720R2X	4.7	42.2	k-r	55.9	28	4
AgriGold G5000RX	5.0	42.2	l-r	55.5	32	3
Channel 4420R2X	4.4	40.6	m-r	55.9	30	1
Progeny P4620RXS	4.6	40.4	n-r	56.0	33	2
Dyna-Gro S43XS70	4.3	40.2	o-r	54.8	29	2
Progeny P4816RX	4.8	39.7	pqr	55.2	24	3
Croplan RX4510 S	4.5	39.3	qr	56.4	26	5
Croplan RX4719 S	4.7	39.1	qr	56.2	29	3
AgriGold G4255RX	4.2	38.2	r	55.1	26	3
LSD P=.05		5.7		.	.	.
CV		8.8		.	.	.
Grand Mean		**46.3**		**55.5**	**31**	**3**
Planted: July 1, 2019; Harvested: October 24, 2019						

†Means followed by same letter do not significantly differ (P=.05, LSD); ‡Abbreviations: TW: Test Weight, HT: Height, FELS: Frogeye Leaf Spot Cercospora sojina taken on October 3, 2019 on a 0-10 scale where 10 equals extreme pressure and 0 equals none.

2019 Kentucky Double Crop (Late) Soybean Variety Performance Test
Early Maturity Group (4.1-4.4)

Brand/Variety	Maturity	Yield (BU/A)		TW‡ (LB/BU)	Plant HT‡ (IN)	FELS‡ (0-10)
Croplan RX4316 S	4.3	52.7	a†	55.5	29	3
Dyna-Gro S41XS98	4.1	50.8	ab	54.5	29	2
LG Seeds LGS4420RX	4.4	47.8	abc	55.8	33	1
Stewart 4228R2X	4.2	47.6	abc	55.2	32	4
Asgrow AG42X9	4.2	46.9	abc	54.3	33	2
Stewart 4339R2X	4.3	46.3	bc	55.1	29	1
Asgrow AG43X7	4.3	45.7	bcd	54.6	31	2
Channel 4218R2X	4.2	44.6	cd	54.5	30	4
Croplan RX4150 S	4.1	43.4	cde	54.6	28	3
Dyna-Gro S43XS70	4.3	40.2	de	54.8	29	2
Channel 4420R2X	4.4	39.9	de	55.9	30	1
AgriGold G4255RX	4.2	38.2	e	55.1	26	3
LSD P=.05		6.1		.	.	.
CV		9.3		.	.	.
Grand Mean		**45.4**		**55.0**	**30**	**2**

Planted: July 1, 2019; Harvested: October 24, 2019

†Means followed by same letter do not significantly differ (P=.05, LSD)

‡Abbreviations: TW: Test Weight, HT: Height, FELS: Frogeye Leaf Spot *Cercospora sojina*

FELS ratings were taken on October 3, 2019 on a 0-10 scale where 10 equals extreme pressure and 0 equals none.

2019 Kentucky Double Crop (Late) Soybean Variety Performance Test
Medium Maturity Group (4.5-4.7)

Brand/Variety	Maturity	Yield (BU/A)		TW‡ (LB/BU)	Plant HT‡ (IN)	FELS‡ (0-10)
Pioneer variety P46A16R	4.6	53.7	a†	56.7	32	1
Pioneer variety P46A57BX	4.6	53.1	ab	56.5	35	1
AgriGold G4579RX	4.5	52.1	abc	55.4	34	1
AgriGold G4645RX	4.6	52.0	abc	55.6	31	3
Progeny P4670RX	4.6	51.7	a-d	55.6	29	1
Channel 4519R2X	4.5	48.6	a-e	55.9	34	6
Dyna-Gro S45XS37	4.5	47.2	b-f	55.9	35	1
ARMOR X47D18	4.7	47.2	b-f	55.0	35	3
ARMOR X46D09	4.6	47.1	b-f	55.2	30	3
Stewart 4527R2X	4.5	46.4	c-g	55.4	30	3
AgriGold G4605RX	4.6	45.6	d-g	56.0	34	3
ARMOR 46-D08	4.6	44.0	e-h	56.1	34	2
Asgrow AG47X9	4.7	43.9	e-h	55.4	31	1
Asgrow AG46X6	4.6	42.3	fgh	55.3	30	5
Stewart 4720R2X	4.7	42.2	fgh	55.9	28	4
Progeny P4620RXS	4.6	40.4	gh	56.0	33	2
Croplan RX4510 S	4.5	39.3	h	56.4	26	5
Croplan RX4719 S	4.7	38.9	h	56.2	29	3
LSD P=.05		6.3		.	.	.
CV		9.5		.	.	.
Grand Mean		**46.4**		**55.8**	**32**	**3**

Planted: July 1, 2019; Harvested: October 24, 2019

†Means followed by same letter do not significantly differ (P=.05, LSD)

‡Abbreviations: TW: Test Weight, HT: Height, FELS: Frogeye Leaf Spot *Cercospora sojina*

FELS ratings were taken on October 3, 2019 on a 0-10 scale where 10 equals extreme pressure and 0 equals none.

Wheat Tech Agronomy
2019 Kentucky Double Crop (Late) Soybean Variety Performance Test
Late Maturity Group (4.8-5.1)

Brand/Variety	Maturity	Yield (BU/A)		TW‡ (LB/BU)	Plant HT‡ (IN)	FELS‡ (0-10)
LG Seeds LGS4931RX	4.9	53.7	a†	55.1	36	3
Dyna-Gro S48XT56	4.8	50.9	ab	55.1	29	3
Pioneer variety P48A60X	4.8	49.6	abc	55.9	30	3
LG Seeds C4845RX	4.8	49.6	abc	55.1	29	3
Progeny P4999RX	4.9	49.5	abc	56.4	30	4
Croplan RX5010 S	5.0	48.2	bcd	54.7	33	3
Channel 4919R2X	4.9	48.0	bcd	55.6	34	7
ARMOR X48D25	4.8	47.7	b-e	55.9	30	4
Stewart 4927R2X	4.9	47.6	b-e	55.6	33	2
Progeny P4821RX	4.8	47.2	b-f	54.3	32	4
Asgrow AG48X9	4.8	46.1	b-g	56.3	29	5
Progeny P5170RX	5.1	46.1	b-g	55.8	34	3
AgriGold G4815RX	4.8	46.1	b-g	55.8	31	4
Channel 4820R2X	4.8	45.5	c-g	55.0	28	6
Dyna-Gro S49XS76	4.9	45.2	c-g	54.9	34	3
LG Seeds LGS4899RX	4.8	44.2	d-h	55.8	30	5
Progeny P5016RXS	5.0	43.0	e-h	55.3	29	4
Asgrow AG49X9	4.9	42.4	fgh	55.2	30	1
AgriGold G5000RX	5.0	42.2	gh	55.5	32	3
Progeny P4816RX	4.8	39.7	h	55.2	24	3
LSD P=.05		4.9		.	.	.
CV		7.4		.	.	.
Grand Mean		**46.6**		**55.4**	**31**	**4**

Planted: July 1, 2019; Harvested: October 24, 2019

†Means followed by same letter do not significantly differ (P=.05, LSD)

‡Abbreviations: TW: Test Weight, HT: Height, FELS: Frogeye Leaf Spot *Cercospora sojina*

FELS ratings were taken on October 3, 2019 on a 0-10 scale where 10 equals extreme pressure and 0 equals none.

Wheat Tech Agronomy
2019 KY Double Crop Average Soybean Variety Performance Test
Trenton, KY and Franklin, KY

Brand/Variety	Maturity	Yield (BU/A)	TW‡ (LB/BU)	Plant HT‡ (IN)	FELS‡ (0-10)
Dyna-Gro S41XS98	4.1	55.5	55.9	33	2
Croplan RX4316 S	4.3	55.1	56.5	34	2
Pioneer variety P46A16R	4.6	53.8	57.2	35	1
Progeny P4999RX	4.9	53.3	57.8	34	3
LG Seeds LGS4931RX	4.9	53.2	56.4	39	2
Stewart 4228R2X	4.2	53.1	55.8	35	3
Croplan RX5010 S	5.0	52.2	56.1	37	2
AgriGold G4645RX	4.6	51.8	56.5	34	2
Asgrow AG43X7	4.3	51.8	55.8	35	2
Asgrow AG42X9	4.2	51.2	55.0	37	1
Channel 4218R2X	4.2	51.1	55.6	34	3
AgriGold G4579RX	4.5	51.0	56.3	38	1
LG Seeds LGS4420RX	4.4	50.6	56.6	36	1
Croplan RX4150 S	4.1	50.6	55.9	31	2
Dyna-Gro S45XS37	4.5	50.6	57.1	37	1
Channel 4919R2X	4.9	50.5	56.9	36	5
Dyna-Gro S48XT56	4.8	50.4	56.3	31	2
Stewart 4339R2X	4.3	49.7	56.0	31	1
Stewart 4927R2X	4.9	49.5	57.1	37	2
Dyna-Gro S49XS76	4.9	49.4	56.6	38	2
Dyna-Gro S43XS70	4.3	49.1	55.8	32	2
Channel 4420R2X	4.4	48.9	56.7	34	1
Asgrow AG49X9	4.9	48.5	56.5	33	1
AgriGold G4255RX	4.2	48.3	56.1	31	2
AgriGold G4815RX	4.8	47.7	56.2	34	3
Stewart 4527R2X	4.5	47.7	56.4	32	2
Pioneer variety P46A57BX	4.6	47.1	58.0	38	1
Channel 4519R2X	4.5	46.9	57.1	35	4
Pioneer variety P48A60X	4.8	46.9	56.8	32	2
ARMOR X47D18	4.7	46.7	56.2	37	2
Progeny P5170RX	5.1	46.5	56.8	38	2
LG Seeds C4845RX	4.8	46.4	56.4	30	2
AgriGold G4605RX	4.6	45.7	56.6	38	2
LG Seeds LGS4899RX	4.8	45.3	56.9	32	3
Progeny P4670RX	4.6	45.2	57.2	32	1
Progeny P4821RX	4.8	45.2	54.9	35	3
Progeny P5016RXS	5.0	45.1	56.7	34	3
Asgrow AG47X9	4.7	44.8	56.2	34	1
Asgrow AG48X9	4.8	44.8	56.9	31	3
ARMOR X48D25	4.8	44.7	56.8	33	3
ARMOR X46D09	4.6	44.5	56.5	31	2
Progeny P4620RXS	4.6	44.4	57.4	36	1
AgriGold G5000RX	5.0	44.4	57.2	37	2
ARMOR 46-D08	4.6	44.3	57.3	38	1
Croplan RX4510 S	4.5	44.3	57.4	32	3
Croplan RX4719 S	4.7	43.7	57.3	35	2
Stewart 4720R2X	4.7	43.0	57.1	32	3
Progeny P4816RX	4.8	42.8	55.9	29	2
Channel 4820R2X	4.8	42.4	56.2	32	4
Asgrow AG46X6	4.6	40.6	56.6	34	4
Grand Mean		**48.0**	**56.5**	**34**	**2**

‡Abbreviations: TW: Test Weight, HT: Height, FELS: Frogeye Leaf Spot *Cercospora sojina*

Wheat Tech Agronomy
2019 KY Double Crop Average Soybean Variety Performance Test
Early Maturity Group (4.1-4.4)

Brand/Variety	Maturity	Yield (BU/A)	TW‡ (LB/BU)	Plant HT‡ (IN)	FELS‡ (0-10)
Dyna-Gro S41XS98	4.1	55.5	55.9	33	2
Croplan RX4316 S	4.3	55.1	56.5	34	2
Stewart 4228R2X	4.2	53.1	55.8	35	3
Asgrow AG43X7	4.3	51.8	55.8	35	2
Asgrow AG42X9	4.2	51.2	55.0	37	1
Channel 4218R2X	4.2	51.1	55.6	34	3
LG Seeds LGS4420RX	4.4	50.6	56.6	36	1
Croplan RX4150 S	4.1	50.6	55.9	31	2
Stewart 4339R2X	4.3	49.7	56.0	31	1
Dyna-Gro S43XS70	4.3	49.1	55.8	32	2
Channel 4420R2X	4.4	48.9	56.7	34	1
AgriGold G4255RX	4.2	48.3	56.1	31	2
Grand Mean		**51.2**	**55.9**	**33**	**2**

‡Abbreviations: TW: Test Weight, HT: Height, FELS: Frogeye Leaf Spot *Cercospora sojina*

2019 KY Double Crop Average Soybean Variety Performance Test
Medium Maturity Group (4.5-4.7)

Brand/Variety	Maturity	Yield (BU/A)	TW‡ (LB/BU)	Plant HT‡ (IN)	FELS‡ (0-10)
Pioneer variety P46A16R	4.6	53.8	57.2	35	1
AgriGold G4645RX	4.6	51.8	56.5	34	2
AgriGold G4579RX	4.5	51.0	56.3	38	1
Dyna-Gro S45XS37	4.5	50.6	57.1	37	1
Stewart 4527R2X	4.5	47.7	56.4	32	2
Pioneer variety P46A57BX	4.6	47.1	58.0	38	1
Channel 4519R2X	4.5	46.9	57.1	35	4
ARMOR X47D18	4.7	46.7	56.2	37	2
AgriGold G4605RX	4.6	45.7	56.6	38	2
Progeny P4670RX	4.6	45.2	57.2	32	1
Asgrow AG47X9	4.7	44.8	56.2	34	1
ARMOR X46D09	4.6	44.5	56.5	31	2
Progeny P4620RXS	4.6	44.4	57.4	36	1
ARMOR 46-D08	4.6	44.3	57.3	38	1
Croplan RX4510 S	4.5	44.3	57.4	32	3
Croplan RX4719 S	4.7	43.7	57.3	35	2
Stewart 4720R2X	4.7	43.0	57.1	32	3
Asgrow AG46X6	4.6	40.6	56.6	34	4
Grand Mean		**46.4**	**56.9**	**35**	**2**

‡Abbreviations: TW: Test Weight, HT: Height, FELS: Frogeye Leaf Spot *Cercospora sojina*

Wheat Tech Agronomy
2019 KY Double Crop Average Soybean Variety Performance Test
Late Maturity Group (4.8-5.1)

Brand/Variety	Maturity	Yield (BU/A)	TW‡ (LB/BU)	Plant HT‡ (IN)	FELS‡ (0-10)
Progeny P4999RX	4.9	53.3	57.8	34	3
LG Seeds LGS4931RX	4.9	53.2	56.4	39	2
Croplan RX5010 S	5.0	52.2	56.1	37	2
Channel 4919R2X	4.9	50.5	56.9	36	5
Dyna-Gro S48XT56	4.8	50.4	56.3	31	2
Stewart 4927R2X	4.9	49.5	57.1	37	2
Dyna-Gro S49XS76	4.9	49.4	56.6	38	2
Asgrow AG49X9	4.9	48.5	56.5	33	1
AgriGold G4815RX	4.8	47.7	56.2	34	3
Pioneer variety P48A60X	4.8	46.9	56.8	32	2
Progeny P5170RX	5.1	46.5	56.8	38	2
LG Seeds C4845RX	4.8	46.4	56.4	30	2
LG Seeds LGS4899RX	4.8	45.3	56.9	32	3
Progeny P4821RX	4.8	45.2	54.9	35	3
Progeny P5016RXS	5.0	45.1	56.7	34	3
Asgrow AG48X9	4.8	44.8	56.9	31	3
ARMOR X48D25	4.8	44.7	56.8	33	3
AgriGold G5000RX	5.0	44.4	57.2	37	2
Progeny P4816RX	4.8	42.8	55.9	29	2
Channel 4820R2X	4.8	42.4	56.2	32	4
Grand Mean		**47.4**	**56.5**	**34**	**2**

‡Abbreviations: TW: Test Weight, HT: Height, FELS: Frogeye Leaf Spot *Cercospora sojina*

Wheat Tech Agronomy
2019 KY Average Soybean Variety Performance Test
Cecilia, KY, Trenton, KY, and Franklin, KY

Brand/Variety	Maturity	Yield (BU/A)	TW‡ (LB/BU)	Plant HT‡ (IN)
Dyna-Gro S41XS98	4.1	56.0	55.8	33
Croplan RX4316 S	4.3	54.5	56.5	35
Asgrow AG43X7	4.3	53.4	55.9	35
Progeny P4999RX	4.9	52.1	57.3	34
Croplan RX5010 S	5.0	51.7	56.2	36
Asgrow AG49X9	4.9	50.7	56.5	34
Croplan RX4150 S	4.1	50.7	55.8	31
AgriGold G4255RX	4.2	50.6	55.9	32
Asgrow AG42X9	4.2	50.1	55.2	38
LG Seeds LGS4931RX	4.9	50.1	56.7	37
Dyna-Gro S43XS70	4.3	49.8	55.8	33
Pioneer variety P46A16R	4.6	49.4	57.7	33
Pioneer variety P48A60X	4.8	48.2	56.8	31
Progeny P5170RX	5.1	48.0	56.3	37
Dyna-Gro S49XS76	4.9	47.7	56.7	36
AgriGold G4579RX	4.5	47.6	56.2	35
LG Seeds LGS4420RX	4.4	47.5	56.7	35
Progeny P4821RX	4.8	47.1	54.9	34
Dyna-Gro S48XT56	4.8	46.9	56.6	30
Dyna-Gro S45XS37	4.5	46.7	57.2	34
Progeny P5016RXS	5.0	46.0	56.9	34
Progeny P4816RX	4.8	46.0	56.1	30
LG Seeds C4845RX	4.8	45.4	56.6	30
LG Seeds LGS4899RX	4.8	45.3	56.8	32
AgriGold G4645RX	4.6	45.3	56.1	32
Pioneer variety P46A57BX	4.6	44.9	58.1	35
Asgrow AG48X9	4.8	44.0	56.6	31
Asgrow AG47X9	4.7	43.0	56.2	33
ARMOR X48D25	4.8	42.9	56.7	31
ARMOR X46D09	4.6	41.9	56.2	30
Croplan RX4510 S	4.5	41.7	57.3	30
Progeny P4620RXS	4.6	41.5	57.4	34
Progeny P4670RX	4.6	41.2	57.1	30
Croplan RX4719 S	4.7	40.7	57.0	33
Asgrow AG46X6	4.6	39.3	56.2	31
Grand Mean		**47.1**	**56.5**	**33**

‡Abbreviations: TW: Test Weight, HT: Height

Wheat Tech Agronomy
2019 Missouri Soybean Variety Performance Test
Charleston, MO

Brand/Variety	Maturity	Yield (BU/A)	TW‡ (LB/BU)	Plant HT‡ (IN)
Mission A4979X	4.8	68.7	55.6	32
Progeny P5170RX	5.1	67.0	56.3	32
Progeny P5016RXS	5.0	65.0	56.3	31
LG Seeds LGS4931RX	4.9	64.1	56.7	31
ARMOR X48D25	4.8	63.4	54.4	28
AgriGold G5000RX	5.0	63.0	56.3	31
Progeny P4999RX	4.9	61.9	55.4	30
Progeny P4821RX	4.8	61.5	53.7	25
Dyna-Gro S48XT56	4.8	60.1	55.3	27
Progeny P4620RXS	4.6	59.6	55.7	31
Mission A4950X	4.9	59.0	56.5	30
Dyna-Gro S49XS76	4.9	58.8	56.1	30
Dyna-Gro S45XS37	4.5	58.7	56.1	30
Mission A4618X	4.6	58.5	55.8	32
Mission A4608X	4.6	58.2	55.3	33
AgVenture 45U1X	4.5	58.2	54.0	24
LG Seeds C4845RX	4.8	57.8	55.2	22
Progeny P4670RX	4.6	57.6	55.5	27
ARMOR X46D09	4.6	57.4	54.0	26
Mission A4828X	4.8	56.6	55.5	35
AgVenture 43U2X	4.3	56.0	56.4	34
AgVenture 48V1X	4.8	55.8	57.0	28
AgriGold G4815RX	4.8	54.8	56.4	28
AgVenture 46V6X	4.6	54.6	55.9	29
Progeny P4816RX	4.8	54.2	55.8	25
ARMOR 42-D27	4.2	54.1	55.9	28
LG Seeds LGS4899RX	4.8	53.7	55.3	25
AgriGold G4605RX	4.6	53.7	56.1	33
AgVenture 49V9E	4.9	52.4	55.8	24
AgriGold G4645RX	4.6	51.9	55.0	25
LG Seeds LGS4420RX	4.4	50.4	55.7	30
AgriGold G4579RX	4.5	49.9	54.2	28
Dyna-Gro S43XS70	4.3	49.0	55.4	26
Progeny P4444RXS	4.4	48.4	50.3	25
ARMOR 44-D92	4.4	48.3	55.5	28
AgriGold G4255RX	4.2	48.1	55.6	28
AgVenture 39U9X	3.9	48.0	55.3	30
Mission A4579X	4.5	47.6	56.3	26
Mission A4448X	4.4	45.8	52.7	27
Dyna-Gro S41XS98	4.1	44.8	55.5	29
Grand Mean		**55.9**	**55.4**	**29**

‡Abbreviations: TW: Test Weight, HT: Height

2019 Missouri Soybean Variety Performance Test

Early Maturity Group (3.9-4.4)

Brand/Variety	Maturity	Yield (BU/A)	TW‡ (LB/BU)	Plant HT‡ (IN)
AgVenture 43U2X	4.3	56.0	56.4	34
ARMOR 42-D27	4.2	54.1	55.9	28
LG Seeds LGS4420RX	4.4	50.4	55.7	30
Dyna-Gro S43XS70	4.3	49.0	55.4	26
Progeny P4444RXS	4.4	48.4	50.3	25
ARMOR 44-D92	4.4	48.3	55.5	28
AgriGold G4255RX	4.2	48.1	55.6	28
AgVenture 39U9X	3.9	48.0	55.3	30
Mission A4448X	4.4	45.8	52.7	27
Dyna-Gro S41XS98	4.1	44.8	55.5	29
Grand Mean		**49.3**	**54.8**	**29**

‡Abbreviations: TW: Test Weight, HT: Height

2019 Missouri Soybean Variety Performance Test

Medium Maturity Group (4.5-4.7)

Brand/Variety	Maturity	Yield (BU/A)	TW‡ (LB/BU)	Plant HT‡ (IN)
Progeny P4620RXS	4.6	59.6	55.7	31
Dyna-Gro S45XS37	4.5	58.7	56.1	30
Mission A4618X	4.6	58.5	55.8	32
Mission A4608X	4.6	58.2	55.3	33
AgVenture 45U1X	4.5	58.2	54.0	24
Progeny P4670RX	4.6	57.6	55.5	27
ARMOR X46D09	4.6	57.4	54.0	26
AgVenture 46V6X	4.6	54.6	55.9	29
AgriGold G4605RX	4.6	53.7	56.1	33
AgriGold G4645RX	4.6	51.9	55.0	25
AgriGold G4579RX	4.5	49.9	54.2	28
Mission A4579X	4.5	47.6	56.3	26
Grand Mean		**55.5**	**55.3**	**29**

‡Abbreviations: TW: Test Weight, HT: Height

Wheat Tech Agronomy
2019 Missouri Soybean Variety Performance Test
Late Maturity Group (4.8-5.1)

Brand/Variety	Maturity	Yield (BU/A)	TW‡ (LB/BU)	Plant HT‡ (IN)
Mission A4979X	4.8	68.7	55.6	32
Progeny P5170RX	5.1	67.0	56.3	32
Progeny P5016RXS	5.0	65.0	56.3	31
LG Seeds LGS4931RX	4.9	64.1	56.7	31
ARMOR X48D25	4.8	63.4	54.4	28
AgriGold G5000RX	5.0	63.0	56.3	31
Progeny P4999RX	4.9	61.9	55.4	30
Progeny P4821RX	4.8	61.5	53.7	25
Dyna-Gro S48XT56	4.8	60.1	55.3	27
Mission A4950X	4.9	59.0	56.5	30
Dyna-Gro S49XS76	4.9	58.8	56.1	30
LG Seeds C4845RX	4.8	57.8	55.2	22
Mission A4828X	4.8	56.6	55.5	35
AgVenture 48V1X	4.8	55.8	57.0	28
AgriGold G4815RX	4.8	54.8	56.4	28
Progeny P4816RX	4.8	54.2	55.8	25
LG Seeds LGS4899RX	4.8	53.7	55.3	25
AgVenture 49V9E	4.9	52.4	55.8	24
Grand Mean		**59.9**	**55.8**	**28**

‡Abbreviations: TW: Test Weight, HT: Height

Wheat Tech Agronomy
2019 Soybean Variety Characteristics

Soybean Variety Name	Maturity	Soybean Cyst Nematode Resistance	Sudden Death Syndrome	Herb Toler
AgriGold G3722RX	3.7	PI88788	MR	RR2X
AgriGold G3850RX	3.8	PI88788	MR	RR2X
AgriGold G4190RX	4.1	PI88788	R	RR2X
AgriGold G4255RX	4.2	PI88788	MR	RR2X
AgriGold G4579RX	4.5	PI88788	MR	RR2X
AgriGold G4605RX	4.6	PI88788	R	RR2X
AgriGold G4645RX	4.6	PI88788	R	RR2X
AgriGold G4815RX	4.8	PI88788	MR	RR2X
AgriGold G5000RX	5.0	PI88788	R	RR2X
AgVenture 39U9X	3.9	PI88788	MR	RR2X
AgVenture 43U2X	4.3	PI88788	MR	RR2X
AgVenture 45U1X	4.5	PI88788	MR	RR2X
AgVenture 46V6X	4.6	PI88788	R	RR2X
AgVenture 48V1X	4.8	PI88788	MR	RR2X
AgVenture 49V9E	4.9	PI88788	MR	LL, RR & 24D
ARMOR 42-D27	4.2	PI88788	MR	RR2XSTS
ARMOR 44-D92	4.4	PI88788	MR	RR2XSTS
ARMOR 46-D08	4.6	PI88788	M	RR2XSTS
ARMOR X46D09	4.6	PI88788	R	RR2XSTS
ARMOR X47D18	4.7	PI88788	MR	RR2XSTS
ARMOR X48D25	4.8	PI88788	MR	RR2XSTS
Asgrow AG42X9	4.2	PI88788	4	RR2X
Asgrow AG43X7	4.3	PI88788	6	RR2X/SR
Asgrow AG46X6	4.6	PI88788	6	RR2X
Asgrow AG47X9	4.7	PI88788	4	RR2X
Asgrow AG48X9	4.8	PI88788	5	RR2X/SR
Asgrow AG49X9	4.9	PI88788	5	RR2X/SR
Channel 4218R2X	4.2	R3	MS	R2X
Channel 4420R2X	4.4	R3	MR	R2X
Channel 4519R2X	4.5	R3	MS	R2X
Channel 4820R2X	4.8	R3	MR	R2X
Channel 4919R2X	4.9	R3	MS	R2X
Credenz CZ 3519 GTLL	3.8	PI88788	MR	RR & LL
Credenz CZ 3929 GTLL	4.1	PI88788	MR	RR & LL
Credenz CZ 4105 LL	4.1	PI88788	MR	LL
Credenz CZ 4539 GTLL	4.5	PI88788	MR	RR & LL
Credenz CZ 4820 LL	4.7	PI88788	MR	LL
Credenz CZ 4918 LL	4.8	PI88788	MR	LL
Credenz CZ 5147 LL	5.1	PI88788	MS	LL
Credenz CZ 5150 LL	5.0	PI88788	MS	LL

Soybean Variety Name	Maturity	Soybean Cyst Nematode Resistance	Sudden Death Syndrome	Herb Toler
Croplan RX3950	3.9	PI88788	R	RR2X
Croplan RX4150 S	4.1	PI88788	R	RR2X
Croplan RX4316 S	4.3	PI88788	R	RR2X
Croplan RX4510 S	4.5	PI88788	R	RR2X
Croplan RX4719 S	4.7	PI88788	R	RR2X
Croplan RX5010 S	5.0	PI88788	R	RR2X
Dyna-Gro S41XS98	4.1	PI88788	MR	RR2X/STS
Dyna-Gro S43XS70	4.3	PI88788	MR	RR2X/STS
Dyna-Gro S45XS37	4.5	PI88788	MR	RR2X/STS
Dyna-Gro S48XT56	4.8	PI88788	MR	RR2X
Dyna-Gro S48XT90	4.8		MR	RR2X
Dyna-Gro S49XS76	4.9	PI88788	MR	RR2X/STS
LG Seeds C4227RX	4.2	R3, MR14	MR	RR2X
LG Seeds C4845RX	4.8	R3, MR14	MR	RR2X
LG Seeds LGS4420RX	4.4	R3, MR14	MR	RR2X
LG Seeds LGS4597RX	4.5	R3, MR14	MR	RR2X
LG Seeds LGS4899RX	4.8	R3, MR14	MR	RR2X
LG Seeds LGS4931RX	4.9	R3, MR14	MR	RR2X
Mission A4448X	4.4	PI 88.788	MR	RR2X
Mission A4579X	4.5	PI 88.789	MR	RR2X
Mission A4608X	4.6	PI 88.788	MR	RR2X
Mission A4618X	4.6	PI 88.788	MR	RR2X
Mission A4828X	4.8	PI 88.788	MR	RR2X
Mission A4950X	4.9	PI 88.788	MR	RR2X
Mission A4979X	4.8	PI 88.788	MR	RR2X
Pioneer variety P42A96X	4.2	PI88788	MR	RR2X
Pioneer variety P46A16R	4.6	PI88788	MR	RR
Pioneer variety P46A57BX	4.6	PI88788	MR	BOLT, RR2X
Pioneer variety P48A60X	4.8	PI88788	MR	RR2X
Progeny P4444RXS	4.4	R3, MR14	MR/MS	R2X, STS
Progeny P4620RXS	4.6	R3, MR14	MR	R2X, STS
Progeny P4670RX	4.6			R2X
Progeny P4816RX	4.8	R3	MR	R2X
Progeny P4821RX	4.8	R3, MR14	MR	R2X
Progeny P4999RX	4.9			R2X
Progeny P5016RXS	5.0	R3, MR14	MR	R2X, STS
Progeny P5170RX	5.1			R2X
Stewart 4228R2X	4.2	PI88788	MR	RR2X
Stewart 4339R2X	4.3	PI88788	MR	RR2X/SR
Stewart 4527R2X	4.5	PI88788	MR	RR2XSR
Stewart 4720R2X	4.7	PI88788	MR	RR2X
Stewart 4927R2X	4.9	PI88788	MR	RR2X/SR