

# 2011-2012 Winter Canola Performance Trials

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### Production season

The 2011-2012 canola production season in Oklahoma was good to excellent. Most parts of the state received adequate rainfall to produce an average to above average yields. In the spring we experienced several storms that did cause some lodging but most fields were harvested with little yield loss as a result from the lodging. The lodging was more a result from excessive winter and early spring growth due to ideal growing conditions.

The 2011-2012 winter we experienced was mild and very little winter kill was observed as long as the planting date was within the recommended timeframe. As long as the planting date recommendations are followed winter kill appears to not be a problem for most areas in Oklahoma when using recommended varieties/hybrids for Oklahoma.

### Pest problems

Overall, pest problems were average in 2011-2012. Aphid pressure varied from region to region as usual. In the drier areas pest pressure tended to be greater. Some disease pressure was observed throughout the spring but did not appear to result in any yield loss.

### Interpreting Data

Details of establishment and management of each test are listed in footnotes below the tables. Least significant differences (LSD) are listed at the bottom of all but the Performance Summary tables. Differences between varieties are significant only if they are equal to or greater than the LSD value. If a given variety out yields another variety by as much or more than the LSD value, then we are 95% sure that the yield difference is real, with only a 5% probability that the difference is due to chance alone. For example, if variety X is 500 lb/acre higher in yield than variety Y, then this difference is statistically significant if the LSD is 500 or less. If the LSD is 501 or greater, then we are less confident that variety X really is higher yielding than variety Y under the conditions of the test.

The CV value or coefficient of variation, listed at the bottom of each table is used as a measure of the precision of the experiment. Lower CV values will generally relate to lower experimental error in the trial. Uncontrollable or immeasurable variations in soil fertility, soil drainage, and other environmental factors contribute to greater experimental error and higher CV values. Generally, a CV less than 15 for canola trials is considered good. This is an indication that less error was observed in the plots.

Results reported here should be representative of what might occur throughout the state but would be most applicable under environmental and management conditions similar to those of the tests. The relative yields of all forage legume varieties are affected by crop management and by environmental factors including soil type, winter conditions, soil moisture conditions, diseases, and insects.

### Methods

Test locations were near Burlington, El Reno, Ft. Cobb, Lahoma, Lamont, Kingfisher, Goodwell, and Stillwater. The location at Kingfisher was lost due to environmental conditions. Data from Goodwell is not reported due to a CV above 30%.

Plots were 4 ft wide by 25 feet long and seeded at a rate of 5 lb/ac. Soil characteristics and fertilizer applied is indicated for each location on later pages. Plots were kept pest free for the duration of the growing season. Entire plots were desiccated and harvested with a small plot combine.

#### Additional information on the Web

A copy of this publication as well as additional variety information and more information on canola management can be found at: <u>www.canola.okstate.edu/</u>

### Table 1. Sources of seed for the 2011-2012 Winter Canola Performance Tests.

Name/Address	Entry	Roundup Ready
Kansas State Univ. http://www.agronomy.ksu.edu/research/p.aspx?tabid=81	KS4083 KS4428 KS4564 Riley Sumner Wichita KSR07352S KSR07361 KSR07363	No No No No Yes Yes Yes
Croplan Genetics http://www.croplangenetics.com/	HyClass 115W HyClass 125W HyClass 154W	Yes Yes Yes
DL Seeds http://www.rubiscoseeds.com/	Baldur Sitro	No No
Johnston Seed Co. http://www.jeinc.com/seed	Claremore CL	No
Dekalb http://www.asgrowanddekalb.com	DKW41-10 DKW44-10 DKW46-15 DKW47-15	Yes Yes Yes Yes
Pioneer Hi-Bred Int. https://www.pioneer.com	46W94 46W99	Yes Yes

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

#### **Cooperating Producer**

Doug Hauser-Kingfisher, OK Jerry Lingo-El Reno, OK Rusty Schurter-Burlington, OK Jeff Scott-Lamont, OK

### **Cooperating County Educators**

Jeff Bedwell Keith Boevers Tommy Puffinbarger Brad Tipton

#### **Cooperating Station Superintendents**

Erich Wehrenberg, Agronomy Research Station, Stillwater Bobby Weidenmaier, Caddo Research Station, Fort Cobb Ray Sidwell, North Central Research Station, Lahoma

### Burlington, OK Winter Canola Performance Trials

### **Observations:**

An excellent stand was achieved in the fall and no winter kill was observed. Plants were 3-4 leaves going into winter dormancy. Only a glyphosate resistant trial was harvest at this location. Overall, seed yields at Burlington averaged 2183 lb/ac in the Glyphosate resistant trial. Plots were lodged by wind 1 to 2 weeks prior to swathing.

### Table 1. Information on soil properties and management practices for Burlington, OK in 2011-2012.

Date Planted Soil Moisture at Planting	29-Sep Dry	Fertilizer Applied (Ibs/ac)		
Soil Characteristics/Mgt		Fall Nitrogen 30		
Conventional-till Seedbed		Spring Nitrogen 100		
Grant Silt Loam		Total Nitrogen 130		
Tabler Silty Clay Loam		$P_2O_5 = 0$		
		K,O 0		
		Sulfur 10		
Swathed	9-May			
Harvested	21-May			

## Table 2. Selected cultivar characteristics and seed yields for the glyphosate resistant winter canola performance trial at Burlington, OK in 2011-2012 and 2-year averages.

Cultivar	Company	Fall Stand Rating	Winter Survival	Seed Yield 2011-2012	2-year Average Seed Yield
		%		Ib.	s/ac
46W94	Pioneer Hi-Bred Int	100	100	2,821	-
HYC125W	Croplan Genetics	100	100	2,425	2,266
KSR07363	Kansas State Univ.	100	100	2,375	-
DKW 44-10	Dekalb	100	100	2,252	3,055
DKW 46-15	Dekalb	100	100	2,183	2,235
KSR07352S	Kansas State Univ.	100	100	2,121	-
HYC115W	Croplan Genetics	100	100	2,079	2,169
DKW 47-15	Dekalb	100	100	2,070	2,170
HYC154W	Croplan Genetics	100	100	2,045	2,148
DKW 41-10	Dekalb	100	100	2,019	2,251
KSR07361	Kansas State Univ.	100	100	1,962	-
46W99	Pioneer Hi-Bred Int	100	100	1,839	-
Mean				2,183	2,328
LSD (P=0.05)				NS	
CV				19	

† Fall stand rating was based on ratings taken in November.

### El Reno, OK Winter Canola Performance Trials

### **Observations:**

An excellent stand was achieved in the fall and no winter kill was observed. Plants were 4-5 leaves going into winter dormancy. Yields were excellent given the dry start to the growing season. Overall, seed yields at El Reno averaged 3111 lb/ac in the Glyphosate resistant trial and 2803 lb/ac in the conventional test. Some lodging and shattering were observed prior to swathing and harvest. High winds hit the plot area 1 week prior to swathing that caused most of the lodging and shattering. Lodging was most likely a result of the excellent growth potential (thick stand, warm temperatures, and abundant moisture) we experienced in late winter and early spring. In most years we would not have to consider lodging to be a problem.

Date Planted	27-Sep		
Soil Moisture at Planting	Dry	Fertilizer Applie	ed (Ibs/ac)
Soil Characteristics		Fall Nitrogen	30
Pond Creek Silt Loam		Spring Nitrogen	100
		Total Nitrogen	130
		P <sub>2</sub> O <sub>5</sub> 0	
		К,O 0	
		Sulfur 10	
Swathed	7-May		
Harvested	16-May		

#### Table 3. Information on soil properties and management practices for El Reno, OK in 2011-2012.

## Table 4. Selected cultivar characteristics and seed yields for the glyphosate tolerant winter canola performance trial at El Reno, OK in 2011-2012, and 2-year averages.

Cultivar	Company	Fall Stand Rating†	Winter Survival‡	Lodging Rating#	Estimated Shatter Loss	Seed Yield 2011-2012	2-year Average Seed Yield
		%	6		%	Ibs	/ac
46W94	Pioneer Hi-Bred Int	100	100	1.7	10	3,860	-
HYC115W	Croplan Genetics	100	100	1.3	13	3,403	2,681
HYC125W	Croplan Genetics	100	100	1.0	13	3,322	2,539
HYC154W	Croplan Genetics	100	100	1.0	10	3,141	2,753
DKW 44-10	Dekalb	100	100	2.3	13	3,141	2,447
KSR07352S	Kansas State Univ.	100	100	2.3	10	3,115	-
KSR07363	Kansas State Univ.	100	100	2.0	10	3,092	-
DKW 47-15	Dekalb	100	100	1.0	10	3,078	2,496
DKW 46-15	Dekalb	100	100	1.0	10	3,000	2,342
46W99	Pioneer Hi-Bred Int	100	100	2.3	13	2,902	-
KSR07361	Kansas State Univ.	100	100	2.3	10	2,702	-
DKW 41-10	Dekalb	100	100	1.0	17	2,577	2,016
Mean						3,111	2,468
LSD (P=0.05)						NS	
CV						19	

† Fall stand rating was based on a 0 to 10 scale with 10 being a full stand.

‡ Winter survival ratings were taken in the spring after winter dormancy was broken (rated as percent of the plot that survived).

# Lodging rating was based on a 0 to 5 scale with 5 being the complete lodging of plot.

Cultivar	Company	Fall Stand Rating†	Winter Survival‡	Lodging Rating#	Estimated Shatter Loss	Seed Yield 2011-2012	2-year Average Seed Yield
			%		%	Ik	b/ac
Sitro	DL Seeds	100	100	1	10	3,425	-
KS4083	Kansas State Univ.	100	100	1	10	2,868	2,550
KS4428	Kansas State Univ.	100	100	1	10	2,859	2,495
Wichita	Kansas State Univ.	100	100	1	10	2,836	2,466
Baldur	DL Seeds	100	100	1	10	2,795	2,481
Sumner	Kansas State Univ.	100	100	1	10	2,735	2,415
Riley	Kansas State Univ.	100	100	1	10	2,603	2,325
KS4564	Kansas State Univ.	100	100	2	10	2,586	-
ClaremoreCL	Johnston Seed Co.	100	100	1	10	2,521	-
Mean						2,803	2,455
LSD (P=0.05)						NS	
CV						17	

Table 5. Selected cultivar characteristics and seed yields for the conventional winter canola performance trial at El Reno, OK in 2011-2012, and 2-year averages.

† Fall stand rating was based on a 0 to 10 scale with 10 being a full stand.

‡ Winter survival ratings were taken in the spring after winter dormancy was broken (rated as percent of the plot that survived).

# Lodging rating was based on a 0 to 5 scale with 5 being the complete lodging of plot

### Fort Cobb, OK Winter Canola Performance Trials

### **Observations:**

An excellent stand was achieved in the fall and no winter kill was observed. Plants were 4-5 leaves going into winter dormancy. Yields were excellent given the dry start to the growing season. Overall, seed yields at Fort Cobb averaged 2685 lb/ac in the Glyphosate resistant trial and 2727 lb/ac in the conventional test. No shatter was observed prior to harvesting. Lodging was observed in some plots but was more a result of environmental conditions and not specifically related to cultivars.

Table 6. Information on soil	properties and manage	ment practices for Fort Cobb	OK in 2011-2012
	properties and manage		, OK III ZUIII ZUIZ.

Date Planted	3-Oct	
Soil Moisture at Planting	Good	Fertilizer Applied (lbs/ac)
Soil Chemical Character	istics	Fall Nitrogen 30
Binger fine sandy loam		Spring Nitrogen 100
Pond Creek fine sandy loa	ım	Total Nitrogen 130
		P <sub>2</sub> O <sub>5</sub> 0
		K,O 0
		Sulfur 10
Swathed	4-May	
Harvested	11-May	

## Table 7. Selected cultivar characteristics and seed yields for the glyphosate tolerant winter canola performance trial at Fort Cobb, OK in 2011-2012.

Cultivar	Company	Fall Stand Rating†	Winter Survival‡	Estimated Shatter Loss	Seed Yield 2011-2012
		%	<u></u>	%	Ibs/ac
46W94	Pioneer Hi-Bred Int	100	100	0	3,275
46W99	Pioneer Hi-Bred Int	100	100	0	3,136
KSR07363	Kansas State Univ.	100	100	0	2,826
HYC115W	Croplan Genetics	100	100	0	2,805
HYC125W	Croplan Genetics	100	100	0	2,708
KSR07361	Kansas State Univ.	100	100	0	2,633
DKW 47-15	Dekalb	100	100	0	2,625
DKW 44-10	Dekalb	100	100	0	2,604
HYC154W	Croplan Genetics	100	100	0	2,537
KSR07352S	Kansas State Univ.	100	100	0	2,392
DKW 46-15	Dekalb	100	100	0	2,382
DKW 41-10	Dekalb	100	100	0	2,294
Mean					2,685
LSD (P=0.05)					384
CV					14

† Fall stand rating was based on a 0 to 10 scale with 10 being a full stand.

Cultivar	Company	Fall Stand Rating†	Winter Survival‡	Estimated Shatter Loss	Seed Yield 2011-2012
		%	5	%	Ibs/ac
Sitro	DL Seeds	100	100	0	3,667
Baldur	DL Seeds	100	100	0	3,076
KS4428	Kansas State Univ.	100	100	0	2,743
Wichita	Kansas State Univ.	100	100	0	2,724
Riley	Kansas State Univ.	100	100	0	2,662
KS4083	Kansas State Univ.	100	100	0	2,630
Sumner	Kansas State Univ.	100	100	0	2,527
KS4564	Kansas State Univ.	100	100	0	2,371
Claremore CL	Johnston Seed Co.	100	100	0	2,142
Mean					2,727
LSD (P=0.05)					312
CV					17

Table 8. Selected cultivar characteristics and seed yields for the conventional winter canola performance trial at Fort Cobb, OK in 2011-2012.

† Fall stand rating was based on a 0 to 10 scale with 10 being a full stand.

## Lahoma, OK Winter Canola Performance Trials

### **Observations:**

A decent stand was achieved in the fall and no winter kill was observed. Plants were 3-4 leaves going into winter dormancy. For some unexplainable reason this location had very little growth in the fall and regrowth in the spring was slow as well. Yields were a little lower than usual at this location. Overall, seed yields at Lahoma averaged 1467 lb/ac in the Glyphosate resistant trial and 1859 lb/ac in the conventional test. No shattering or lodging was observed at this location.

Date Planted	23-Sep	
Soil Moisture at Planting	Good	Fertilizer Applied (lbs/ac)
Soil Characteristics/Mgt		Fall Nitrogen 30
Conventional-till Seedbed		Spring Nitrogen 100
Grant Silt Loam		Total Nitrogen 130
		$P_2O_5$ 0
		K <sup>2</sup> 0 0
		Sulfur 10
Swathed	11-May	
Harvested	22-May	

Table 9. Information on soil properties and management practices for Lahoma, OK in 2011-2012.

Table 10. Selected cultivar characteristics and seed yields for the glyphosate tolerant winter canola performance trial at Lahoma, OK in 2011-2012, and 2- and 3-year averages.

Cultivar	Company	Fall Stand Rating <sup>†</sup>	Winter Survival <sup>‡</sup>	Seed Yield 2011-2012	2-year Average Seed Yield	3-year Average Seed Yield
		9	6		Ibs/ac	
HYC154W	<b>Croplan Genetics</b>	100	100	1848	2,709	2,513
HYC125W	Croplan Genetics	100	100	1601	2,631	2,499
DKW 44-10	Dekalb	100	100	1566	2,741	2,695
46W94	Pioneer Hi-Bred Int	100	100	1552	-	-
46W99	Pioneer Hi-Bred Int	100	100	1493	-	-
KSR07363	Kansas State Univ.	100	100	1492	-	-
DKW 47-15	Dekalb	100	100	1490	2,533	2,385
KSR07361	Kansas State Univ.	100	100	1484	-	-
KSR07352S	Kansas State Univ.	100	100	1395	-	-
DKW 46-15	Dekalb	100	100	1326	2,424	2,335
HYC115W	Croplan Genetics	100	100	1289	2,464	2,333
DKW 41-10	Dekalb	100	100	1065	1,873	1,779
Mean				1467	2,482	2,363
LSD (P=0.0	05)			NS		
CV	•			27		

† Fall stand rating was based on a 0 to 10 scale with 10 being a full stand.

Table 11. Selected cultivar characteristics and seed yields for the conventional winter canola performance trial at Lahoma, OK in 2011-2012, and 2- and 3-year averages.

Cultivar	Company	Fall Stand Rating <sup>†</sup>	Winter Survival <sup>‡</sup>	Seed Yield 2011-2012	2-year Average Seed Yield	3-year Average SeedYield
		%			Ibs/ac	
Sitro	DL Seeds	100	100	2501	-	-
Baldur	DL Seeds	100	100	2180	2,699	2,629
KS4564	Kansas State Univ.	100	100	1843	-	-
Wichita	Kansas State Univ.	100	100	1830	2,417	2,546
Claremore CL	Johnston Seed Co.	100	100	1799	-	-
Riley	Kansas State Univ.	100	100	1792	2,356	2,302
KS4428	Kansas State Univ.	100	100	1647	2,274	-
KS4083	Kansas State Univ.	100	100	1597	2,241	-
Sumner	Kansas State Univ.	100	100	1541	2,469	2,364
Mean				1859	2,409	2,460
LSD (P=0.05	5)			402		
CV				21		

† Fall stand rating was based on a 0 to 10 scale with 10 being a full stand.

### Lamont, OK Winter Canola Performance Trials

### **Observations:**

An excellent stand was achieved in the fall and no winter kill was observed. Plants were 4-5 leaves going into winter dormancy. Overall, seed yields at Lamont averaged 1394 lb/ac in the Glyphosate resistant trial and 1495 lb/ac in the conventional test. Severe lodging and shattering were observed prior to swathing. High winds, rain, and hail hit the plot area 1-2 weeks prior to swathing that caused lodging and shattering. When viewing the yield data please keep in mind some cultivars had more shatter than others.

Date Planted	28-Sep	
Soil Moisture at Planting	Good	Fertilizer Applied (lbs/ac)
Soil Characteristics/Mgt		Fall Nitrogen 100
Vertical-till Seedbed		Spring Nitrogen 100
Pond Creek Silt Loam		Total Nitrogen 200
		$P_2O_5 = 0$
		K,O 0
		Sulfur 10
Swathed	7-May	
Harvested	21-May	

#### Table 12. Information on soil properties and management practices for Lamont, OK in 2011-2012.

## Table 13. Selected cultivar characteristics and seed yields for the glyphosate resistant winter canola performance trial at Lamont, OK in 2011-2012.

Cultivar	Company	Fall Stand Rating†	Winter Survival‡	Estimated Shatter Loss	Seed Yield 2011-2012	
		%	5	%	Ib/ac	
46W94	Pioneer Hi-Bred Int	100	100	23	1,846	
KSR07363	Kansas State Univ.	100	100	17	1,597	
46W99	Pioneer Hi-Bred Int	100	100	20	1,564	
HYC115W	Croplan Genetics	100	100	20	1,460	
HYC154W	Croplan Genetics	100	100	13	1,419	
KSR07352S	Kansas State Univ.	100	100	10	1,405	
HYC125W	Croplan Genetics	100	100	13	1,370	
KSR07361	Kansas State Univ.	100	100	17	1,293	
DKW 41-10	Dekalb	100	100	37	1,225	
DKW 46-15	Dekalb	100	100	17	1,190	
DKW 47-15	Dekalb	100	100	20	1,184	
DKW 44-10	Dekalb	100	100	13	1,174	
Mean				18	1,394	
LSD (P=0.05)					317	
CV					20	

† Fall stand rating was based on ratings taken in November.

Cultivar	Company	Fall Stand Rating†	Winter Survival‡	Estimated Shatter Loss	Seed Yield 2011-2012
		%	, 	%	Ibs/ac
Sitro	DL Seeds	100	100	10	2,201
KS4428	Kansas State Univ.	100	100	13	1,564
Wichita	Kansas State Univ.	100	100	13	1,513
Baldur	DL Seeds	100	100	13	1,492
Sumner	Kansas State Univ.	100	100	17	1,456
Riley	Kansas State Univ.	100	100	20	1,392
KS4083	Kansas State Univ.	100	100	17	1,363
ClaremoreCL	Johnston Seed Co.	100	100	10	1,320
KS4564	Kansas State Univ.	100	100	17	1,155
Mean				14	1495
LSD (P=0.05)					266
CV					21

Table 14. Selected cultivar characteristics and seed yields for the conventional winter canola performance trial at Lamont, OK in 2011-2012.

† Fall stand rating was based on ratings taken in November.

### Stillwater, OK Winter Canola Performance Trials

### **Observations:**

An excellent stand was achieved in the fall and no winter kill was observed. Plants were 4-5 leaves going into winter dormancy. Overall, seed yields at Stillwater averaged 2006 lb/ac in the Glyphosate resistant trial and 1739 lb/ac in the conventional test. Some lodging and shattering were observed prior to swathing and harvest. High winds hit the plot area 1 week prior to swathing that caused most of the lodging and shattering. Lodging was most likely a result of the excellent growth potential (thick stand, warm temperatures, and abundant moisture) we experienced in late winter and early spring. In most years we would not have to consider lodging to be a problem.

Date Planted	4-Oct				
Soil Moisture at Planting	Good	Fertilizer Applied (lbs/ac)			
Soil Characteristics/Mgt		Fall Nitrogen 30			
Conventional Till Seedbed		Spring Nitrogen 100			
Port Silt Loam		Total Nitrogen 130			
		P <sub>2</sub> O <sub>5</sub> 0			
		K,0 0			
		Sulfur 10			
Swathed	8-May				
Harvested	18-May				

### Table 15. Information on soil properties and management practices for Stillwater, OK in 2011-2012.

Table 16. Selected cultivar characteristics and seed yields for the glyphosate resistant winter canola performance trial at Stillwater, OK in 2011-2012, and 2-year averages.

Cultivar	Company	Fall Stand Rating†	Winter Survival‡	Estimated Shatter Loss	Seed Yield 2011-2012	2-year Average Seed Yield
			%		Ik	os/ac
46W94	Pioneer Hi-Bred Int	100	100	10	2,554	-
46W99	Pioneer Hi-Bred Int	100	100	10	2,242	-
DKW 41-10	Dekalb	100	100	20	2,102	2,065
DKW 44-10	Dekalb	100	100	10	2,073	2,453
HYC154W	Croplan Genetics	100	100	10	2,026	2,239
KSR07361	Kansas State Univ.	100	100	10	1,997	-
DKW 47-15	Dekalb	100	100	10	1,938	2,354
KSR07363	Kansas State Univ.	100	100	10	1,916	-
HYC125W	Croplan Genetics	100	100	10	1,894	2,313
DKW 46-15	Dekalb	100	100	10	1,781	2,138
HYC115W	Croplan Genetics	100	100	10	1,780	2,343
KSR07352S	Kansas State Univ.	100	100	10	1,769	-
Mean					2,006	2,272
LSD (P=0.05)					365	
CV					17	

† Fall stand rating was based on ratings taken in November.

Cultivar	Company	Fall Stand Rating†	Winter Survival‡	Estimated Shatter Loss	Seed Yield 2011-2012	2-year Average Seed Yield
		%%		lbs/ac		
Sitro	DL Seeds	100	100	10	2,137	-
KS4428	Kansas State Univ.	100	100	10	1,863	2,495
KS4083	Kansas State Univ.	100	100	10	1,760	2,422
Claremore CL	Johnston Seed Co.	100	100	10	1,754	-
Wichita	Kansas State Univ.	100	100	10	1,733	2,329
KS4564	Kansas State Univ.	100	100	10	1,722	-
Baldur	DL Seeds	100	100	10	1,633	2,282
Riley	Kansas State Univ.	100	100	10	1,575	2,214
Sumner	Kansas State Univ.	100	100	10	1,473	2,217
Mean					1,739	2,327
LSD (P=0.05)					NS	
CV					18	

Table 17. Selected cultivar characteristics and seed yields for the conventional winter canola performance trial at Stillwater, OK in 2011-2012, and 2-year averages.

† Fall stand rating was based on ratings taken in November.

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