

# 2005-2006 Winter Canola Variety Performance Tests

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## **2006 Winter Canola Crop Overview**

### **Production season**

The 2005-2006 winter canola production season in Oklahoma can be characterized as warm and dry. For many areas in Oklahoma this past canola growing season will go down among the driest in recorded history. Although poor growing conditions were encountered across much of Oklahoma a great deal was learned about production of canola. The drought tolerance of winter canola was surprising as it appeared to withstand the drought conditions as well as wheat in most areas of the state. Spring rains in parts of north central and north-west Oklahoma helped generate re-growth and increased yield potential of canola grown in these areas. In some cases, precipitation in these areas of the state during the months of April/May initiated a second round of blooming that caused dry down problems due to green pods. Canola produced in the southwestern part of the state did not receive significant rainfall and the majority of it was lost to the drought, similar to the winter wheat produced in the area. Even though 2005-2006 was a difficult production year for canola producers, canola remains a highly viable rotational crop for most areas of Oklahoma.

### **Insect problems**

Severe insect problems were observed in Oklahoma during the canola growing season. From January to March, Turnip Aphids and Green Peach Aphids were observed and treated in the majority of canola fields throughout Oklahoma. Damage from these aphids was extreme if left untreated. Diamondback Moths were also observed in several fields, although damage was believed to be minimal compared to aphids.

### **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 100 lbs/A higher in yield than variety Y, then this difference is statistically significant if the LSD is 100 or less. If the LSD is 101 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.

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 winter canola varieties are affected by crop management and by environmental factors including soil type, winter conditions, soil moisture conditions, diseases, and insects.

### **Methods**

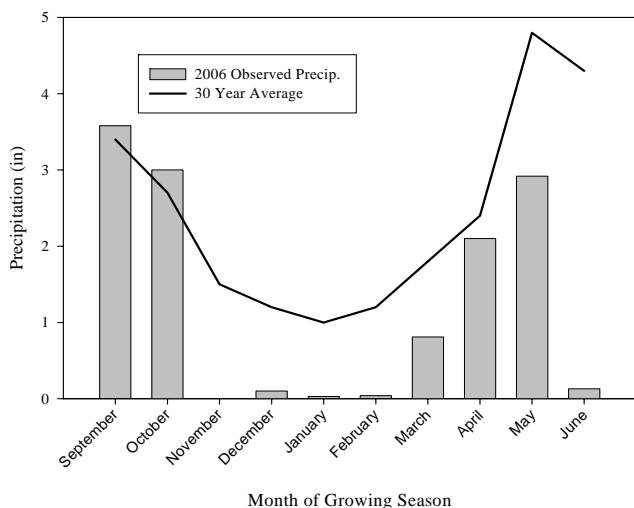
Test locations were on OSU Research Stations near Altus, Fort Cobb, Haskell, and Lahoma in 2005-2006. All locations were conventionally tilled prior to seeding. Weeds and insects were controlled at all locations to minimize yield loss.

### **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

# Altus Canola Variety Trial

Altus Precipitation



Altus Temperature

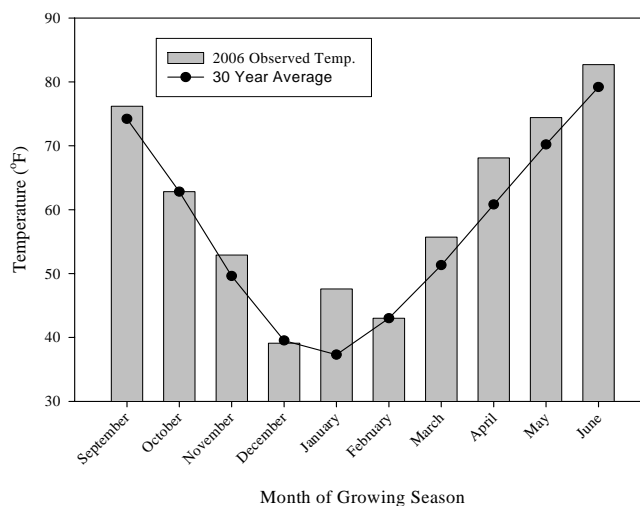


Table 1. Information on soil properties and management practices for Altus, OK in 2006.

Soil Properties	Result	Cultural Practice	Information
pH	6.6	Planting Date	September 9, 2005
O.M. (%)	0.9	Seeding Rate (lbs/A)	5
Sand (%)	32	Seeding Depth (in)	1
Silt (%)	31	Harvest Date	June 5, 2006
Clay (%)	37	Irrigation Water Applied (in)	2
		Nitrogen Applied (lbs/A)	92
		Sulfur Applied (lbs/A)	15

Table 2. Selected variety characteristics and grain yields at Altus, OK in 2006.

Cultivar	Regrowth <sup>†</sup>	Shatter Rating <sup>‡</sup>	Green Pods at		
			Harvest	Seed Yield	
		----- % -----		-- lbs/A --	
Wichita	8	6	6	1653	
Plainsman	43	3	62	907	
KS-7436	7	4	24	1267	
Virginia	55	2	8	1391	
Summer	13	6	6	1461	
DKW 13-62 RR <sup>§</sup>	38	5	57	705	
DKW 13-86 RR	30	3	46	964	
DKW 13-86 RR + Helix <sup>™</sup> XTra <sup>¶</sup>	38	4	70	957	
DKW 13-86 RR + Prosper <sup>™*</sup>	31	2	67	1006	
	LSD (P=0.05)	14	3	17	253
	CV	42	67	39	19

<sup>†</sup> Regrowth was rated as percent of plants with new growth at time of harvest.

<sup>‡</sup> Shattering was estimated as the percentage of pods per plant that had shattered by harvest.

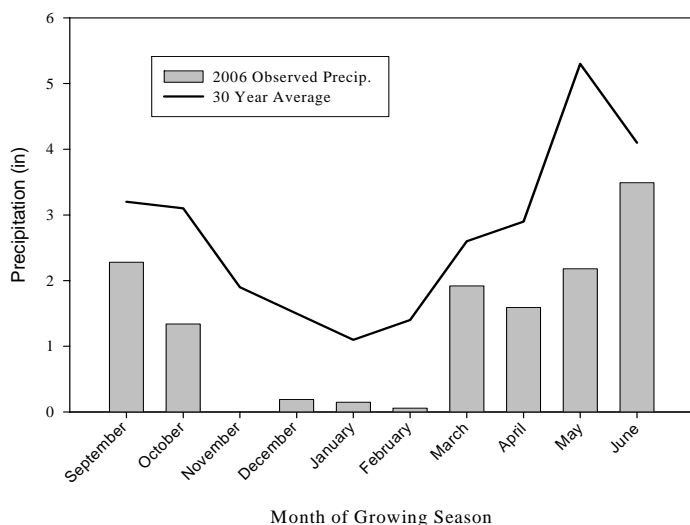
<sup>§</sup> Roundup ready canola.

<sup>¶</sup> Seed was treated with Helix<sup>™</sup> XTra.

\* Seed was treated with Prosper<sup>™</sup>.

# Fort Cobb Canola Variety

Fort Cobb Precipitation



Fort Cobb Temperature

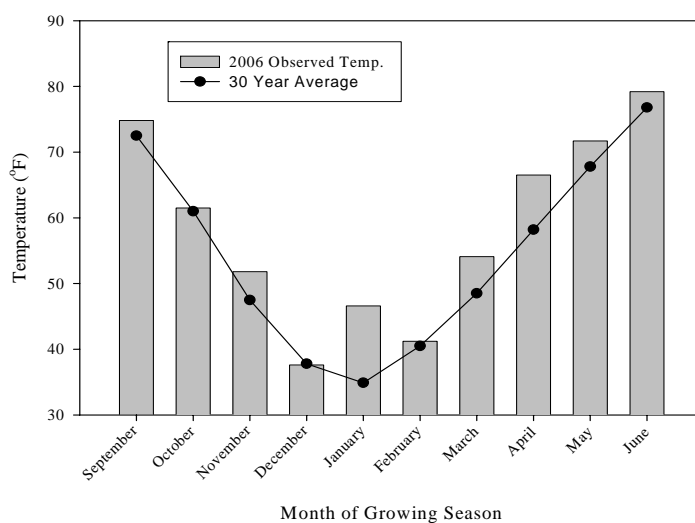


Table 3. Information on soil properties and management practices for Fort Cobb, OK in 2006.

Soil Properties	Result	Cultural Practice	Information
pH	6.8	Planting Date	September 19, 2005
O.M. (%)	0.3	Seeding Rate (lbs/A)	5
Sand (%)	77	Seeding Depth (in)	1.25
Silt (%)	9	Harvest Date	June 1, 2006
Clay (%)	14	Irrigation Water Applied (in)	1
		Nitrogen Applied (lbs/A)	92
		Sulfur Applied (lbs/A)	90

Table 4. Selected variety characteristics and grain yields at Fort Cobb, OK in 2006.

Cultivar	Moisture -- % --	Seed Yield -- lbs/A --
Wichita	10.2	2859
Plainsman	15.9	1621
KS-7436	14.9	2152
Virginia	13.1	2505
Summer	10.0	2894
DKW 13-62 RR <sup>†</sup>	19.1	1872
DKW 13-86 RR	19.0	2047
DKW 13-86 RR + Helix <sup>™</sup> XTra <sup>§</sup>	16.4	2075
DKW 13-86 RR + Prosper <sup>™¶</sup>	16.1	2137
LSD (P=0.05)		281
CV		11

Ratings not taken for regrowth, shattering, and greenpods.

<sup>†</sup> Standard test weight for canola is 50 lbs/bu.

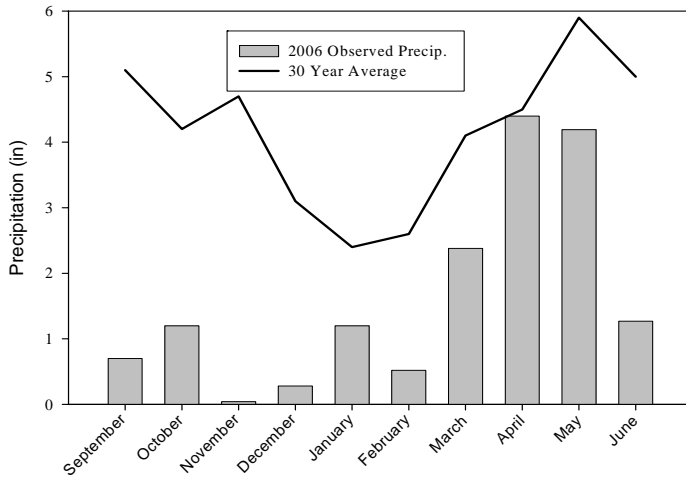
<sup>‡</sup> Roundup ready canola.

<sup>§</sup> Seed was treated with Helix<sup>™</sup> XTra.

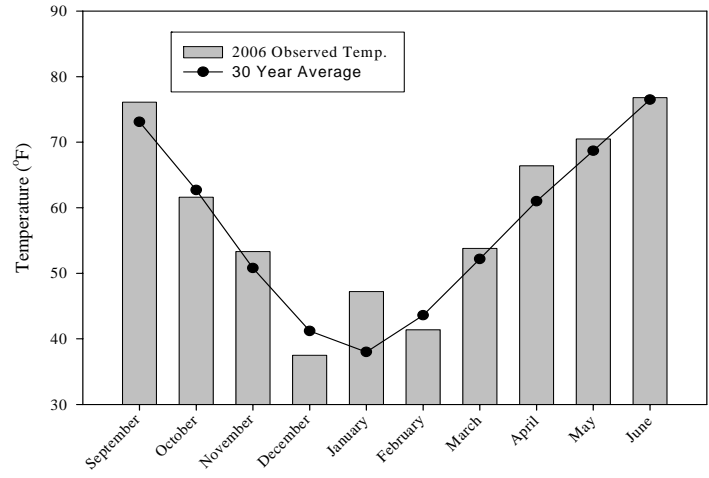
<sup>¶</sup> Seed was treated with Prosper<sup>™</sup>.

# Haskell Canola Variety Trial

Haskell Precipitation



Haskell Temperature



Month of Growing Season

Month of Growing Season

Table 5. Information on soil properties and management practices for Haskell, OK in 2006.

Soil Properties	Result	Cultural Practice	Information
pH	6.3	Planting Date	October 14, 2005
O.M. (%)	na	Seeding Rate (lbs/A)	5
Sand (%)	na	Seeding Depth (in)	0.5
Silt (%)	na	Harvest Date	June 14, 2006
Clay (%)	na	Irrigation Water Applied (in)	0
		Nitrogen Applied (lbs/A)	69
		Sulfur Applied (lbs/A)	15

Table 6. Selected variety characteristics and grain yields at Haskell, OK in 2006.

Cultivar	Regrowth <sup>†</sup>	Shatter Rating <sup>‡</sup>	Green Pods at	
			Harvest	Seed Yield
		% -----		-- lbs/A --
Wichita	11	6	5	2555
Plainsman	30	7	38	1287
KS-7436	12	5	29	2179
Virginia	32	5	10	2320
Summer	18	6	6	1897
DKW 13-86 RR	18	5	28	1677
DKW 13-86 RR + Helix <sup>™</sup> XTra <sup>¶</sup>	22	6	20	2138
DKW 13-86 RR + Prosper <sup>™*</sup>	18	5	23	1946
LSD (P=0.05)	13	2	13	456
CV	59	24	55	10

† Regrowth was rated as percent of plants with new growth at time of harvest.

‡ Shattering was estimated as the percentage of pods per plant that had shattered by harvest.

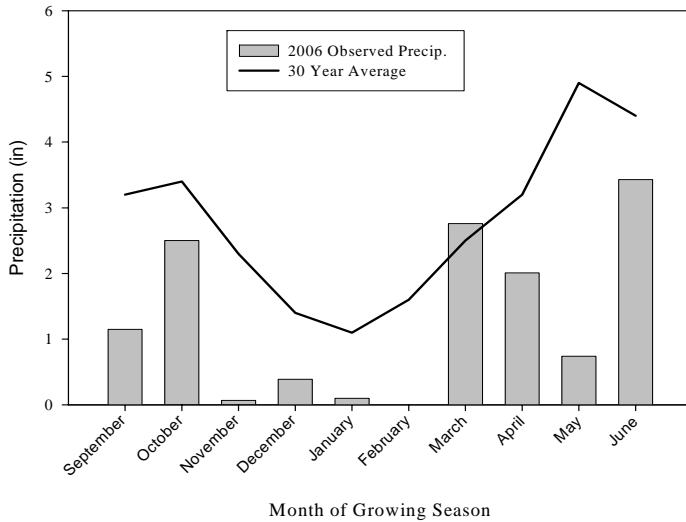
§ Roundup ready canola.

¶ Seed was treated with Helix<sup>™</sup> XTra.

\* Seed was treated with Prosper<sup>™</sup>.

# Lahoma Canola Variety Trial

Lahoma Precipitation



Lahoma Temperature

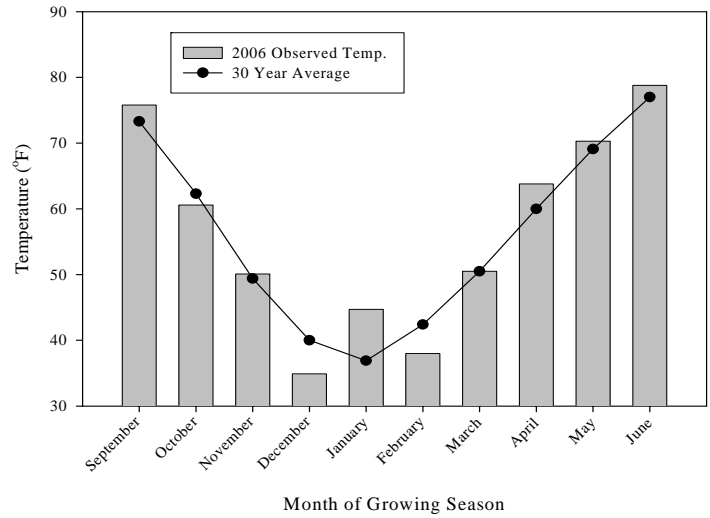


Table 7. Information on soil properties and management practices for Lahoma, OK in 2006.

Soil Properties	Result	Cultural Practice	Information
pH	5.8	Planting Date	October 4, 2006
O.M. (%)	1.3	Seeding Rate (lbs/A)	5
Sand (%)	52	Seeding Depth (in)	0.5
Silt (%)	25	Harvest Date	June 6, 2006
Clay (%)	23	Irrigation Water Applied (in)	0
		Nitrogen Applied (lbs/A)	110
		Sulfur Applied (lbs/A)	10

Table 8. Selected variety characteristics and grain yields at Lahoma, OK in 2006.

Cultivar	Regrowth <sup>†</sup>	Green Pods at		Seed Yield
		Shatter Rating <sup>‡</sup>	Harvest	
		%		lbs/A
Wichita	8	7	9	4080
Plainsman	8	13	7	3284
KS-7436	6	7	11	3601
Virginia	6	4	8	3492
Summer	5	15	8	3726
DKW 13-62 RR <sup>§</sup>	7	9	17	3105
DKW 13-86 RR	6	6	13	3380
DKW 13-86 RR + Helix <sup>™</sup> XTra <sup>§</sup>	6	6	10	3510
DKW 13-86 RR + Prosper <sup>™*</sup>	6	5	12	3444
LSD (P=0.05)	NS	4	5	258
CV	47	43	43	6

<sup>†</sup> Regrowth was rated as percent of plants with new growth at time of harvest.

<sup>‡</sup> Shattering was estimated as the percentage of pods per plant that had shattered by harvest.

<sup>§</sup> Roundup ready canola.

<sup>¶</sup> Seed was treated with Helix<sup>™</sup> XTra.

\* Seed was treated with Prosper<sup>™</sup>.

## 2004-2005 Variety Trial Data

Table 9. Yield data from 2004-2005 at variety trial locations.

Cultivar	OSU Research Station Locations				
	Perkins	Fort Cobb	Lahoma	Chickasha	Haskell
Wichita	3924	3469	3384	2497	2184
Sumner	3869	3330	2987	2990	1686
Abilene	3418	3134	3130	2469	1171
DKW 13-62	2626	2830	2639	2416	1350
DKW 13-86	3124	3091	2827	2186	1350
KS 7436	3918	3440	2884	3723	2083
LSD (P=0.05)	349	498	321	450	403
CV	8.7	9.5	9.3	14	17

\*Yield = pounds of seed/acre after recleaning, adjusted to 10% moisture.

Chickasha was direct combined June 17 and was moderately lodged with severe shattering due to severe thundersorms with hail and high winds before harvest. Haskell was direct combined June 15, and was also lodged with severe shattering due to a thunderstorm with small hail.

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