



Current Report

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2009-2010 Winter Canola Performance Trials

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Production season

The 2009-2010 canola production season in Oklahoma was good to excellent in most areas of the state. The southwestern part of the state dealt with pest pressure, but—for the most part—pest pressure was average to below average for the state. In most parts of the state, adequate moisture was received to produce above average yields.

The 2009-2010 winter was the coldest winter in recent history, and very little winter kill was observed when the planting date was within the recommended time frame. 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. During the growing season, we expanded our knowledge of growing winter canola and identifying varieties that have the greatest potential for Oklahoma. Canola remains a highly viable crop for most areas of Oklahoma.

Pest problems

Overall, pest problems were average in 2009-2010. Aphid pressure varied from region to region as usual. In the southwestern part of the state, aphid control was challenging and many fields were sprayed twice. The further north you went, fewer applications of pesticides were necessary.

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 among 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 percent sure that the yield difference is real, with only a 5 percent probability that the difference is due to chance alone. For example, if variety X is

500 lbs/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 coefficient of variation (CV value) 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 canola cultivars are affected by crop management and by environmental factors including soil type, winter conditions, soil moisture conditions, diseases and insects.

Methods

Oklahoma test locations were near Frederick, Fort Cobb, Dacoma, Lahoma, Lamont and Hennessey. The location at Dacoma was lost due to environmental conditions.

Plots were 4 feet wide by 20 feet long and seeded at a rate of 5 lbs/acre. 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 swathed and harvested with a small plot combine.

Additional information on the Web

A copy of this publication, additional variety information and more information on canola management can be found at: www.canola.okstate.edu/

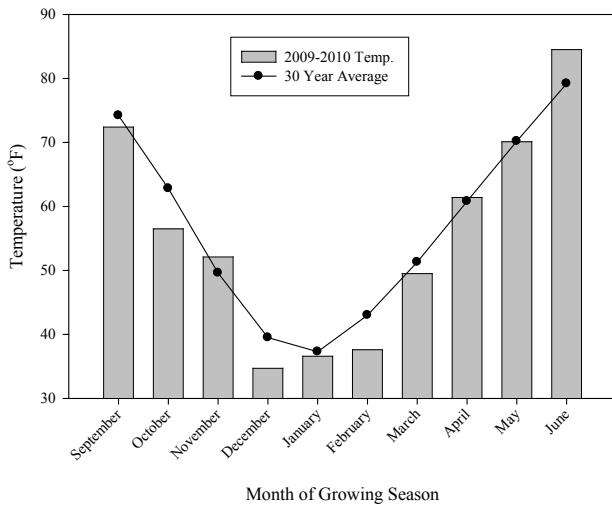
Table 1. Sources of seed for the 2009-2010 Winter Canola/Rapeseed Performance Tests.

<i>Name/Address</i>	<i>Contact</i>	<i>Entries</i>	<i>Roundup Ready</i>	<i>Hybrid/OP†</i>
Dekalb/Monsanto	620-825-4315	DKW 46-15	Yes	OP
540 Dickinson St		DKW 41-10	Yes	OP
P.O.Box 47		DKW 47-15	Yes	OP
Kiowa,KS 67070		DKW 44-10	Yes	OP
		CWH 633	Yes	OP
DL Seeds	204-331-2360	Baldur	No	Hybrid
Box 2499		Sitro	No	Hybrid
Mordien, MB Canada		Visby	No	Hybrid
Kansas State Univ./	785-532-3871	Wichita	No	OP
Oklahoma State Univ.		Sumner	No	OP
2004 Throckmorton Plant		KS 3132	No	OP
Sciences Center		KS 3254	No	OP
Manhattan, KS 66506		KS 4031	No	OP
		KS 4158	No	OP
		KS 4313	No	OP
		KS 4426	No	OP
		KS 4475	No	OP
		9135 (Kiowa)	No	OP
Cropland Genetics	701-852-3556	Hyclass 110W	Yes	OP
525 55th St. SE		Hyclass 115 W	Yes	OP
Minot, ND 58701		Hyclass 154W	Yes	Hybrid
Technology Crops Int.	336-354-1144	Ropssini (High Erucic Acid)	No	Hybrid
7996 North Point Blvd				
Suite 100				
Winston-Salem, NC 27106				

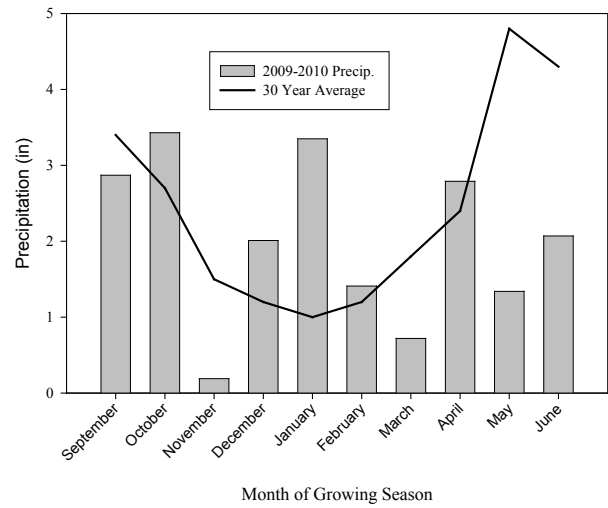
† Indicates if the entry is a hybrid or open pollinated variety.

Frederick, Okla.

Frederick Temperature



Frederick Precipitation



Observations:

This location was new to the trial in 2009-2010. In the past, the location was located near Altus. This location better suited the soil types in which canola was being grown in the area. The location had ideal soil moisture at planting. An ideal stand was achieved, but throughout the winter the soil remained waterlogged, which caused a reduction in stands and plant vigor in the late-winter period. Aphid pressure also was high at this location, resulting in two pesticide applications. Aphid damage was observed in the plots and estimated to be 5 percent to 10 percent, but it was uniform across the plots. Seed yields averaged 1,223 lbs/acre when averaged across all varieties/hybrids.

Table 2. Information on soil properties and management practices for Frederick, Okla. in 2009-2010.

Date Planted	30-Sep		
Soil Moisture at Planting	Good		
Soil Chemical Characteristics		Fertilizer Applied (lbs/acre)	
Soil pH	8	Fall Nitrogen	30
Soil Test P Index	31	Spring Nitrogen	100
Soil Test K Index	806	Total Nitrogen	130
Nitrate-N (lbs N/acre)	-	P ₂ O ₅	0
Sulfur (lbs/acre)	-	K ₂ O	0
		Sulfur	10
Fall Stand Counts Taken	10-Dec		
Winter Survival Ratings	-	Insecticide Applied	two times
Swathed	28-May		
Harvested	2-Jun		

Table 3. Selected cultivar characteristics and seed yields at Frederick, Okla. in 2009-2010 and 2-year average.

<i>Cultivar</i>	<i>Fall Stand Rating†</i>	<i>Winter Survival‡</i>	<i>Maturity at Swathing§</i>	<i>Height</i>	<i>Seed Yield 2009-2010</i>	<i>2-yr Average Seed Yield</i>
	----- % -----			- in -	- lbs/acre -	- lbs/acre -
Rossini¶	10	-	1.2	34	1,715	1,765
DWK 44-10 ††	10	-	1.3	31	1,529	-
Sitro	10	-	2.3	39	1,515	1,319
HYCLASS 115W††	10	-	1.5	36	1,438	-
DKW 47-15††	10	-	1.5	34	1,372	1,254
KS4158	10	-	2.3	34	1,372	-
KS4426	10	-	1.8	34	1,359	-
DKW 46-15††	10	-	1.3	33	1,268	1,159
KIOWA	10	-	1.7	33	1,266	-
Baldur	10	-	2.0	41	1,249	-
KS3254	10	-	1.1	33	1,243	-
KS4031	10	-	2.2	33	1,175	-
HYCLASS 110W††	10	-	2.0	24	1,150	-
KS3132	10	-	2.5	34	1,144	-
WICHITA	10	-	2.2	36	1,120	970
HYCLASS 154W††	10	-	2.7	36	1,111	1,069
SUMNER	10	-	1.7	33	1,038	942
CWH 633††	10	-	2.2	35	1,025	1,015
KS4475	10	-	2.1	32	1,010	-
KS4313	10	-	1.7	37	943	-
DKW 41-10††	10	-	1.2	30	942	847
Visby	10	-	1.7	40	917	1,102
LSD (P=0.05)			0.9		536	405
CV			32		25	

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

‡ Winter survival ratings were not taken in the spring after winter dormancy was broken.

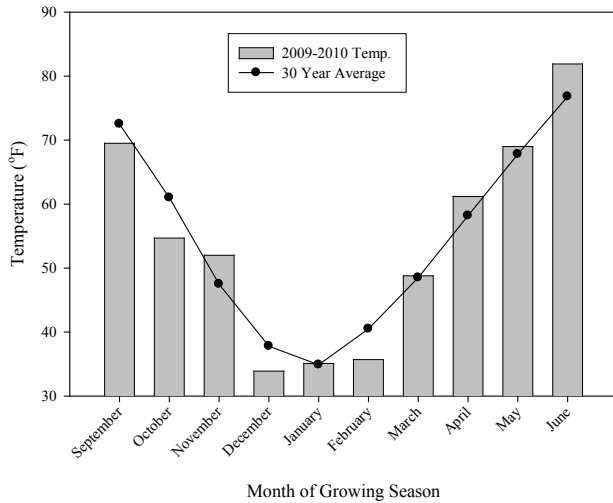
§ Maturity ratings were determined at swathing by visually estimating the percentage of the seed in pods that had turned black.

¶ High erucic acid rapeseed, can only be used for industrial purposes.

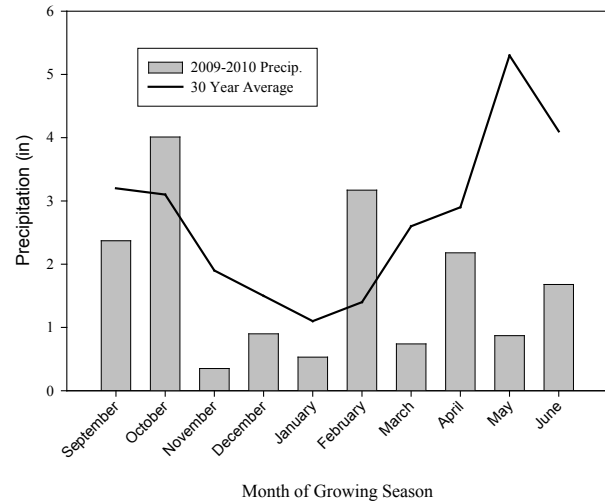
†† Roundup ready canola.

Fort Cobb, Okla.

Fort Cobb Temperature



Fort Cobb Precipitation



Observations:

The Fort Cobb location was planted during the optimum planting dates for the area (Sept. 20 to Oct. 1). The location was at the Caddo Research Station on a sandy loam soil. Stresses were minimal at the location throughout the entire growing season, as indicated by the outstanding yields. Seed yields at Fort Cobb averaged 3,297 lbs/acre when averaged across all varieties/hybrids.

Table 4. Information on soil properties and management practices for Fort Cobb, Okla. in 2009-2010.

Date Planted	30-Sep		
Soil Moisture at Planting	Good		
Soil Chemical Characteristics		Fertilizer Applied (lbs/acre)	
Soil pH	7.1	Fall Nitrogen	43
Soil Test P Index	56	Spring Nitrogen	134
Soil Test K Index	426	Total Nitrogen	174
Nitrate-N (lbs N/acre)	15	P ₂ O ₅	23
Sulfur (lbs/acre)	18	K ₂ O	0
		Sulfur	12
Fall Stand Counts Taken	20-Nov		
Winter Survival Ratings	1-Mar	Insecticide Applied	two times
Swathed	28-May		
Harvested	2-Jun		

Table 5. Selected cultivar characteristics and seed yields at Fort Cobb, Okla. in 2009-2010 and a 2-year average.

<i>Cultivar</i>	<i>Fall Stand Rating†</i>	<i>Winter Survival‡</i>	<i>Maturity at Swathing§</i>	<i>Height</i>	<i>Seed Yield 2009-2010</i>	<i>2-yr Average Seed Yield</i>
	----- % -----			- in -	- lbs/acre -	- lbs/acre -
Rossini¶	10	100	3.3	38	3,884	3,519
Visby	10	100	3.3	40	3,711	2,931
WICHITA	10	100	3.5	39	3,637	2,540
Sitro	10	100	3.8	41	3,614	2,932
Baldur	10	100	4.0	44	3,570	-
DWK 44-10 ††	10	100	3.5	40	3,524	-
HYCLASS 115W††	10	100	3.5	39	3,448	-
SUMNER	10	100	3.0	38	3,429	2,476
DKW 46-15††	10	100	2.5	38	3,410	2,894
KS4426	10	100	4.3	41	3,350	-
KIOWA	10	100	3.8	40	3,348	-
KS4475	10	100	3.8	39	3,339	-
HYCLASS 110W††	10	100	3.3	39	3,228	-
DKW 47-15††	10	100	3.8	41	3,131	2,747
KS3254	10	100	3.8	41	3,117	-
KS3132	10	100	3.3	38	3,111	-
CWH 633††	10	100	3.8	41	3,060	2,669
KS4313	10	100	4.5	43	3,026	-
KS4158	10	100	3.3	38	3,022	-
KS4031	10	100	4.0	42	2,991	-
HYCLASS 154W††	10	100	4.3	41	2,911	2,916
DKW 41-10††	10	100	2.8	35	2,671	2,217
LSD (P=0.05)			1	4	450	390
CV			14	4	11	

† 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).

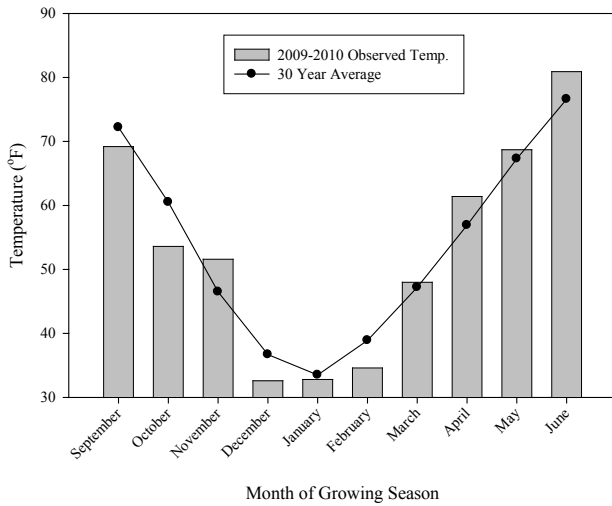
§ Maturity ratings were determined at swathing by visually estimating the percentage of the seed in pods that had turned black.

¶ High erucic acid rapeseed, can only be used for industrial purposes.

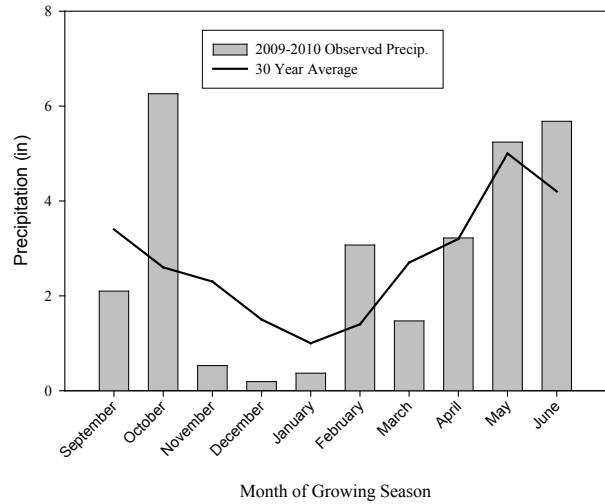
†† Roundup ready canola.

Hennessey, Okla.

Hennessey Temperature



Hennessey Precipitation



Observations:

Excellent seedbed moisture was present at planting, and the canola got off to a quick start. Seed yields were excellent at Hennessey with an average of 3,423 lbs/acre when averaged across all varieties/hybrids. Plants were affected very little from an early spring freeze that occurred just at the onset of blooming. Some winter kill was observed in the plots, the majority of winter kill can be blamed to excessive fall growth. No insecticide applications were made.

Table 6. Information on soil properties and management practices for Hennessey, Okla. in 2009-2010.

Date Planted	21-Sep		
Soil Moisture at Planting	Excellent		
Soil Chemical Characteristics		Fertilizer Applied (lbs/acre)	
Soil pH	na	Fall Nitrogen	30
Soil Test P Index	na	Spring Nitrogen	100
Soil Test K Index	na	Total Nitrogen	130
Nitrate-N (lbs N/acre)	na	P ₂ O ₅	0
Sulfur (lbs/acre)	na	K ₂ O	0
		Sulfur	10
Fall Stand Counts Taken	20-Nov		
Winter Survival Ratings	1-Mar	Insecticide Applied	none
Swathed	2-Jun		
Harvested	8-Jun		

Table 7. Selected cultivar characteristics and seed yields at Hennessey, Okla. in 2009-2010.

<i>Cultivar</i>	<i>Fall Stand Rating†</i>	<i>Winter Survival‡</i>	<i>Maturity at Swathing§</i>	<i>Height</i>	<i>Seed Yield 2009-2010</i>
	----- % -----			- in -	- lbs/acre -
DWK 44-10 ††	10	95	2.5	41	4,390
KS3254	10	87	3.5	46	3,910
KS4158	10	88	3.5	44	3,845
Visby	10	88	3.5	41	3,819
KS4313	10	78	4.0	48	3,805
HYCLASS 115W††	10	94	2.5	38	3,764
SUMNER	10	95	3.5	42	3,672
KS3132	10	94	4.0	42	3,663
DKW 46-15††	10	90	3.0	43	3,631
KS4031	10	92	3.5	46	3,623
WICHITA	10	93	3.0	44	3,586
KS4475	10	90	3.5	49	3,555
KS4426	10	94	4.0	45	3,553
CWH 633††	10	85	3.5	41	3,526
DKW 41-10††	10	89	1.5	35	3,456
KIOWA	10	84	3.5	47	3,289
Baldur	10	92	4.0	44	3,156
HYCLASS 154W††	10	94	4.5	44	3,017
HYCLASS 110W††	10	91	3.0	37	2,679
DKW 47-15††	10	87	3.5	37	2,634
Sitro	10	88	4.5	39	2,573
Rossini¶	10	86	3.5	37	2,151
LSD (P=0.05)		13	1	4	550
CV		11	16	4	12

† 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).

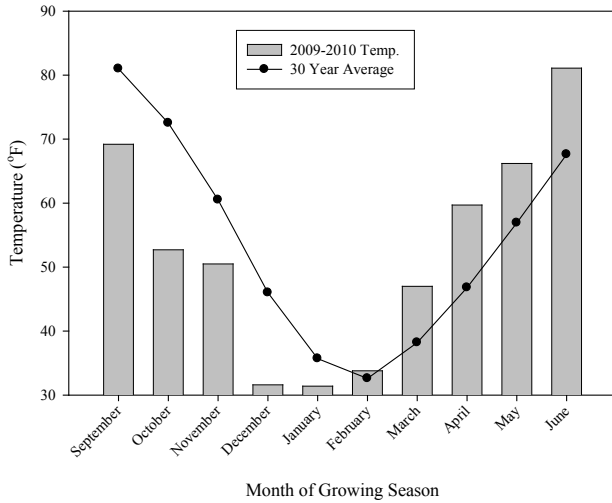
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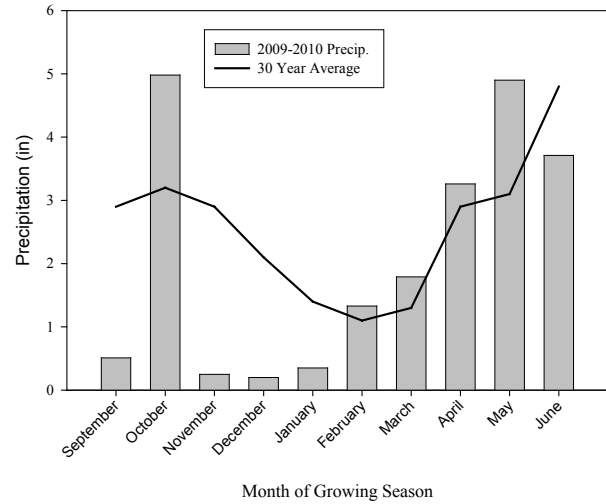
†† Roundup ready canola.

Lahoma, OK

Lahoma Temperature



Lahoma Precipitation



Observations:

The trial at Lahoma was seeded into a dry seedbed. Some seed was placed into moisture and quickly germinated but the others were placed in dry soil and needed rain to germinate. Plants were three to four leaves going into winter dormancy but the majority of plants survived the winter. Spring stands were sufficient to achieve high yields. Seed yields at Lahoma averaged 2,216 lb/ac when averaged across all varieties/hybrids. No insecticides were needed throughout the growing season.

Table 8. Information on soil properties and management practices for Lahoma, OK in 2009-2010.

Date Planted	21-Sep		
Soil Moisture at Planting	Dry		
Soil Chemical Characteristics		Fertilizer Applied (lbs/ac)	
Soil pH	7.8	Fall Nitrogen	30
Soil Test P Index	22	Spring Nitrogen	100
Soil Test K Index	408	Total Nitrogen	130
Nitrate-N (lbs N/ac)	-	P ₂ O ₅	0
Sulfur (lbs/ac)	-	K ₂ O	0
		Sulfur	10
Fall Stand Counts Taken	10-Dec		
Winter Survival Ratings	10-Feb	Insecticide Applied	none
Swathed	2-Jun		
Harvested	8-Jun		

Table 9. Selected cultivar characteristics and seed yields at Lahoma, Okla. in 2009-2010 and a 2-year average.

<i>Cultivar</i>	<i>Fall Stand Rating†</i>	<i>Winter Survival‡</i>	<i>Maturity at Swathing§</i>	<i>Height</i>	<i>Seed Yield 2009-2010</i>	<i>2-yr Average Seed Yield</i>
	----- % -----			- in -	- lbs/acre -	- lbs/acre -
WICHITA	8.0	100		37	2,803	2,644
Visby	8.0	100		38	2,689	2,816
Sitro	7.6	100	na	36	2,634	3,036
DWK 44-10 ††	8.2	100		34	2,604	-
KS3132	7.4	100		41	2,490	-
Baldur	8.2	100		41	2,488	-
Rossini¶	8.2	100		31	2,250	2,767
CWH 633††	7.6	100		38	2,236	2,731
KIOWA	8.2	100		42	2,215	-
KS3254	7.6	100		42	2,212	-
KS4158	7.8	100		40	2,195	-
KS4475	7.8	100		43	2,169	-
DKW 46-15††	7.2	100		37	2,159	2,607
SUMNER	7.8	100		38	2,154	2,374
HYCLASS 154W††	7.4	100		43	2,122	2,932
DKW 47-15††	7.4	100		35	2,090	2,645
HYCLASS 115W††	8.4	100		36	2,072	-
KS4313	7.6	100		42	2,011	-
KS4031	7.8	100		43	1,946	-
KS4426	7.2	100		40	1,871	-
HYCLASS 110W††	7.0	100		33	1,739	-
DKW 41-10††	6.4	100		30	1,591	2,073
LSD (P=0.05)	1.0				427	390
CV	9				13	

† 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).

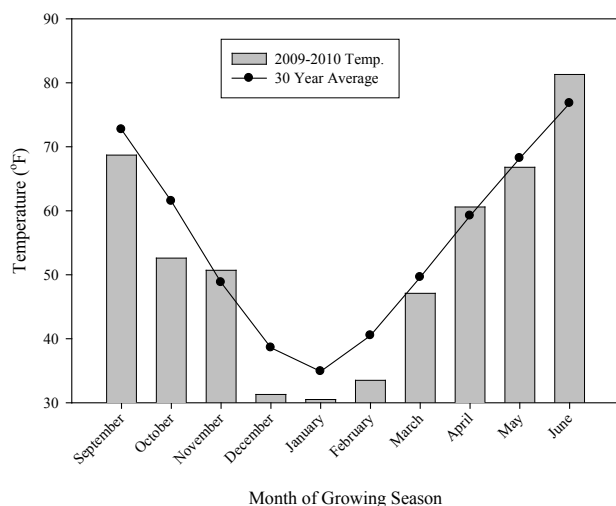
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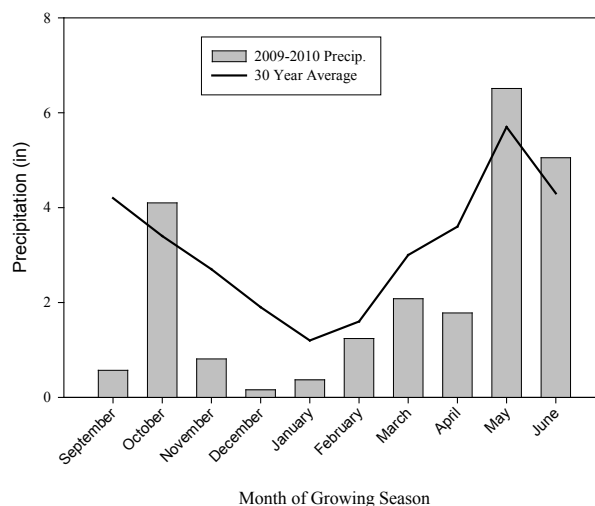
†† Roundup ready canola.

Lamont, Okla.

Lamont Temperature



Lamont Precipitation



Observations:

Lamont was added as a location in 2009-2010. This location was located on a farmer's field north of Lamont. This location was no-till that was burned and harrowed prior to planting. Little to no residue was present at planting time. Seed yields at Lamont averaged 2,705 lbs/acre when averaged across all varieties/hybrids. This location was stressed for moisture to a limited degree in April due to below normal rainfall.

Table 10. Information on soil properties and management practices for Lamont, Okla. in 2009-2010.

Date Planted	28-Sep		
Soil Moisture at Planting	Excellent		
Soil Chemical Characteristics		Fertilizer Applied (lbs/acre)	
Soil pH	6.1	Fall Nitrogen	100
Soil Test P Index	50	Spring Nitrogen	30
Soil Test K Index	-	Total Nitrogen	130
Nitrate-N (lbs N/acre)	35	P ₂ O ₅	0
Sulfur (lbs/acre)	-	K ₂ O	0
		Sulfur	20
Fall Stand Counts Taken	20-Nov		
Winter Survival Ratings	1-Mar	Insecticide Applied	none
Swathed	2-Jun		
Harvested	21-Jun		

Table 11. Selected cultivar characteristics and seed yields at Lamont, Okla. in 2009-2010.

<i>Cultivar</i>	<i>Fall Stand Rating†</i>	<i>Winter Survival‡</i>	<i>Maturity at Swathing§</i>	<i>Height</i>	<i>Seed Yield 2009-2010</i>
	----- % -----			- in -	- lbs/acre -
Sitro	7.8	100	na	37	3,135
DKW 46-15††	8.6	100		36	2,999
KS4158	8.8	100		40	2,976
KS4426	8.3	100		39	2,915
WICHITA	8.7	100		41	2,858
SUMNER	8.9	100		39	2,843
KS3132	9.0	100		39	2,833
Visby	7.6	100		38	2,801
Baldur	8.0	100		39	2,791
KS3254	8.9	100		43	2,786
KIOWA	8.1	100		44	2,755
Rossini¶	7.4	100		35	2,754
DWK 44-10 ††	9.0	100		34	2,727
KS4031	8.9	100		42	2,720
KS4475	8.6	100		37	2,701
KS4313	8.8	100		44	2,655
CWH 633††	8.4	100		35	2,612
HYCLASS 115W††	8.8	100		39	2,524
HYCLASS 154W††	8.1	100		39	2,492
DKW 47-15††	8.5	100		36	2,279
DKW 41-10††	8.4	100		33	2,239
HYCLASS 110W††	7.9	100		31	2,113
LSD (P=0.05)	1.0				385
CV	7				11

† 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).

§ Maturity ratings were determined at swathing by visually estimating the percentage of the seed in pods that had turned black.

¶ High erucic acid rapeseed, can only be used for industrial purposes.

†† Roundup ready canola.

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

Cooperating Producers

Craig Johnson, Dacoma, Okla.

Jeff Scott, Lamont, Okla.

Mack Farms, Hennessey, Okla.

Cooperating County Educators

Scott Price, Grant County

Jeff Bedwell, Garfield County

Aaron Henson, Tillman County

Cooperating Station Superintendents

Erich Wehrenberg, Agronomy Research Station, Stillwater, Okla.

Bobby Weidenmaier, Caddo Research Station, Fort Cobb, Okla.

Ray Sidwell, North Central Research Station, Lahoma, Okla.

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