



# Current Report

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## 2016-2017 Winter Canola Performance Trials

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### Production Season

The 2016-2017 production season was full of mixed growing conditions, therefore crop performance winter canola across Oklahoma was mixed. This was the first year since the historic drought that canola growers throughout the state were faced with several canola production challenges. Throughout the season, the crop was rated as good to poor, depending on time of year, planting date, management and location.

During planting, growers that planted early were able to get the crop emerged and begin early growth very quickly following planting. This was a result of adequate soil moisture and timely rainfall events, paired with mild temperatures during the end of September into early October. Growers that planted during the last week to 10 days of September or early October were met with several challenging conditions that limited the number of acres that were successfully established during this period. Dry conditions in portions of the state limited growers' ability to plant in a timely manner, while other areas of the state had adequate moisture at planting and received heavy rainfall events following planting. The latter resulted in several fields being drowned out or severely crusted, which limited overall emergence or resulted in very uneven emergence across the field. Many of these growers had to replant in mid- to late October, which is later than OSU recommends.

After planting, optimum growing conditions were present from October through late November to early December. This resulted in excessive vegetative growth for the early planted canola, with many reports of two- to four-foot canola and some canola attempting to bolt prior to the first major freeze event. For those that planted late or had to replant into later October, this provided adequate time for the canola crop to mature, as well as set enough leaves and roots to aid in over-winter survival. The first major freeze event for most of Oklahoma occurred in late November or early December. While most of the state did receive adequate chilling days prior to this first freeze, many of these days were interspersed with very warm conditions, thereby not allowing the canola plant to adequately harden-off or prepare for winter. A heavy freeze event occurred in mid-December in which several locations across Oklahoma reached temperatures below 0 F, with several locations reported -20 F. Additionally, in many areas, soil moisture was limited at the times of these freeze events, which increased the level the damage typically resulting in higher winterkill events than if adequate soil moisture had been present. These heavy freeze events caused a high amount of winterkill issues across the

state, with many producers reporting more than 50 percent winterkill. This was especially true on fields planted in early September and had excessive vegetative growth. Winterkill was not seen as prominently in fields that had been replanted or were planted during the mid- to late October period.

Spring green-up occurred much earlier than normal with many locations around the state starting to see regrowth in late January to early February. This resulted in many producers not being able to make timely fertilizer or herbicide applications prior to the bolting stage. Due to the winter freezes and the early spring, many plants started bolting with little to no additional leaf growth. As most photosynthesis still occurs in green leaves during the bolting and early flowering stages, many of these plants appeared stressed during early reproductive stages. This resulted in many plants only reaching 2 to 3 feet tall prior to flowering. With little leaf material prior to flowering, weed control became an issue in many locations with warm conditions paired with timely rainfall events.

Temperatures cooled during the months of March and April and above-average pod filling conditions existed. During this time, the crop appeared to improve with increased number of lateral branches producing very large racemes and pods. While the crop reached reproduction earlier than normal, the crop matured at or near the normal timeframe. Growers experienced near perfect swathing conditions with good drying conditions at and near swathing due to the increased number of lateral pods. However, as swathing continued across the region, high temperatures and high winds lead to rapid drying and resulted in swathed canola reaching full dry-down in as little as three to five days. This potentially contributed to some pods having shrunken or smaller seeds than expected. At harvest, yields varied greatly. Several growers reported much lower yields than expected and in previous years.

In addition to environmental conditions possibly decreasing the yield potential, higher than average pest pressure potentially decrease yields. High lepidoptera pressure occurred throughout the fall. Most producers had increased pressure from armyworm in the early part of the fall, with increased diamondback moth larva during late fall and early winter. Due to weather and application cost, many producers were not able to adequately control these pests, which caused significant damage. Pest pressure continued throughout the spring. In late winter and early spring, lepidoptera pressure continued, mostly as diamondback moth larva and armyworm. If left untreated, pest pressure was high enough to terminate the

crop in many areas. For many growers, insecticide treatments proved ineffective. It is unsure if this was a misapplication, poor conditions at application or resistance issues. As the canola progressed further into early flowering and early pod development, green peach aphids and cabbage aphids increased pressure through much of the state. While these initially started as isolated incidences, more wide-spread pressure resulted.

Overall, the year was mixed for canola producers throughout the state, with many growers having higher or substantially lower yields than previous seasons. For many growers throughout the state, the cost of growing canola increased with the elevated pest pressure they were faced with throughout the fall and spring. On a brighter side, many producers throughout the region noted the wheat following last season's canola was noticeable higher yielding. This has increased the interest in canola throughout the state, and several growers are planning on continuing with the crop for the foreseeable future.

### **Interpreting the data**

Details of establishment and management of each test are noted above the production tables. Least significant differences (LSD) for yield are listed at the bottom of the summary tables at the beginning of the document. Differences between cultivars are significantly different only if they are equal to or greater than the LSD value. If a given cultivar out-yields another cultivar by as much or more than the LSD value, then we are 95 percent sure the yield differences are due to actual differences, with only 5 percent probability that the differences are due to chance alone. For example, if cultivar X yielded 500 pounds per acre more than cultivar Y, then it is significantly different only if the LSD value is 500 or less. If the LSD value is 501 pounds per acre or greater than we are less confident that cultivar X outperformed cultivar Y under the conditions of the test. Additionally, in the summary tables, the highest yielding cultivar is bolded and all cultivars that are not significantly different than the highest yielding cultivar are highlighted.

The results of these tests should be representative of what would occur throughout the state, but are more indicative of the environmental conditions and management practices similar to those under the testing conditions. This is due to the amount of influence that soil type, winter conditions, soil moisture, diseases and insects can play on yield.

### **Methods**

All test locations contained both conventional and glyphosate-resistant cultivars. Plots were 5 feet wide by 20 feet long and seeded at the rate of 3 pounds per acre. All conventionally tilled plots were planted at 7.5-inch spacing, indifferent of tillage practices under the trial. Soil sample results are indicated on each table. All pest management practices were carried out in accordance with Oklahoma State University Cooperative Extension Service recommendations. Entire plots were either swathed and harvested or directly harvested (indicated on each table) at maturity.

### **Additional information**

A copy of this publication as well as additional variety information and current recommendations for winter canola management in the southern Great Plains can be found at: [canola.okstate.edu](http://canola.okstate.edu).

The authors would like to thank the following individuals for their cooperation in gathering information for this current report:

### **Cooperating producers:**

Jeff Scott- Pond Creek  
Jay and Lee Leeper- Dacoma (plots at Dacoma had 100 percent winter kill)  
Brent Rendel- Miami  
Jerry Lingo- El Reno  
Jeff Wichert- Fairview  
Mark Walta- Kingfisher

### **Cooperating County Educators:**

Kassie Junghanns- Grant  
Greg Highfill- Woods  
Rick Nelson- Garfield  
Nathan Anderson- Payne  
Zack Meyer- Kingfisher  
Kyle Worthington- Canadian  
David Nowlin- Caddo  
Courtney May- Ottawa

### **Cooperating Station Superintendents:**

Josh Massey- Cimarron Valley Research station (Perkins)  
Richard Austin- North Central Research station (Lahoma)  
Bobby Weidenmaier- Caddo Research station (Fort Cobb)  
Michael Pettijohn- South Central Research station (Chickasha)

**Overview of cultivars used in the 2016-2017 Oklahoma winter canola tests.**

<i>Company</i>	<i>Entry</i>	<i>Hybrid or Open Pollinated</i>	<i>Herbicide Resistant</i>	<i>SU Residual Tolerant</i>
Kansas State University	Riley	OP	N	N
	Torrington	OP	N	N
	KSR 4704	OP	Glyphosate	N
	KSR 4653S	OP	Glyphosate	N
	KSR 4706S	OP	Glyphosate	N
	KSR 07363	OP	Glyphosate	N
	KSR 1121	OP	N	Y
Rubisco	Mercedes	HYB	N	N
	Inspiration	HYB	N	N
	Edimax CL	HYB	Clearfield*	N
Photosyntech	Quartz	HYB	N	N
	Hekip	HYB	N	N
	AY 04	HYB	N	N
Limagrain	Aresenal	HYB	N	N
	Atenzo	HYB	N	N
Star Specialty Seeds	Star 915W	OP	Glyphosate	N
DL Seeds	14DL40203	HYB	Glyphosate	N
	14DL40201	HYB	Glyphosate	N
Pioneer	P 46W94	HYB	Glyphosate	N
Monsanto/Dekalb	DKW 44-10	OP	Glyphosate	N
	DKW 46-15	OP	Glyphosate	Y
	DKW 45-25	OP	Glyphosate	Y
Croplan Genetics	Croplan 52-16	OP	Glyphosate	Y
	Croplan 115	OP	Glyphosate	Y
	Croplan 225	OP	Glyphosate	Y

\*Show potential cross-tolerance to SU family of herbicides as well as true Imidazolinone family herbicides. These cultivars show tolerance to soil residual imidazolinone herbicides and post-emergent Beyond® herbicides.

**Table 1. Summary of yield results for the OSU conventional winter canola variety trials in 2017.**

Cultivar <sup>1</sup>	Location								
	Kingfisher	Fort Cobb	Chickasha <sup>2</sup>	Pond Creek	Fairview	El Reno	Miami	Perkins	Lahoma
<b>Conventional</b>									
Riley	1550	2560	3110	-	-	2600	2150	1180	1480
Torrington	1420	2340	4920	-	-	<b>2660</b>	2750	1150	1350
KSR 4704	1380	1660	-	4092.9	784.2	2580	2190	1200	1640
Mercedes	1520	3420	4440	-	-	2540	2910	1230	1230
Inspiration	1960	3210	4590	-	-	2540	2350	1100	<b>1690</b>
Quartz	1630	3720	4060	-	-	2240	1600	1360	1520
Hekip	1690	3170	4060	-	-	2450	1550	<b>1460</b>	1440
Aresenal	1230	<b>3810</b>	-	-	-	2050	2070	1150	1270
Atenzo	1410	3430	-	-	-	2430	<b>3410</b>	1260	1560
Edimax CL	<b>2110</b>	3210	<b>4660</b>	-	-	2540	3280	1220	1090
Mean	1590	3050	4260	-	-	2460	2420	1230	1430
LSD(0.05)	336.7	487.2	-	-	-	299.8	515.6	113.4	284.5
CV	15.1	20.0	-	-	-	8.5	21.6	9.7	16.3

<sup>1</sup> Cultivars with a dash were not collected at the given location

<sup>2</sup> Data collected as part of the OSU national variety tests

**Table 2. Summary of yield results for the OSU glyphosate tolerant winter canola variety trials in 2017.**

Cultivar <sup>1</sup>	Location								
	Kingfisher	Fort Cobb	Chickasha <sup>2</sup>	Pond Creek	Fairview	El Reno	Miami	Perkins	Lahoma
<b>Glyphosate tolerant</b>									
KSR 4653S	1350	2510	3130	3010	740	2360	1750	1200	1550
KSR 4706S	1120	1760	-	3840	790	2350	1710	1060	1850
KSR 07363	1080	2040	3600	2810	840	2670	2030	1290	1480
KSR 1121	1250	2450	3720	3550	420	2130	2240	1150	1670
Star 915W	920	1730	3670	4120	470	2220	1750	1110	1560
14DL40203	1210	3020	-	3910	880	2280	2340	1230	1690
14DL40201	1290	<b>3440</b>	-	4300	800	2300	1340	1180	1600
P46W94	1350	2430	-	3410	640	2410	1610	1240	1370
DKW 44-10	1280	2740	3090	4190	930	2350	1300	1180	1660
DKW 46-15	1120	2930	3110	<b>4530</b>	790	<b>2860</b>	1420	<b>1320</b>	1570
DKW 45-25	1060	2680	3690	4130	770	2630	1440	1280	<b>1880</b>
Croplan 52-16	<b>1430</b>	2650	3660	4100	880	2210	<b>2710</b>	1080	1370
Croplan 115	800	2580	<b>3750</b>	4460	670	2420	2380	1200	1700
Croplan 225	1320	2860	3380	4340	<b>960</b>	2630	2080	1140	1370
Mean	1270	2590	3830	3920	760	2270	1970	1120	1420
LSD(0.05)	224.8	547.3	-	522.8	411.2	459.7	382.4	157.1	319.0
CV	12.9	16.5	-	11.7	14.2	8.6	22.6	6.6	13.0

<sup>1</sup> Cultivars with a dash were not collected at the given location

<sup>2</sup> Data collected as part of the OSU national variety tests

**Table 3. Oil percentages from the OSU conventional winter canola variety trials in 2017.**

Cultivar <sup>1</sup>	Location								
	Kingfisher	Fort Cobb	Chickasha <sup>2</sup>	Pond Creek	Fairview	El Reno	Miami	Perkins	Lahoma
	Oil content (%)								
Conventional	Riley	41.7	41.6	41.9	-	39.3	44.0	37.5	42.4
	Torrington	42.2	41.4	41.7	-	39.1	44.2	38.4	42.6
	KSR 4704	39.9	41.6	-	40.6	39.3	44.4	39.7	42.1
	Mercedes	42.9	43.7	42.3	-	41.0	44.2	39.0	42.3
	Inspiration	42.8	42.3	41.9	-	40.0	43.9	36.8	42.8
	Quartz	42.1	41.8	42.7	-	41.8	43.4	38.9	42.7
	Hekip	42.7	42.3	41.6	-	38.3	44.0	36.0	41.9
	Aresenal	42.5	43.1	-	-	38.4	44.8	39.2	41.1
	Atenzo	42.5	42.9	-	-	38.6	45.3	37.1	42.2
	Edimax CL	42.1	43.8	40.9	-	38.4	45.8	37.4	42.1
	Mean	42.2	42.5	-	-	39.4	44.4	38.0	42.2

<sup>1</sup> Cultivars with a dash were not collected at the given location

**Table 4. Oil percentages from the OSU glyphosate tolerant winter canola variety trials in 2017.**

Cultivar <sup>1</sup>	Location								
	Kingfisher	Fort Cobb	Chickasha <sup>2</sup>	Pond Creek	Fairview	El Reno	Miami	Perkins	Lahoma
	Oil content (%)								
Glyphosate tolerant	KSR 4653S	40.5	41.4	42.4	40.5	40.1	46.7	36.8	40.8
	KSR 4706S	40.1	41.0	-	40.6	40.3	45.8	37.2	42.5
	KSR 07363	40.1	41.4	41.6	40.6	39.7	44.7	37.1	42.5
	KSR 1121	39.8	39.8	41.6	37.0	38.7	44.7	36.9	42.1
	Star 915W	39.8	40.8	42.7	39.5	38.8	43.3	36.8	42.1
	14DL40203	40.7	41.5	-	41.6	40.2	42.9	38.6	42.0
	14DL40201	41.5	42.3	-	41.3	40.0	42.7	36.7	41.5
	P46W94	42.9	42.6	-	41.0	41.5	43.4	38.6	43.2
	DKW 44-10	40.7	40.2	40.4	40.2	38.6	42.8	38.3	41.7
	DKW 46-15	42.2	42.1	43.0	41.9	40.9	43.9	37.9	41.7
	DKW 45-25	39.7	40.4	41.3	39.9	38.8	44.2	36.8	43.2
	Croplan 52-16	40.7	40.3	24.6	40.5	38.5	45.2	36.5	41.3
	Croplan 115	39.5	41.6	23.9	41.4	39.0	45.4	37.4	43.4
	Croplan 225	40.0	40.9	24.4	40.4	40.0	44.5	35.8	41.0
	Mean	40.6	41.1	-	40.5	39.6	44.1	37.3	42.2

<sup>1</sup> Cultivars with a dash were not collected at the given location

## El Reno, Canadian County Conventional

canola.okstate.edu

**Cooperator: Jerry Lingo**  
**Soil test: pH- 5.7, P- 121ppm, K- 112ppm**  
**Previous crop: Wheat**

**County educator: Kyle Worthington**  
**Tillage: Conventional tillage**  
**Harvest type: Swathed**

Variety	Company	Yield		2-year average lbs/ac	Protein %	Oil %
		lbs/ac*	bu/ac			
Riley	Kansas State University	2600	52.0	2060	22.3	39.3
Torrington	Ohlde Seed	2660	53.2	-	22.2	39.1
KSR 1121	Kansas State University	2130	42.6	-	22.7	38.7
Mercedes	Rubisco	2500	50.1	2220	20.7	41.0
Inspiration	Rubisco	2540	54.7	2150	21.9	40.0
Hekip	Photosyntech	2450	49.0	2190	20.9	38.3
Aresenal	Limagrain	2050	40.9	2000	22.6	38.4
Atenzo	Limagrain	2430	48.5	2150	22.3	38.6
Edimax CL	Rubisco	2540	50.8	2180	21.9	38.4

## El Reno, Canadian County Glyphosate Tolerant

canola.okstate.edu

**Cooperator: Jerry Lingo**  
**Soil test: pH- 5.7, P- 121ppm, K- 112ppm**  
**Previous crop: Wheat**

**County educator: Kyle Worthington**  
**Tillage: Conventional tillage**  
**Harvest type: Swathed**

Variety	Company	Yield		2-year average lbs/ac	Protein %	Oil %
		lbs/ac*	bu/ac			
KSR 4653S	Kansas State University	2360	47.2	2080	23.1	40.1
KSR 4706S	Kansas State University	2350	47.0	-	22.9	40.3
KSR 4704	Kansas State University	2580	51.7	-	23.4	39.3
KSR 07363	Kansas State University	2670	53.5	2180	22.9	39.7
Star 915W	Star Specialty Seeds	2220	44.5	1960	23.6	38.8
14DL40203	DL Seeds	2280	45.7	-	22.0	40.2
14DL40201	DL Seeds	2230	46.0	-	22.0	40.1
P46W94	Pioneer	2410	48.2	2150	21.2	41.5
DKW 44-10	Dekalb Seeds	2350	47.0	1970	23.9	38.6
DKW 46-15	Dekalb Seeds	2860	55.2	2200	22.0	40.9
DKW 45-25	Dekalb Seeds	2630	52.5	2150	23.0	38.8
Croplan 52-16	Croplan Genetics	2210	44.2	-	23.3	38.5
HC 115	Croplan Genetics	2420	48.3	2060	23.5	39.0
HC 225	Croplan Genetics	2630	52.6	2130	22.7	40.0

## Fairview, Major County, Glyphosate Tolerant

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**Cooperator: Jeff Wichert**

**Soil test: pH- 6.1, P- 66ppm, K- 127ppm**

**Previous crop: Wheat**

**County educator: Troy Gosney**

**Tillage: Conventional tillage**

**Harvest type: Swathed**

Variety	Company	Yield		2-year average lbs/ac	Protein %	Oil %
		lbs/ac*	bu/ac			
KSR 4653S	Kansas State University	540	10.9	740	22.3	37.6
KSR 4706S	Kansas State University	590	11.8	-	21.8	38.3
KSR 4704	Kansas State University	580	11.7	850	22.8	38.0
KSR 07363	Kansas State University	650	12.9	-	21.9	38.3
Star 915W	Star Specialty Seeds	270	5.5	470	23.1	40.2
14DL40203	DL Seeds	680	13.5	-	21.0	39.2
14DL40201	DL Seeds	600	11.9	-	21.4	37.9
P46W94	Pioneer	440	8.8	640	21.8	39.6
DKW 44-10	Dekalb Seeds	730	14.6	930	22.4	37.2
DKW 46-15	Dekalb Seeds	490	9.7	790	21.9	40.2
DKW 45-25	Dekalb Seeds	470	9.5	770	22.6	36.1
Croplan 52-16	Croplan Genetics	680	13.7	-	22.0	37.5
Croplan 115	Croplan Genetics	470	9.3	670	22.5	36.0
Croplan 225	Croplan Genetics	660	13.2	960	21.7	38.6

## Fort Cobb, Caddo County Conventional

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**Cooperator: Bobby Weidenmaier**  
**Soil test: pH- 6.5, P- 68ppm, K- 101ppm**  
**Previous crop: Peanut**

**County educator: David Nowlin**  
**Tillage: Conventional tillage**  
**Harvest type: Swathed**

Variety	Company	Yield		2-year average lbs/ac	Protein %	Oil %
		lbs/ac*	bu/ac			
Riley	Kansas State University	2560	51.1	2560	21.7	41.6
Torrington	Ohlde Seed	2340	46.9	-	22.2	41.4
KSR 1121	Kansas State University	2450	49.0	-	22.5	39.8
Mercedes	Rubisco	3420	68.4	3420	20.0	43.7
Inspiration	Rubisco	3210	64.3	3220	20.7	42.3
Quartz	Photosyntech	3720	74.4	-	22.1	41.8
Hekip	Photosyntech	3170	63.5	3170	20.2	42.3
Aresenal	Limagrain	3810	76.2	3810	20.2	43.1
Atenzo	Limagrain	3430	68.6	3430	20.8	42.9
Edimax CL	Rubisco	3210	64.2	3210	19.1	43.8

## Fort Cobb, Caddo County Glyphosate Tolerant

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**Cooperator: Bobby Weidenmaier**  
**Soil test: pH- 6.5, P- 68ppm, K- 101ppm**  
**Previous crop: Peanut**

**County educator: David Nowlin**  
**Tillage: Conventional tillage**  
**Harvest type: Swathed**

Variety	Company	Yield		2-year average lbs/ac	Protein %	Oil %
		lbs/ac*	bu/ac			
KSR 4653S	Kansas State University	2510	50.1	2510	22.2	41.4
KSR 4706S	Kansas State University	1760	35.1	-	22.1	41.0
KSR 4704	Kansas State University	2040	40.7	2040	22.5	41.6
KSR 07363	Kansas State University	2450	49.0	-	22.5	41.4
Star 915W	Star Specialist Seeds	1730	34.6	1730	22.5	40.8
14DL40203	DL Seeds	3020	60.5	-	21.3	41.5
14DL40201	DL Seeds	3440	68.9	-	21.1	42.3
P46W94	Pioneer	2430	48.6	2430	20.2	42.6
DKW 44-10	Dekalb Seeds	2740	54.8	2740	22.8	40.2
DKW 46-15	Dekalb Seeds	2930	58.6	2930	22.0	42.1
DKW 45-25	Dekalb Seeds	2680	53.5	2680	22.6	40.4
Croplan 52-16	Croplan Genetics	2650	53.0	-	22.4	40.3
Croplan 115	Croplan Genetics	2590	51.7	2580	22.4	41.6
Croplan 225	Croplan Genetics	2860	57.2	2860	22.1	40.9



## Kingfisher, Kingfisher County, Conventional

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**Cooperator: Mark Walta**  
**Soil test: pH- 5.2, P- 44ppm, K- 122ppm**  
**Previous crop: Wheat**

**County educator: Zack Meyer**  
**Tillage: Conventional tillage**  
**Harvest type: Swathed**

Variety	Company	Yield		2-year average lbs/ac	Protein %	Oil %
		lbs/ac*	bu/ac			
Riley	Kansas State University	1550	30.9	1440	21.7	41.7
Torrington	Ohlde Seed	1420	28.4	-	22.2	42.2
KSR 1121	Kansas State University	1250	25.0	-	22.5	39.8
Mercedes	Rubisco	1520	30.3	1520	20.0	43.7
Inspiration	Rubisco	1960	39.2	1760	20.7	42.3
Quartz	Photosyntech	1630	32.6	-	22.1	41.8
Hekip	Photosyntech	1690	33.8	1470	20.2	42.3
Aresenal	Limagrain	1230	24.5	1390	20.2	43.1
Atenzo	Limagrain	1410	28.2	1410	20.8	42.9
Edimax CL	Rubisco	2110	42.3	1620	19.1	43.8

## Kingfisher, Kingfisher County Glyphosate Tolerant

canola.okstate.edu

**Cooperator: Mark Walta**  
**Soil test: pH- 5.2, P- 44ppm, K- 122ppm**  
**Previous crop: Wheat**

**County educator: Zack Meyer**  
**Tillage: Conventional tillage**  
**Harvest type: Swathed**

Variety	Company	Yield		2-year average lbs/ac	Protein %	Oil %
		lbs/ac*	bu/ac			
KSR 4653S	Kansas State University	1350	27.0	1460	19.8	40.5
KSR 4706S	Kansas State University	1120	22.4	-	19.6	40.1
KSR 4704	Kansas State University	1380	27.7	1120	20.2	39.9
KSR 07363	Kansas State University	1080	21.7	-	20.3	40.1
Star 915W	Star Specialist Seeds	930	18.6	1120	20.5	39.8
14DL40203	DL Seeds	1210	24.2	-	18.9	40.7
14DL40201	DL Seeds	1290	25.7	-	19.0	41.5
P46W94	Pioneer	1290	25.7	1240	17.9	42.9
DKW 44-10	Dekalb Seeds	1280	25.5	1210	20.0	40.7
DKW 46-15	Dekalb Seeds	1120	22.5	1190	19.0	42.2
DKW 45-25	Dekalb Seeds	1060	21.2	1150	19.9	39.7
Croplan 52-16	Croplan Genetics	1430	28.5	-	19.9	40.7
Croplan 115	Croplan Genetics	800	15.9	1030	20.2	39.5
Croplan 225	Croplan Genetics	1320	26.4	1360	19.8	40.0

## Lahoma, Garfield County Conventional

canola.okstate.edu

**Cooperator: Richard Austin**  
**Soil test: pH- 5.5, P- 66ppm, K- 101ppm**  
**Previous crop: Wheat**

**County educator: Rick Nelson**  
**Tillage: Conventional tillage**  
**Harvest type: Direct Cut**

Variety	Company	Yield		2-year average lbs/ac	Protein %	Oil %
		lbs/ac*	bu/ac			
Riley	Kansas State University	1480	29.6	1970	20.0	42.4
Torrington	Ohlde Seed	1350	27.1	-	20.0	42.6
KSR 1121	Kansas State University	1670	33.5	-		42.1
Mercedes	Rubisco	1230	24.7	2520	20.7	42.3
Inspiration	Rubisco	1690	33.7	3290	20.6	42.8
Quartz	Photosyntech	1520	30.5	-	20.0	42.7
Hekip	Photosyntech	1440	28.8	2700	20.0	41.9
Aresenal	Limagrain	1270	25.4	2690	19.9	41.1
Atenzo	Limagrain	1560	31.1	2650	20.9	42.2
Edimax CL	Rubisco	1090	21.8	2500	21.0	42.1
AY04	Photosyntech	1520	30.5	-	20.3	40.8

## Lahoma, Garfield County Glyphosate Tolerant

canola.okstate.edu

**Cooperator: Richard Austin**  
**Soil test: pH- 5.5, P- 66ppm, K- 101ppm**  
**Previous crop: Wheat**

**County educator: Rick Nelson**  
**Tillage: Conventional tillage**  
**Harvest type: Direct Cut**

Variety	Company	Yield		2-year average lbs/ac	Protein %	Oil %
		lbs/ac*	bu/ac			
KSR 4653S	Kansas State University	1550	31.0	1720	20.1	41.1
KSR 4706S	Kansas State University	1850	37.0	-	20.2	42.1
KSR 4704	Kansas State University	1640	32.8	1740	20.4	42.3
KSR 07363	Kansas State University	1480	29.7	-	20.3	42.5
Star 915W	Star Specialist Seeds	1560	31.2	1830	20.3	42.0
14DL40203	DL Seeds	1690	33.8	-	20.1	42.3
14DL40201	DL Seeds	1600	31.9	-	20.1	42.0
P46W94	Pioneer	1370	27.4	2100	19.6	43.2
DKW 44-10	Dekalb Seeds	1660	33.2	1830	20.2	41.9
DKW 46-15	Dekalb Seeds	1570	31.3	1450	20.3	41.7
DKW 45-25	Dekalb Seeds	1880	37.6	-	19.7	42.9
Croplan 52-16	Croplan Genetics	1370	27.4	-	19.6	41.9
Croplan 115	Croplan Genetics	1700	33.9	1490	19.3	43.0
Croplan 225	Croplan Genetics	1370	27.4	1780	19.7	41.3

## Miami, Ottawa County Conventional

canola.okstate.edu

**Cooperator: Brent Rendel**  
**Soil test: pH- 5.5, P- 66ppm, K- 101ppm**  
**Previous crop: Wheat**

**County educator: Courtney May**  
**Tillage: Conventional tillage**  
**Harvest type: Swathed**

Variety	Company	Yield		2-year average lbs/ac	Protein %%	Oil
		lbs/ac*	bu/ac			
Riley	Kansas State University	2150	43.0	1890	19.3	44.0
Torrington	Ohlde Seed	2750	54.9	-19.2	44.2	
KSR 1121	Kansas State University	2240	44.8	-17.5	44.7	
Mercedes	Rubisco	2910	58.1	2450	19.2	42.3
Inspiration	Rubisco	2350	47.0	2280	19.3	42.8
Quartz	Photosyntech	1594	31.9	-19.9	42.7	
Hekip	Photosyntech	1550	31.0	1920	19.1	41.9
Aresenal	Limagrain	2070	41.4	2140	18.4	41.1
Atenzo	Limagrain	3410	68.1	2980	17.9	42.2
Edimax CL	Rubisco	3280	65.6	2680	17.4	42.1
AY04	Photosyntech	1790	35.9	-20.8	40.8	

## Miami, Ottawa County Glyphosate Tolerant

canola.okstate.edu

**Cooperator: Brent Rendel**  
**Soil test: pH- 5.5, P- 66ppm, K- 101ppm**  
**Previous crop: Wheat**

**County educator: Courtney May**  
**Tillage: Conventional tillage**  
**Harvest type: Swathed**

Variety	Company	Yield		2-year average lbs/ac	Protein %	Oil %
		lbs/ac*	bu/ac			
KSR 4653S	Kansas State University	1750	35.0	1640	16.4	46.7
KSR 4706S	Kansas State University	1710	34.2	-	17.1	45.8
KSR 4704	Kansas State University	2190	43.7	1900	19.0	44.1
KSR 07363	Kansas State University	2030	40.6	-	17.7	44.7
Star 915W	Star Specialist Seeds	1750	34.9	1420	18.2	43.3
14DL40203	DL Seeds	2340	46.8	-	18.5	42.9
14DL40201	DL Seeds	1340	26.8	-	18.0	42.7
P46W94	Pioneer	1610	32.3	1670	17.6	43.4
DKW 44-10	Dekalb Seeds	1300	26.0	1370	18.1	42.8
DKW 46-15	Dekalb Seeds	1420	28.4	1430	17.9	43.9
DKW 45-25	Dekalb Seeds	1440	28.8	-	17.6	44.2
Croplan 52-16	Croplan Genetics	2710	54.2	-	17.5	45.2
Croplan 115	Croplan Genetics	2380	47.6	2000	17.6	45.4
Croplan 225	Croplan Genetics	2080	41.6	1830	18.2	44.5

## Pond Creek, Grant County Glyphosate Tolerant

canola.okstate.edu

Cooperator: Jeff Scott

Soil test: pH- 6.5, P- 126ppm, K- 202ppm

Previous crop: Wheat

County educator: Kassie Junghanns

Tillage: Vertical tillage

Harvest type: Swathed

Variety	Company	Yield		2-year average lbs/ac	Protein %%	Oil
		lbs/ac*	bu/ac			
KSR 4653S	Kansas State University	3010	60.1	3010	22.4	40.5
KSR 4706S	Kansas State University	3840	76.7	-	22.4	41.0
KSR 4704	Kansas State University	4100	81.9	-	22.5	40.6
KSR 07363	Kansas State University	2810	56.2	4090	22.7	41.4
Star 915W	Star Specialist Seeds	4120	82.4	4120	23.1	39.5
14DL40203	DL Seeds	3910	78.2	-	21.1	41.6
14DL40201	DL Seeds	4300	86.0	-	21.7	41.3
P46W94	Pioneer	3410	68.1	3410	22.0	41.0
DKW 44-10	Dekalb Seeds	4190	83.8	4190	22.7	40.2
DKW 46-15	Dekalb Seeds	4530	90.6	4530	21.9	41.9
DKW 45-25	Dekalb Seeds	4130	82.5	4130	22.5	39.9
Croplan 52-16	Croplan Genetics	4100	82.0	-	22.3	40.5
Croplan 115	Croplan Genetics	4460	89.2	4460	22.4	41.4
Croplan 225	Croplan Genetics	4340	86.8	4340	22.2	40.4

## Perkins, Payne County Conventional

canola.okstate.edu

**Cooperator: Josh Massey**  
**Soil test: pH-6.1, P- 36ppm, K- 77ppm**  
**Previous crop: Fallow**

**County educator: Nathan Anderson**  
**Tillage: Conventional tillage**  
**Harvest type: Direct Cut**

Variety	Company	Yield		2-year average lbs/ac	Protein %%	Oil
		lbs/ac*	bu/ac			
Riley	Kansas State University	1180	23.5	1150	21.6	37.5
Torrington	Ohlde Seed	1160	23.1	-21.8	38.4	
KSR 1121	Kansas State University	1150	22.9	-19.8	37.1	
Mercedes	Rubisco	1230	24.5	1290	20.7	39.0
Inspiration	Rubisco	1100	22.0	1170	21.4	36.8
Quartz	Photosyntech	1350	27.1	-21.4	38.9	
Hekip	Photosyntech	1460	29.3	1220	21.6	36.0
Aresenal	Limagrain	1150	23.0	1100	21.9	39.2
Atenzo	Limagrain	1260	25.2	1220	20.6	37.1
Edimax CL	Rubisco	1260	25.2	1150	21.9	37.4
AY04	Photosyntech	1380	27.7	-22.9	38.1	

## Perkins, Payne County Glyphosate Tolerant

canola.okstate.edu

**Cooperator: Josh Massey**  
**Soil test: pH-6.1, P- 36ppm, K- 77ppm**  
**Previous crop: Fallow**

**County educator: Nathan Anderson**  
**Tillage: Conventional tillage**  
**Harvest type: Direct Cut**

Variety	Company	Yield		2-year average lbs/ac	Protein %	Oil %
		lbs/ac*	bu/ac			
KSR 4653S	Kansas State University	1200	24.0	1060	21.8	36.8
KSR 4706S	Kansas State University	1060	21.1	-	21.5	37.2
KSR 4704	Kansas State University	1200	24.0	1130	22.0	39.7
KSR 07363	Kansas State University	1290	25.8	-	21.9	37.1
Star 915W	Star Specialist Seeds	1110	22.2	1050	22.3	36.8
14DL40203	DL Seeds	1230	24.5	-	21.0	38.6
14DL40201	DL Seeds	1180	23.7	-	21.1	36.7
P46W94	Pioneer	1240	24.7	1210	20.7	38.6
DKW 44-10	Dekalb Seeds	1180	23.6	1170	21.4	38.3
DKW 46-15	Dekalb Seeds	1320	26.4	1070	21.2	37.9
DKW 45-25	Dekalb Seeds	1280	25.6	-	21.7	36.8
Croplan 52-16	Croplan Genetics	1080	21.6	-	22.1	36.5
Croplan 115	Croplan Genetics	1200	24.1	1040	21.8	37.4
Croplan 225	Croplan Genetics	1140	22.7	1090	21.4	35.8

## Chickasha, Caddo County Conventional

canola.okstate.edu

**Cooperator: Michael Pettijohn**  
**Soil test: pH- 6.6, P- 145 ppm, K- 202 ppm**  
**Previous crop: Wheat**

**County educator: David Nowlin**  
**Tillage: Conventional tillage**  
**Harvest type: Swathed**

Variety	Company	Yield		2-year average lbs/ac	Protein %%	Oil
		lbs/ac*	bu/ac			
Riley	Kansas State University	3110	62.1	-24.7	41.9	
Torrington	Kansas State University	4920	98.5	-24.6	41.7	
Mercedes	Rubisco	4440	88.7	-24.8	42.3	
Inspiration	Rubisco	4590	91.7	-23.9	41.9	
Quartz	Photosyntech	4060	81.3	-22.5	42.7	
Hekip	Photosyntech	4060	81.2	-24.7	41.6	
Edimax	Rubisco	4930	98.6	-24.3	40.9	

## Chickasha, Caddo County Glyphosate Tolerant

canola.okstate.edu

**Cooperator: Michael Pettijohn**  
**Soil test: pH- 6.6, P- 145 ppm, K- 202 ppm**  
**Previous crop: Wheat**

**County educator: David Nowlin**  
**Tillage: Conventional tillage**  
**Harvest type: Swathed**

Variety	Company	Yield		2-year average lbs/ac	Protein %	Oil %
		lbs/ac*	bu/ac			
KSR4653S	Kansas State University	3130	62.6	-	24.4	42.4
KSR07363	Kansas State University	3600	72.0	-	24.7	41.6
KSUR1211	Kansas State University	3720	74.4	-	24.4	41.6
Star 915W	Star Specialty Seeds	3670	73.3	-	24.5	42.7
DKW 44-10	Monsanto/Deklab	3080	61.6	-	24.9	40.4
DKW 46-15	Monsanto/Deklab	3110	62.2	-	23.7	43.0
DKW 45-25	Monsanto/Deklab	3690	73.8	-	24.3	41.3
CROPLAN EXP52-16	Croplan Genetics	3660	73.2	-	24.6	41.4
Croplan 115	Croplan Genetics	3750	75.0	-	23.9	42.7
Croplan 225	Croplan Genetics	3380	67.6	-	24.4	41.5



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Extension carries out programs in the broad categories of agriculture, natural resources and environment; family and consumer sciences; 4-H and other youth; and community resource development. Extension staff members live and work among the people they serve to help stimulate and educate Americans to plan ahead and cope with their problems.

Some characteristics of the Cooperative Extension system are:

- The federal, state, and local governments cooperatively share in its financial support and program direction.
- It is administered by the land-grant university as designated by the state legislature through an Extension director.
- Extension programs are nonpolitical, objective, and research-based information.
- It provides practical, problem-oriented education for people of all ages. It is designated to take the knowledge of the university to those persons who do not or cannot participate in the formal classroom instruction of the university.
- It utilizes research from university, government, and other sources to help people make their own decisions.
- More than a million volunteers help multiply the impact of the Extension professional staff.
- It dispenses no funds to the public.
- It is not a regulatory agency, but it does inform people of regulations and of their options in meeting them.
- Local programs are developed and carried out in full recognition of national problems and goals.
- The Extension staff educates people through personal contacts, meetings, demonstrations, and the mass media.
- Extension has the built-in flexibility to adjust its programs and subject matter to meet new needs. Activities shift from year to year as citizen groups and Extension workers close to the problems advise changes.

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