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Current Report

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2008-2009 Winter Canola Performance Tests

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Sources of Seed for the 2008-2009 Winter Canola and High Erucic Acid Performance Tests

Name/Address	Contact	Entries
Dekalb/Monsanto 800 N. Lindbergh Blvd. St. Louis, MO 63167	800-768-6387	DKW 46-15 (Roundup Ready) DKW 45-10 (Roundup Ready) DKW 41-10 (Roundup Ready) DKW 47-15 (Roundup Ready) CWH 633 (Roundup Ready) CWH 683 (Roundup Ready) CWH 690 (Roundup Ready)
DL Seeds Box 2499 Mordien, MB Canada	204-331-2360	Hyclass 154W (Roundup Ready) Sitro Visby
Technology Crops Int. 4201 38th St. S. Suite 108 Fargo, ND 58104	866-870-5910	TCI F4 (High Erucic Acid) TCI F3 (High Erucic Acid) Hearty (High Erucic Acid) TCE F2 (High Erucic Acid)
Kansas State Univ./Oklahoma State Univ. 3702 Throckmorton Plant Sciences Center Manhattan, KS, 66506	785-532-3871	Wichita Summer KS 3074 KS 4022 KS 4085

Canola Crop Overview for 2008-2009

Production season

The 2008-2009 canola production season in Oklahoma was characterized by variable weather patterns from planting to harvest. Dry soil conditions were present at planting in a large portion of the state, especially the southwest. Establishment was difficult and uneven, with some plants emerging 10 to 14 days apart. Later emergence did not have a significant effect on winter survival, but lack of rainfall in the southwest did impact the crop. For the most part, adequate and timely rainfall for a successful crop was received in the north-central and northwest part of the state. Two spring freezes (Late March and Early April) did have an effect on canola yields, but most fields recovered from the freeze with continued blooming and branching. During the growing season, we expanded our knowledge of growing winter canola and continued our effort to identify cultivars with the greatest potential for Oklahoma. Canola remains a highly viable crop for most areas of Oklahoma.

Pest problems

Overall, pest problems were average in 2008-2009. Normal winter temperatures helped reduce the aphid populations compared to the high populations observed in 2005-2006. Aphid pressure varied from region to region as usual. Most fields in the state were treated at least once to control aphid populations. A few fields were treated for diamondback moth larvae due to very high populations.

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 percent sure the yield difference is real, with only a 5 percent probability 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 there is less confidence 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 20 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 winter canola cultivars are affected by crop management and by environmental factors including soil type, winter conditions, soil moisture conditions, diseases, and insects.

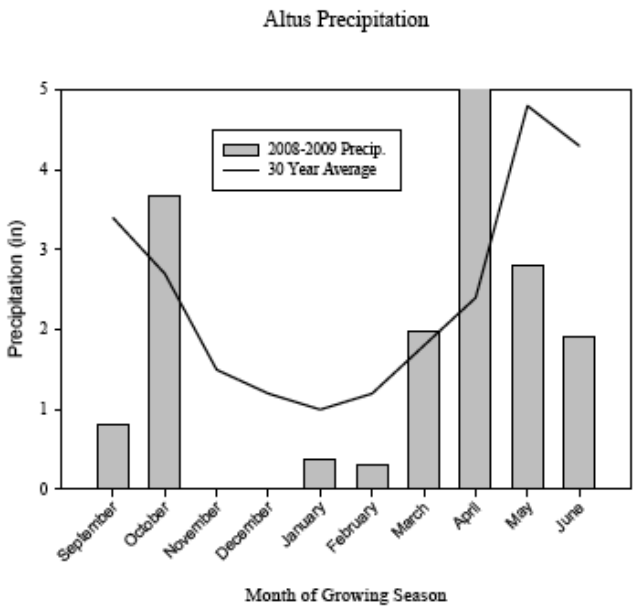
Methods

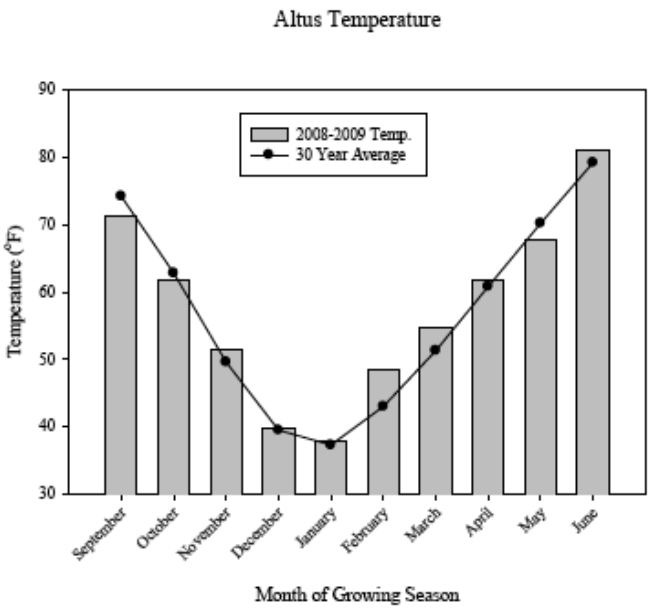
Test locations were near Altus, Ft. Cobb, Dacoma, Lahoma, Stillwater, and Hugo. All locations were conventionally tilled prior to seeding. The location at Hugo was lost due to environmental conditions. Plots were 4 feet wide by 20 feet long and seeded at a rate of 5 lb/acre. Soil characteristics and 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 direct harvested with a small plot combine. The one exception was at Lahoma were the plot was swathed prior to being picked up by the 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 www.canola.okstate.edu/

Altus Canola Performance Trial





Observations:

The Altus location was planted later than usual due to dry seedbed conditions. Once rainfall was received, plots were established on Oct. 22. Even with extremely dry conditions early in the growing season (Sept.-Feb.), yields were respectable given the environmental considerations. Grain yields at Altus averaged 1,160 lb/ac when averaged across all varieties/hybrids.

Table 1. Information on soil properties and management practices for Altus, OK in 2008-2009.

Date Planted	22-Oct
Soil Moisture at Planting	dry
Soil Chemical Characteristics	
Soil pH	7.1
Soil Test P Index	65
Soil Test K Index	1117
Nitrate-N (lbs N/ac)	80
Sulfur (lbs/ac) Sulfur	10
Fall Stand Counts Taken	10-Dec
Winter Survival Ratings	10-Dec
Harvested	23-Jun

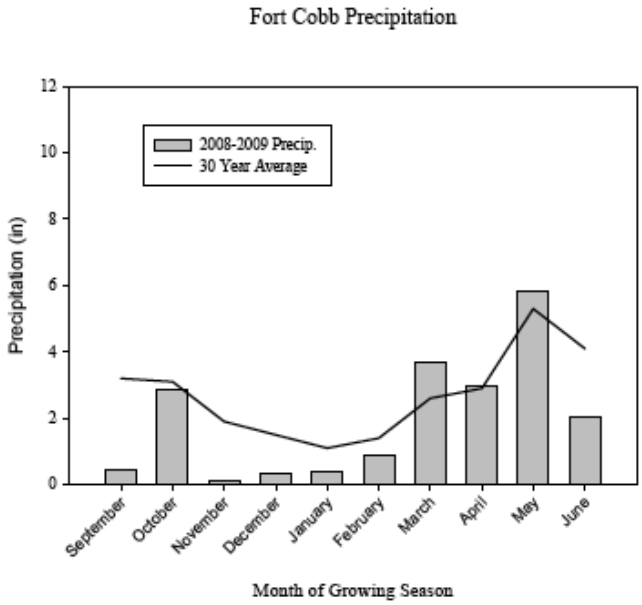
Fertilizer Applied (lbs/ac)	
Fall Nitrogen	0
Spring Nitrogen	0
Total Nitrogen	80
P_2O_5	0
K_2O	0

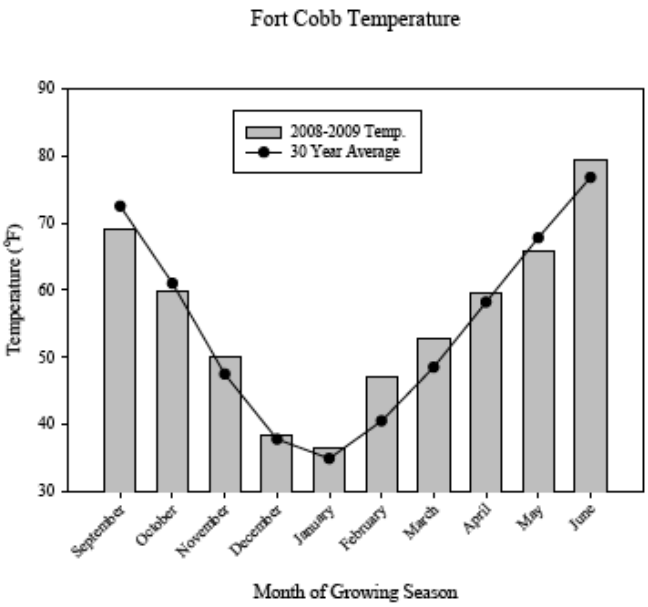
Table 2. Selected cultivar characteristics and grain yields at Altus, OK in 2008-2009.

Cultivar	Fall Stand Rating†	Winter Survival‡	Lodging§	Shatter¶	Height	Test Weight	Seed Yield
		----------%----------			in	lb/ac	lbs/ac
TCI F2††	6.8	100	0	10	33	48	1805
TCI F3††	5.5	100	0	0	25	49	1636
TCI F4††	7.6	100	0	0	29	48	1367
VISBY	6.9	100	0	5	31	48	1287
KS 4085	6.5	100	0	5	31	47	1240
DKW 47-15‡‡	6.9	100	0	10	31	48	1230
SITRO	7.1	100	0	5	31	46	1215
CWH 633‡‡	7.5	100	0	8	32	49	1193
DKW 46-15‡‡	5.8	100	0	13	31	48	1186
KS 4022	6.0	100	0	5	30	47	1136
HYCLASS 154W‡‡	8.0	100	0	5	32	47	1131
CWH 690‡‡	6.8	100	0	10	28	51	1094
HEARTY††	6.4	100	0	5	32	49	1026
SUMNER	4.8	100	0	15	30	47	956
CWH 683‡‡	4.3	100	0	5	33	47	945
DKW 41-10‡‡	5.9	100	0	13	30	49	920
WICHITA	5.9	100	0	13	30	48	919
DKW 45-10‡‡	5.1	100	0	13	32	49	895
KS 3074	6.3	100	0	10	31	45	864
LSD (P=0.05)	NS	NS	NS	3	2	NS	423
CV				20	3		26

† 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 ratings were determined at harvest by visually estimating the percentage of the plants that were lodged.
¶ Shattering was estimated as the percentage of pods per plant that had shattered by harvest.
†† High erucic acid rapeseed, can only be used for industrial purposes.
‡‡ Roundup ready canola.

Fort Cobb Canola Performance Trial





Observations:

The Fort Cobb location was planted later than usual due to dry seedbed conditions. Even with extremely dry conditions early in the growing season (Sept.-Feb.) yields were excellent given the environmental considerations. Pest pressure was minimal throughout the season. One application of pesticide was made to control aphids. Grain yields at Fort Cobb averaged 2,255 lb/ac when averaged across all varieties/hybrids. This location is a perfect example of canola's ability to overcome a poor stand.

Table 3. Information on soil properties and management practices for Fort Cobb, OK in 2008-2009.

Date Planted	10-Oct
Soil Moisture at Planting	Dry
Soil Chemical Characteristics	
Soil pH	6.8
Soil Test P Index	38
Soil Test K Index	274
Nitrate-N (lbs N/ac)	10
Sulfur (lbs/ac)	
Fall Stand Counts Taken	10-Dec
Winter Survival Ratings	12-Mar
Harvested	23-Jun

Fertilizer Applied (lbs/ac)	
Fall Nitrogen	40
Spring Nitrogen	100
Total Nitrogen	150
P_2O_5	0
K_2O	0
Sulfur	10

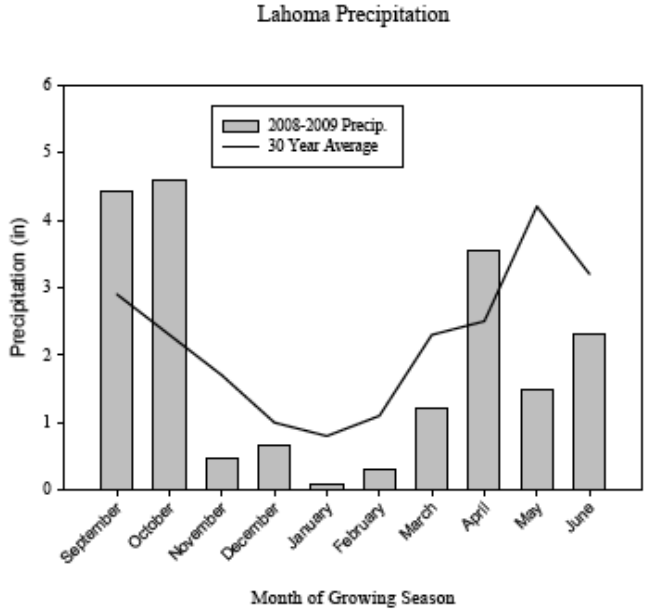
Fort Cobb Canola Performance Trial

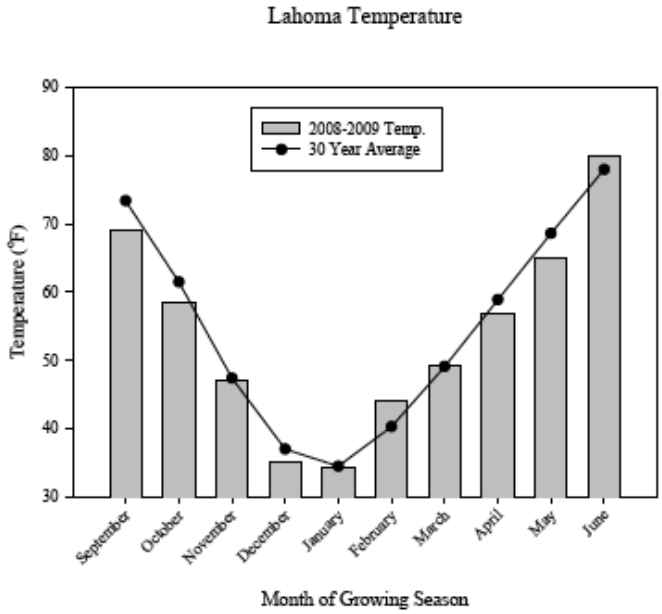
Table 4. Selected cultivar characteristics and grain yields at Fort Cobb, OK in 2008-2009.

Cultivar	*Fall Stand Rating†*	*Winter Survival‡*	*Lodging§*	*Shatter¶*	*Height*	*Test Weight*	*Seed Yield*
		----------%----------			*in*	*lb/ac*	*lbs/ac*
TCI F2††	5.4	100	0	0	43	37	3155
HYCLASS 154W‡‡	2.9	100	0	5	43	38	2922
CWH 683‡‡	3.0	100	0	5	34	38	2608
HEARTY††	4.6	100	0	0	47	38	2530
TCI F3††	4.2	100	0	0	45	37	2514
TCI F4††	4.4	100	0	0	45	35	2406
DKW 46-15‡‡	1.3	100	0	5	34	38	2378
DKW 47-15‡‡	2.6	100	0	0	39	36	2363
KS 3074	3.8	100	0	5	43	40	2332
CWH 633‡‡	2.2	100	0	0	41	38	2278
SITRO	3.0	100	0	0	40	38	2250
KS 4085	3.5	100	0	0	45	36	2210
VISBY	1.0	100	0	0	40	38	2150
DKW 45-10‡‡	2.7	100	0	5	35	39	2090
CWH 690‡‡	1.9	100	0	10	34	37	2087
KS 4022	1.1	100	0	5	43	37	1850
DKW 41-10‡‡	1.0	100	0	0	34	39	1763
SUMNER	2.1	100	0	10	34	35	1524
WICHITA	2.8	100	0	5	38	34	1444
LSD (P=0.05)	0.1	NS	NS	5	2	2	411
CV					2	5	15

† 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 ratings were determined at harvest by visually estimating the percentage of the plants that were lodged.
¶ Shattering was estimated as the percentage of pods per plant that had shattered by harvest.
†† High erucic acid rapeseed, can only be used for industrial purposes.
‡‡ Roundup ready canola.

Lahoma Canola Performance Trial





Observations:

Excellent seedbed moisture was present at planting and the canola got off to a quick start. Grain yields at Lahoma averaged 3,001 lb/ac when averaged across all varieties/hybrids. Plants were affected very little from the early spring freezes. Only one insecticide application was used to control aphids in the early spring.

Table 5. Information on soil properties and management practices for Lahoma, OK in 2008-2009.

Date Planted	22-Sep
Soil Moisture at Planting	Good
Soil Chemical Characteristics	
Soil pH	7.8
Soil Test P Index	22
Soil Test K Index	408
Nitrate-N (lbs N/ac)	
Sulfur (lbs/ac)	
Fall Stand Counts Taken	4-Dec
Winter Survival Ratings	1-Mar
Swathed	1-Jun
Harvested	8-Jun

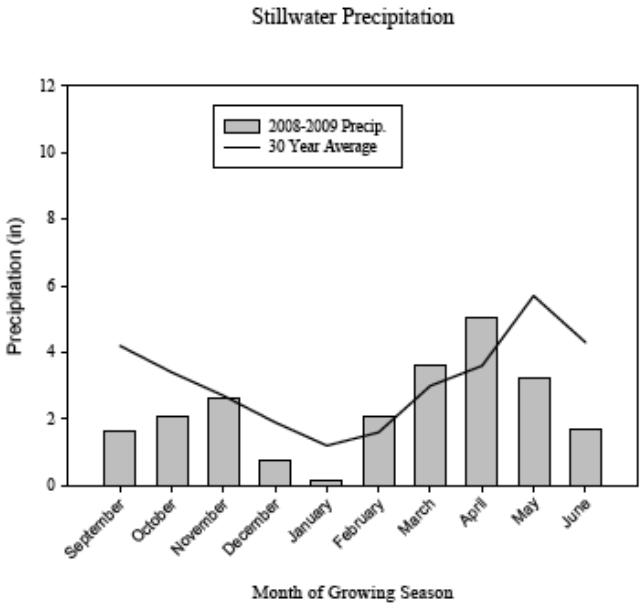
Fertilizer Applied (lbs/ac)	
Fall Nitrogen	40
Spring Nitrogen	100
Total Nitrogen	140
P_2O_5	40
K_2O	0
Sulfur	10

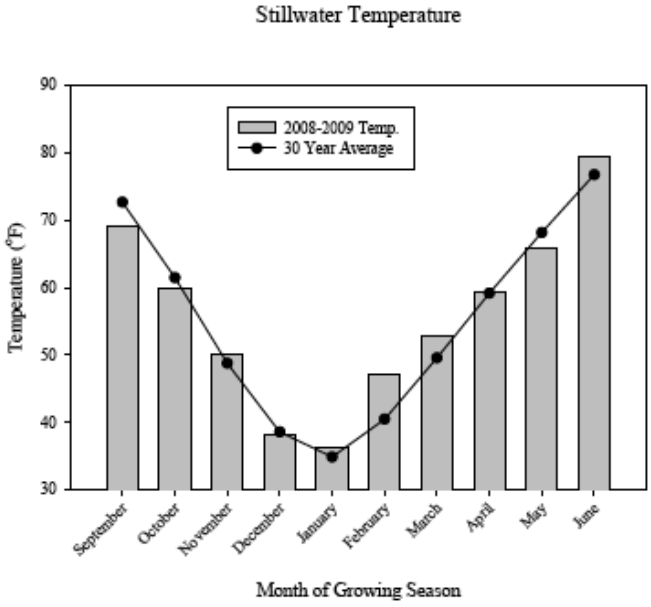
Table 6. Selected cultivar characteristics and grain yields at Lahoma, OK in 2008-2009.

Cultivar	Fall Stand Rating†	Winter Survival‡	Lodging§	Shatter¶	Height	Maturity§§	Test Weight	Seed Yield
		----------%----------			in		lb/ac	lbs/ac
HYCLASS 154W‡‡	9.3	100	0	0	44	5	44	3741
SITRO	9.4	100	0	0	37	4	46	3438
CWH 683‡‡	9.4	100	0	0	39	2	45	3379
TCI F2††	9.4	100	0	0	35	2	45	3286
CWH 633‡‡	9.4	100	0	0	40	2	45	3227
DKW 47-15‡‡	9.4	100	0	0	40	2	45	3200
CWH 690‡‡	9.5	100	0	0	35	2	46	3097
TCI F4††	9.4	100	0	0	39	2	44	3081
DKW 46-15‡‡	9.3	100	0	0	34	2	45	3054
KS 3074	9.2	100	0	0	37	3	46	2984
VISBY	9.5	100	0	0	36	3	45	2943
HEARTY††	9.4	100	0	0	35	3	46	2929
DKW 45-10‡‡	9.4	100	0	0	35	3	44	2886
TCI F3††	9.5	100	0	0	36	3	43	2810
KS 4085	9.4	100	0	0	35	3	44	2745
SUMNER	9.4	100	0	0	32	2	46	2594
KS 4022	9.4	100	0	0	33	3	45	2579
DKW 41-10‡‡	9.1	100	0	0	32	1	46	2555
WICHITA	9.3	100	0	0	31	2	45	2486
LSD (P=0.05)	NS	NS	NS	NS	5	1	1	463
CV					8	23	2	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).
§ Lodging ratings were determined at harvest by visually estimating the percentage of the plants that were lodged.
¶ Shattering was estimated as the percentage of pods per plant that had shattered by harvest.
†† High erucic acid rapeseed, can only be used for industrial purposes.
‡‡ Roundup ready canola.
§§ Maturity ratings taken prior to swathing on a 0 to 5 scale with 1 being the most mature (earliest maturing).

Stillwater Canola Performance Trial





Observations:

The Stillwater location had ideal soil moisture at planting. Adequate soil moisture was present throughout the growing season. Pest pressure was highest at this location and plots were treated twice to control aphid populations. Grain yields at Stillwater averaged 3,063 lb/ac when averaged across all varieties. Lodging was severe at this location. The majority of the lodging was a result of tall plants and thick stand.

Table 7. Information on soil properties and management practices for Stillwater, OK in 2008-2009.

Date Planted	18-Sep
Soil Moisture at Planting	Good
Soil Chemical Characteristics	
Soil pH	6.7
Soil Test P Index	143
Soil Test K Index	322
Nitrate-N (lbs N/ac)	32
Sulfur (lbs/ac)	
Fall Stand Counts Taken	2-Dec
Winter Survival Ratings	28-Feb
Harvested	16-Jun

Fertilizer Applied (lbs/ac)	
Fall Nitrogen	10
Spring Nitrogen	100
Total Nitrogen	140
P_2O_5	0
K_2O	0
Sulfur	10

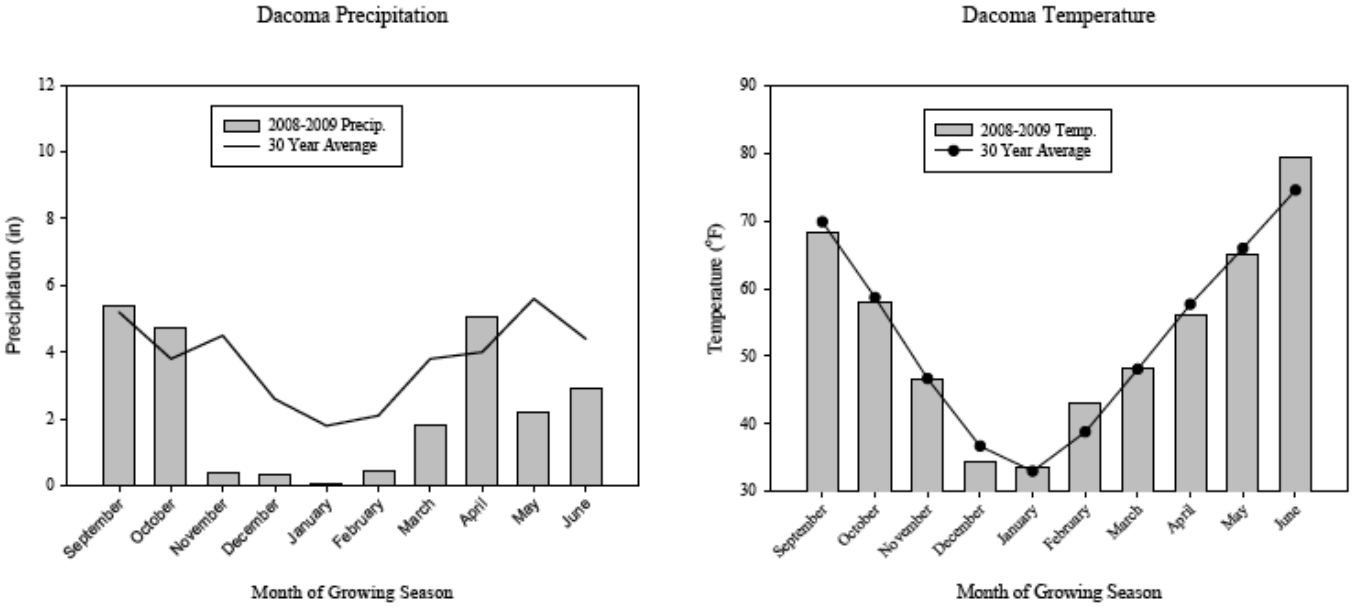
Stillwater Canola Performance Trial

Table 8. Selected cultivar characteristics and grain yields at Stillwater, OK in 2008-2009.

Cultivar	Fall Stand Rating†	Winter Survival‡	Lodging§	Shatter¶	Height	Maturity§§	Test Weight	Seed Yield
		----------%----------			in		lb/ac	lbs/ac
HYCLASS 154W‡‡	9.4	100	30	0	54	1	47	3842
SITRO	9.4	100	28	0	56	2	46	3636
TCI F4††	9.3	100	20	0	58	2	48	3547
CWH 683‡‡	9.5	100	24	0	50	2	47	3387
CWH 690‡‡	9.4	100	26	0	50	1	51	3328
TCI F2††	9.5	100	30	0	51	3	48	3258
DKW 41-10‡‡	9.2	100	12	0	49	1	49	3177
TCI F3††	9.3	100	22	0	54	2	49	3175
DKW 45-10‡‡	9.4	100	24	0	49	1	49	3134
CWH 633‡‡	9.4	100	24	0	51	1	49	3128
VISBY	9.2	100	22	0	50	2	48	3108
KS 4085	9.4	100	32	0	57	2	47	3083
DKW 47-15‡‡	7.7	100	30	0	54	2	48	2907
WICHITA	9.5	100	18	0	55	2	48	2906
KS 3074	9.5	100	28	0	54	3	45	2875
KS 4022	9.3	100	28	0	54	2	47	2670
DKW 46-15‡‡	9.3	100	24	0	52	1	48	2542
SUMNER	9.3	100	18	0	54	2	47	2541
HEARTY††	8.8	100	20	0	55	2	49	1960
LSD (P=0.05)	NS	NS	NS	NS	5	NS	2	560
CV					8		3	14

† 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 ratings were determined at harvest by visually estimating the percentage of the plants that were lodged.
¶ Shattering was estimated as the percentage of pods per plant that had shattered by harvest.
†† High erucic acid rapeseed, can only be used for industrial purposes.
‡‡ Roundup ready canola.
§§ Maturity ratings taken prior to swathing on a 0 to 5 scale with 1 being the most mature (earliest maturing).

Dacoma Canola Performance Trial



Observations:

The Dacoma location had excellent soil moisture at planting. Some variability in stand was observed due to heavy rainfall immediately after planting. Winter survival for all varieties was excellent. Pest pressure was minimal throughout the season, one application of pesticide was made in early April when aphid populations increased. Grain yields at Dacoma averaged 2,675 lb/ac when averaged across all varieties/hybrids.

Table 9. Information on soil properties and management practices for Dacoma, OK in 2008-2009.

Date Planted	22-Sep
Soil Moisture at Planting	Good
Soil Chemical Characteristics	
Soil pH	5.5
Soil Test P Index	58
Soil Test K Index	541
Nitrate-N (lbs N/ac)	24
Sulfur (lbs/ac)	
Fall Stand Counts Taken	4-Dec
Winter Survival Ratings	1-Mar
Harvested	17

Fertilizer Applied (lbs/ac)	
Fall Nitrogen	30
Spring Nitrogen	100
Total Nitrogen	154
P_2O_5	0
K_2O	0
Sulfur	10

Dacoma Canola Performance Trial

Table 10. Selected cultivar characteristics and grain yields at Dacoma, OK in 2008-2009.

Cultivar	Fall Stand Rating†	Winter Survival‡	Lodging§	Shatter¶	Height	Test Weight	Seed Yield
		----------%----------			in	lb/ac	lbs/ac
HEARTY††	9.0	100	0	0	40	46	3221
CWH 633‡‡	8.4	100	0	0	37	46	2848
CWH 683‡‡	8.7	100	0	0	33	45	2837
KS 4085	8.9	100	0	0	39	47	2826
HYCLASS 154W‡‡	8.8	100	0	10	37	47	2810
VISBY	8.8	100	0	0	35	46	2778
CWH 690‡‡	8.3	100	0	0	32	46	2717
WICHITA	8.8	100	0	0	39	46	2659
SUMNER	8.9	100	0	10	35	46	2653
DKW 46-15‡‡	8.5	100	0	10	36	46	2637
DKW 47-15‡‡	8.7	100	0	10	35	45	2631
TCI F3††	8.9	100	0	0	39	47	2614
TCI F4††	8.7	100	0	0	37	46	2596
SITRO	8.9	100	0	0	39	46	2592
TCI F2††	8.7	100	0	10	42	47	2535
DKW 45-10‡‡	8.7	100	0	10	36	47	2534
KS 4022	9.0	100	0	10	42	46	2514
DKW 41-10‡‡	8.0	100	0	10	42	46	2449
KS 3074	8.8	100	0	10	36	47	2375
LSD (P=0.05)	0.5	NS	NS	5	3	NS	NS
CV	4				4	3	17

† 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 ratings were determined at harvest by visually estimating the percentage of the plants that were lodged.
¶ Shattering was estimated as the percentage of pods per plant that had shattered by harvest.
†† High erucic acid rapeseed, can only be used for industrial purposes.
‡‡ Roundup ready canola.

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