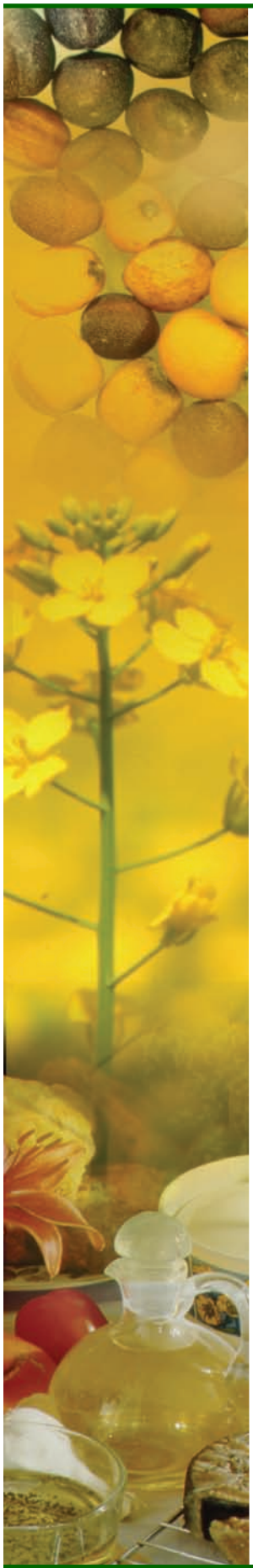


Canadian Grain Commission | Commission canadienne des grains

ISSN 1700-2222

Quality of western Canadian canola 2006

Douglas R. DeClercq
Program Manager, Oilseeds Services

Contact: Douglas R. DeClercq
Program Manager, Oilseeds Services
Tel: 204 983-3354
Email: ddeclercq@grainscanada.gc.ca
Fax: 204 983-0724

Grain Research Laboratory
Canadian Grain Commission
1404-303 Main Street
Winnipeg MB R3C 3G8
www.grainscanada.gc.ca

Canada

Quality Innovation Service

Table of contents

Tables

Figures

Figures (continued)

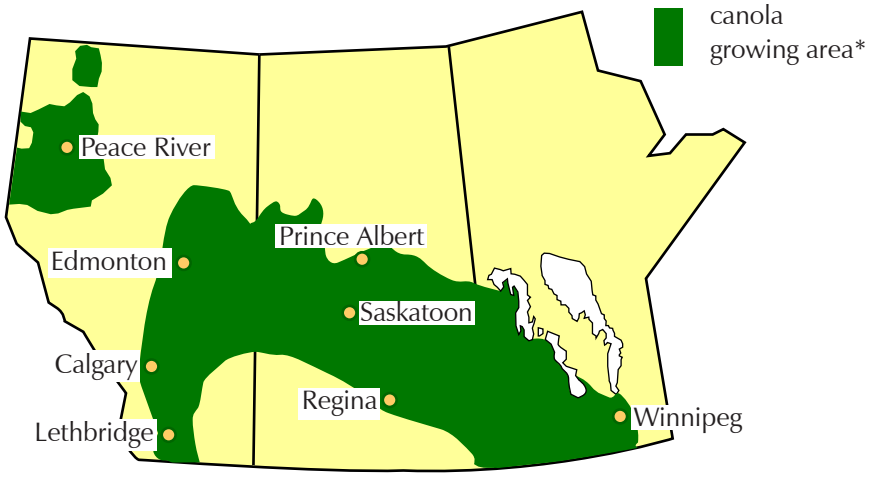
Acknowledgements

The Grain Research Laboratory acknowledges the cooperation of the canola producers, grain handling offices, and oilseed crushing plants in western Canada for supplying the samples of newly harvested canola. The assistance of the Industry Services Division of the Canadian Grain Commission in grading producer survey samples is also acknowledged. The technical assistance of the Oilseeds staff, Grain Research Laboratory is recognized. Seed images on cover are courtesy of Grain Biology, Grain Research Laboratory, Canadian Grain Commission.

Introduction

This report presents quality data and information based on the Canadian Grain Commission (CGC) 2006 harvest survey of western Canadian canola. Quality parameters included are oil, protein, chlorophyll, glucosinolates, free fatty acids and the fatty acid composition of harvest samples. Quality data are from analyses of canola samples submitted to the CGC throughout the harvest period by producers, grain companies and oilseed crushing companies. The map shows the traditional growing areas for canola in western Canada.

Figure 1 – Map of western Canada showing traditional growing area for canola



* Source: Canola Council of Canada

Summary

The 2006 western Canadian canola crop is significantly above average in oil content and below average in protein content. Compared to 2005, the mean oil content of Canola, No.1 Canada is 0.2% higher at 44.6%, while the mean protein content, 21.0%, is 0.5% higher. Compared to the 10-year means, the oil content is 1.6% higher while the protein content is 0.5% lower. The mean chlorophyll content for Canola, No.1 Canada is 14 mg/kg, similar to the 14 mg/kg in 2005. The 2006 canola crop is higher in oleic acid content, 62.0%, and lower in linolenic acid content, 9.9%. For Canola, No.1 Canada seed, the total saturated fatty acid content remained at 7.0%. This results in oil with a lower mean iodine value of 113 units. The erucic acid, 0.1%, and the total seed glucosinolates, 10 μmoles/gram, are similar to last year and well within canola specifications. The mean free fatty acid (FFA) levels in Canola, No.1 Canada seed are slightly higher than those in the 2005 crop.

Table 1 – Canola, No. 1 Canada
Quality data for 2006 harvest survey

Quality parameter	2006	2005	1996-2005 Mean
Oil content[1], %	44.6	44.4	43.0
Protein content[2], %	21.0	20.5	21.5
Oil-free protein[2] content, %	41.0	39.8	40.6
Chlorophyll content, mg/kg in seed	14	14	14
Total glucosinolates[1], µmol/g	10	9	11
Free fatty acids, %	0.17	0.11	0.24
Erucic acid, % in oil	0.1	0.1	0.1
Linolenic acid, % in oil	9.9	11.0	9.9
Oleic acid, % in oil	62.0	59.8	61.0
Total saturated fatty acids[3], % in oil,	7.0	7.0	7.1
Iodine value	113	116	114

[1] 8.5% moisture basis
[2] N x 6.25, 8.5% moisture basis
[3] Total saturated fatty acids are the sum of palmitic (C16:0), stearic (C18:0), arachidic (C20:0), behenic (C22:0), and lignoceric (C24:0)

Weather and production review

Weather review

Temperature and precipitation patterns for the 2006 western Canadian growing season can be found on the PFRA web site (http://www.agr.gc.ca/pfra/drought/drmaps_e.htm). The prairie provinces experienced adequate to excessive moisture to start the 2006 growing year. A drier and warmer than normal growing period eventually stressed many crops, but also allowed for quicker crop maturity and an earlier than normal harvest. The Weather and Crop Surveillance department of the Canadian Wheat Board provided the majority of the detailed weather review for the 2006 crop year.

Seeding

The soil moisture supply in western Canada was good to excellent in most regions for seeding of the 2006 crop, although excess moisture caused delays in northern Saskatchewan. The source of the excess moisture was precipitation received during the 2005 harvest season, as the winter precipitation was generally below normal. Seeding began in the southern areas of the Prairies at the end of April, with slow progress reported until the second week of May. Progress rapidly accelerated during the middle of May and reached 75% completion by May 22. Planting progress slowed during the next few weeks as heavy rains fell in the northern growing areas of Saskatchewan. Seeding continued in northern Saskatchewan into the third week of June. Approximately 800 000 hectares were left fallow due to the wet conditions in northeastern Saskatchewan. Temperatures were mostly above normal during seeding, which resulted in rapid germination and emergence of the crop. Crops in the southern and central Prairies were about one week ahead of normal development by the end of June.

Growing conditions

The above-normal temperatures experienced during the spring continued through the months of July and August. Average monthly temperatures were generally one to four degrees above normal across the Prairies. The largest deviations were seen in the eastern growing areas, but relatively cool evening temperatures helped crops survive the hot weather. Precipitation amounts were well below normal in all areas of the Prairies during July and August. Southern and central areas received between 25 and 50% of normal precipitation, while northern growing areas received between 50 and 75%. The combination of hot temperatures and a lack of moisture stressed crops and lowered yield potential. The dry conditions minimized disease pressure in the crop and advanced crop development such that it was two to three weeks ahead of normal in most growing areas. The northeastern areas of Saskatchewan were an exception to this trend, as crop development was close to normal due to the late planting during the spring.

Harvest conditions

The early start to the harvest was a sharp contrast to the delayed harvests of the previous two growing seasons. The hot, mostly dry conditions experienced during August resulted in rapid crop ripening. The dry, warm conditions continued into September,

which allowed 85% of the canola crop to be harvested by the mid-month. Cooler, wet conditions prevailed in the last half of September, which slowed the harvest and prevented completion of the harvest until October. As of mid-October the canola harvest was over 99% completed in Manitoba, 89% completed in Saskatchewan and about 84% completed in Alberta.

Production and grade information

Western Canadian farmers planted 5.4 million hectares of canola in 2006, which is a 2 percent decrease from last year's area (Table 2). Statistics Canada's Field Crop Reporting Series No. 8 reported that the 2006 western Canada mean yield of 1700 kg/ha was lower than the 1800 kg/ha reported for 2005 but well above the 10-year mean of 1465 kg/ha.

With the decreases in yield and harvested area, total canola production in western Canada decreased to 9.1 million tonnes, which is well above the 10-year average of 6.7 million tones. According to Statistics Canada's December 7th, 2006 estimate of provincial production, Manitoba, Saskatchewan, and Alberta/B.C. accounted for 20%, 44% and 36% respectively of the total canola production.

The grade pattern of the 2006 canola crop was similar to that in 2005 and considerably better than in 2004. Overall, distinctly green seed (DGR) levels were much less of a degrading factor than in the frost-affected 2004 crop. For the 2006 Saskatchewan canola crop, Saskatchewan Agriculture, Food and Rural Revitalization Report Number 28 estimated the portion of Canola, No.1 Canada to be 88% compared to 85% in 2005 and 75% for the ten-year mean. Poor harvest weather in September and October resulted in some regional downgrading in northern areas of Saskatchewan and Alberta.

Table 2 – Seeded area and production for western Canadian canola

	Seeded area[1]		Production[1]		Average production[2]
	2006	2005	2006	2005	1996–2005
	thousand hectares		thousand tonnes		thousand tonnes
Manitoba	1004	1012	1827	1261	1482
Saskatchewan	2590	2671	3962	4633	2942
Alberta[3]	1766	1774	3293	3715	2319
Western Canada	**5360**	**5457**	**9082**	**9609**	**6742**

[1] Source: *Field Crop Reporting Series, No. 8*, December 7, 2006; Statistics Canada
[2] Source: *Field Crop Reporting Series*, revised final estimates for 1996–2005
[3] Includes the part of the Peace River area that is in British Columbia

Harvest survey samples

Samples for the Canadian Grain Commission canola harvest survey are collected from producers, crushing plants and grain handling offices across western Canada. The samples are cleaned to remove dockage prior to testing. Harvest survey samples are analyzed for oil, protein, chlorophyll and total glucosinolates using a NIRS 6500 scanning near-infrared spectrometer. Grain Research Laboratory staff assign grade level based on chlorophyll content. Industry Services grain inspectors grade samples if they show significant levels of other visible damage.

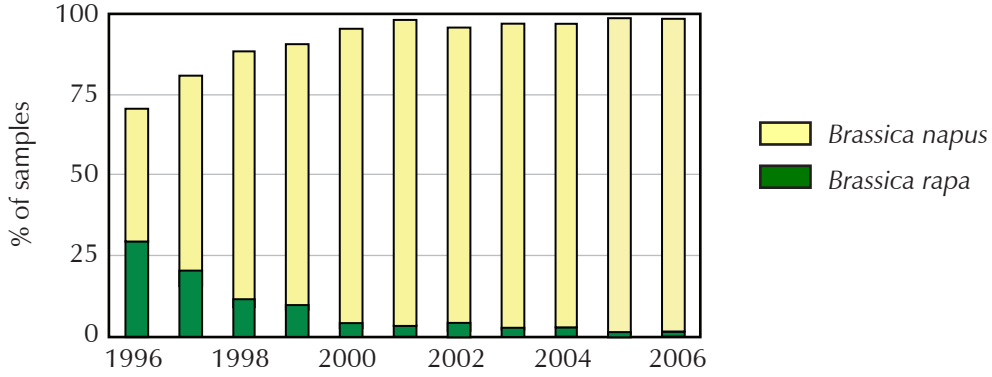
Grades and chlorophyll content relationships are based on long-term data relating the chlorophyll content and green seed content of canola and the chlorophyll level of top quality crude canola oil as established in Canadian standards.

Canola, No. 1 Canada..... 25 mg/kg or less
Canola, No. 2 Canada.....26 to 45 mg/kg
Canola, No. 3 Canada.....46 to 100 mg/kg

Composite samples are typically used for free fatty acids and fatty acid composition analyses. Composites are prepared by combining Canola, No.1 Canada samples by provincial crop district; Canola, No.2 and No.3 Canada samples by province, and Canola, Sample Canada samples by western Canada.

This year's harvest survey report included 2,278 canola samples, slightly more than the 2,112 in 2005. Specialty oil samples such as high oleic acid, low linolenic acid, and high erucic acid, were excluded from this report. Saskatchewan contributed 1,112 samples, Alberta and British Columbia 576, and Manitoba 590 samples during the survey period, August 20 to November 1, 2006. Weighting factors used to calculate provincial and western Canadian means were derived from the previous five years average production for each crop district and the 2006 provincial production estimates in Statistics Canada's Field Crop Reporting Series No. 8, December 7, 2006. Factors used to calculate grade distributions are taken from crop reports published by grain companies and provincial agriculture departments.

Figure 2 – 2006 harvest survey
Proportion of samples identified as *Brassica napus* and *Brassica rapa*



Quality of western Canadian canola 2006

Tables 3, 4 and 5 show detailed information on the quality of western Canadian canola harvested in 2006. Table 6 compares the quality of recent canola exports. The numbers of samples in each grade or province may not be representative of the total production or grade distribution. However, there were sufficient samples to provide good quality information for each province. Provincial means were calculated from results for each crop district, weighted by a combination of five-year average production by crop district, and an estimate of grade distribution from crop reports. To calculate western Canadian averages for each grade, provincial averages are weighted by the Statistics Canada production estimate and the estimate of grade distribution.

All oil and protein content values discussed below are presented using the CGC's historical 8.5% moisture basis in order to permit annual and regional comparisons. The dry weather associated with the harvest of the 2006 crop means that the moisture content of 2006–07 exports is likely to be lower than the moisture content of 2005–06 exports. The moisture content of canola exports from Vancouver was 7.2% in October 2006, 1.5% lower than the 2005–06 mean of 8.7% (Table 6). The moisture content of the Thunder Bay canola exports in October 2006 was 6.7%, significantly lower than the 2005–06 mean value of 8.0%. Moisture contents of the harvest survey samples are not discussed in this report, as there may have been significant changes during mailing and storing of the survey samples.

Recent exports of commercially cleaned canola from Thunder Bay and Vancouver contained 1.5% and 1.7% dockage respectively, which will affect quality factors such as oil content, chlorophyll and FFA. Canola exports containing over 2.5% dockage are considered not commercially clean (NCC) and will have even greater reductions in measured quality components.

Table 3 – 2006 harvest survey
Canola quality data by grade and province

	Number of samples tested	Oil content[1] %			Protein content[2] %			Chlorophyll content mg/kg		
		mean	min.	max.	mean	min.	max.	mean	min.	max.
Canola, No. 1 Canada										
Manitoba	571	43.4	37.6	48.6	22.3	17.7	27.2	13	0	25
Saskatchewan	1002	44.9	37.0	49.4	20.5	16.0	28.8	15	0	25
Alberta[3]	515	45.1	38.6	50.0	20.9	15.9	27.1	13	0	25
Western Canada[4]	**2088**	**44.6**	**37.0**	**50.0**	**21.0**	**15.9**	**28.8**	**14**	**0**	**25**
Canola, No. 2 Canada										
Manitoba	18	41.7	38.1	43.1	24.2	22.1	28.5	26	16	39
Saskatchewan	99	43.9	37.4	46.8	21.1	18.1	29.1	31	8	45
Alberta[3]	55	43.7	39.6	48.3	22.1	17.5	26.1	32	11	45
Western Canada[4]	**172**	**43.6**	**37.4**	**48.3**	**21.9**	**17.5**	**29.1**	**31**	**8**	**45**
Canola, No. 3 Canada										
Manitoba	1	41.5	41.5	41.5	24.6	24.6	24.6	48	48	48
Saskatchewan	6	43.3	40.6	47.4	20.9	17.3	23.2	35	9	55
Alberta[3]	4	43.4	42.0	44.5	22.4	21.3	24.8	53	47	63
Western Canada[4]	**11**	**43.2**	**40.6**	**47.4**	**22.0**	**17.3**	**24.8**	**45**	**9**	**63**
Canola, Sample Canada										
Western Canada[4]	**7**	**43.4**	**42.2**	**46.6**	**21.0**	**17.5**	**22.3**	**19**	**5**	**28**

[1] 8.5% moisture basis
[2] N x 6.25; 8.5% moisture basis
[3] Includes part of the Peace River area that is in British Columbia
[4] Values are weighted averages based on production by province as estimated by Statistics Canada.

Table 4 – 2006 Harvest survey
Canola quality data by grade and province

	Number of samples tested	Glucosinolates[1] mol/g			Free fatty acids %
		mean	min.	max.	
Canola, No. 1 Canada					
Manitoba	571	10	7	19	0.33
Saskatchewan	1002	10	5	18	0.13
Alberta[2]	515	10	6	26	0.12
Western Canada[3]	**2088**	**10**	**5**	**26**	**0.17**
Canola, No. 2 Canada					
Manitoba	18	12	9	16	1.00
Saskatchewan	99	11	8	17	0.19
Alberta[2]	55	11	6	16	0.22
Western Canada[3]	**172**	**11**	**6**	**17**	**0.28**
Canola, No. 3 Canada					
Manitoba	1	13	13	13	-
Saskatchewan	6	12	8	15	-
Alberta[2]	4	13	12	13	-
Western Canada[3]	**11**	**12**	**8**	**15**	**0.18**
Canola, Sample Canada					
Western Canada[3]	**7**	**10**	**0**	**12**	**0.65**

[1] 8.5% moisture basis; total glucosinolates
[2] Includes part of the Peace River area that is in British Columbia
[3] Values are weighted averages based on production by province as estimated by Statistics Canada.

Table 5 – 2006 Harvest survey
Fatty acid composition by grade and province

	Fatty acid composition[1], %								
	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3	C20:0	C20:1	C20:2
Canola, No. 1 Canada									
Manitoba	4.0	0.3	1.9	62.8	18.8	9.1	0.6	1.2	0.1
Saskatchewan	3.9	0.3	1.9	62.0	19.0	9.8	0.6	1.2	0.1
Alberta[4]	3.8	0.2	1.8	61.7	18.7	10.5	0.6	1.3	0.1
Western Canada[5]	**3.9**	**0.3**	**1.9**	**62.0**	**18.9**	**9.9**	**0.6**	**1.2**	**0.1**
Canola, No. 2 Canada									
Manitoba	3.9	0.3	1.9	62.4	18.9	9.0	0.7	1.3	0.1
Saskatchewan	4.0	0.3	1.9	61.1	19.5	10.0	0.7	1.3	0.1
Alberta[4]	3.9	0.3	1.8	59.8	19.3	10.9	0.6	1.6	0.1
Western Canada[5]	**3.9**	**0.3**	**1.9**	**60.6**	**19.4**	**10.4**	**0.6**	**1.4**	**0.1**
Canola, No. 3 Canada									
Western Canada[5]	**3.9**	**0.3**	**1.9**	**60.6**	**20.2**	**9.9**	**0.7**	**1.3**	**0.1**
Canola, Sample Canada									
Western Canada[5]	**4.0**	**0.3**	**1.9**	**60.6**	**19.1**	**10.7**	**0.7**	**1.4**	**0.1**

	Fatty acid composition[1], %				Total saturates[2]	Iodine value[3]
	C22:0	C22:1	C24:0	C24:1		
Canola, No. 1 Canada						
Manitoba	0.3	0.0	0.2	0.2	7.1	112
Saskatchewan	0.3	0.1	0.2	0.2	7.0	113
Alberta[4]	0.3	0.1	0.2	0.2	6.8	115
Western Canada[5]	**0.3**	**0.1**	**0.2**	**0.2**	**7.0**	**113**
Canola, No. 2 Canada						
Manitoba	0.4	0.1	0.4	0.2	7.3	112
Saskatchewan	0.4	0.1	0.2	0.2	7.1	114
Alberta[4]	0.4	0.3	0.2	0.2	7.0	115
Western Canada[5]	**0.4**	**0.2**	**0.2**	**0.2**	**7.1**	**114**
Canola, No. 3 Canada						
Western Canada[5]	**0.4**	**0.0**	**0.2**	**0.2**	**7.0**	**114**
Canola, Sample Canada						
Western Canada[5]	**0.4**	**0.1**	**0.2**	**0.2**	**7.1**	**115**

[1] Percentage of total fatty acids including: palmitic (C16:0), palmitoleic (C16:1), stearic (C18:0), oleic (C18:1), linoleic (C18:2), linolenic (C18:3), arachidic (C20:0), eicosenoic (C20:1), eicosadienoic (C20:2), behenic (C22:0), erucic (C22:1), lignoceric (C24:0), nervonic (C24:1)

[2] Total saturated fatty acids are the sum of palmitic (C16:0), stearic (C18:0), arachidic (C20:0), behenic (C22:0), and lignoceric (C24:0)

[3] Calculated from fatty acid composition

[4] Includes part of the Peace River area that is in British Columbia

[5] Values are weighted averages based on production by province as estimated by Statistics Canada.

Table 6 – Canola, No. 1 Canada
Comparisons of quality data for 2006 harvest survey with data for recent export shipments

Quality parameter	2006 survey	October 2006 exports		2005–06 exports	
		Thunder Bay	Vancouver	Thunder Bay	Vancouver
Oil content[1], %	44.6	42.6	44.1	42.9	43.8
Protein content[2], %	21.0	21.7	21.0	21.2	20.6
Oil-free protein content[2], %	41.0	40.7	40.6	40.0	39.5
Chlorophyll, mg/kg in seed	14	12	17	18	24
Total glucosinolates, µmol/g	10	9	11	10	10
Free fatty acids, %	0.17	0.44	0.33	0.54	0.46
Erucic acid, % in oil	0.1	0.0	0.1	0.1	0.1
Linolenic acid, % in oil	9.9	9.7	10.8	10.9	11.4
Oleic acid, % in oil	62.0	61.7	61.1	59.7	59.3
Total saturated fatty acids[3], % in oil	7.0	7.2	6.8	7.1	6.8
Iodine value	113	113	115	116	117
Loading moisture, %	n/a	6.7	7.2	8.0	8.7
Number of export samples	n/a	1	13	11	145

[1] 8.5% moisture basis
[2] N x 6.25; 8.5% moisture basis
[3] Total saturated fatty acids are the sum of palmitic (C16:0), stearic (C18:0), arachidic (C20:0), behenic (C22:0), and lignoceric (C24:0).
[4] n/a - not available

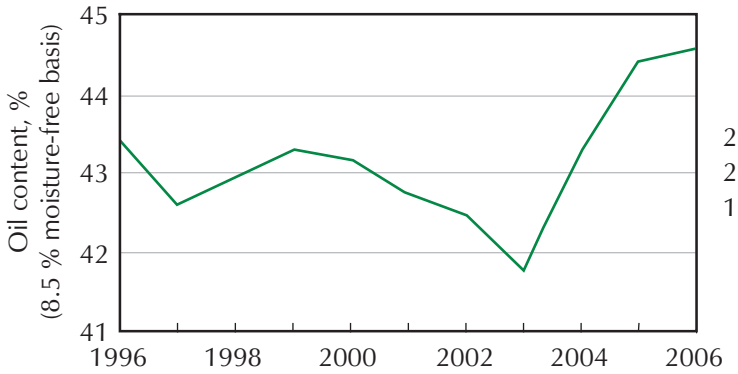
Oil content

For Canola, No.1 Canada, the 2006 mean oil content (44.6%) is 0.2% higher than the 2005 mean (44.4%) and 1.6% above the ten-year (1996–2005) mean of 43.0%. The mean oil content in Manitoba (43.4%) is notably lower than in Saskatchewan (44.9%) and Alberta (45.1%). Compared to 2005, mean oil contents have changed by 0.0%, +0.4% and +0.4% respectively for Manitoba, Saskatchewan and Alberta. The oil content of Canola, No.1 Canada from producers across western Canada ranged from 37.0% to 50.0%.

The increased oil content seen in the 2006 survey is a result of the generally good moisture conditions at the start of the growing season plus relatively cool evenings in much of the western Canada canola growing area. In Manitoba extreme heat stressed the canola and tended to lower the oil content. In general, hot growing conditions at flowering tend to produce canola seed with lower oil content but higher protein content. This was one of the few crop years that did not fully show this effect. However, the oil contents for Canola, No.2 and No.3 Canada are significantly lower than for Canola, No.1 Canada (Table 3). Weather summary maps of the 2006-growing season can be found at: http://www.agr.gc.ca/pfra/drought/drmaps_e.htm.

The oil content of canola exports from Vancouver was 44.1% in October 2006, 0.3% higher than the 2005–06 mean of 43.8% (Table 6). The mean oil content of the remaining Vancouver exports in the 2005-06 shipping season should remain near 44% on an 8.5% moisture basis. The mean oil content of the Thunder Bay exports in October 2006 decreased to 42.6% from the 2005–06 mean value of 42.9%.

Figure 3 – Canola, No. 1 Canada
Oil content of harvest survey samples, 1996–2006



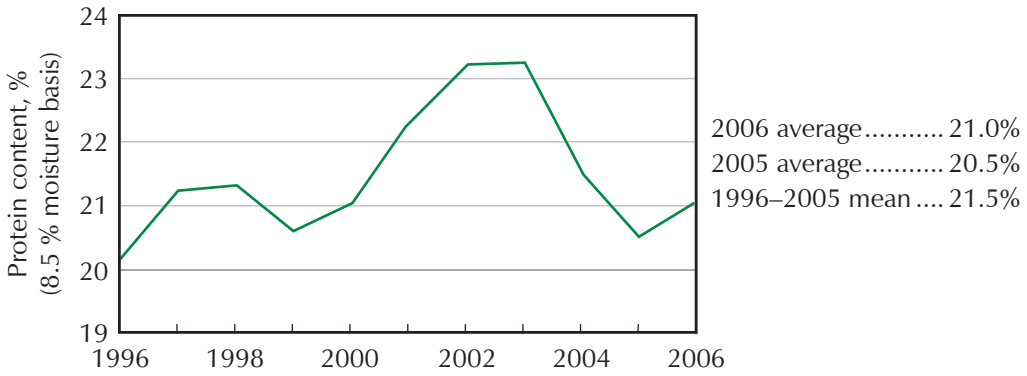
2006 average..... 44.6%
2005 average..... 44.4%
1996–2005 mean 43.0%

Protein content

The 2006 mean crude protein content (21.0%) is 0.5% higher than the 2005 average (20.5%) and lower than the ten-year mean value of 21.5%. The 2006 protein content calculated to an oil-free, 8.5% moisture basis is 41.0% compared to 39.8 % in 2005. In Manitoba, protein contents (22.3%) are notably higher than in Saskatchewan (20.5%) and Alberta (20.9%). Canola, No.1 Canada samples from producers across western Canada varied in protein content from 15.9% to 28.8%. The mean protein contents increased in the lower grades of canola.

The mean protein content of canola exports from Vancouver averaged 21.0% in October 2006, 0.4% higher than the 2005–06 mean of 20.6% (Table 6). The protein content in Vancouver exports should remain near this level for the remainder of the 2005-06 shipping season. The mean protein content of the October 2006 Thunder Bay canola shipments was 21.7%, a 0.5% increase from the 2005–06 mean of 21.2%.

Figure 4 – Canola, No. 1 Canada
Protein content of harvest survey samples, 1996–2006



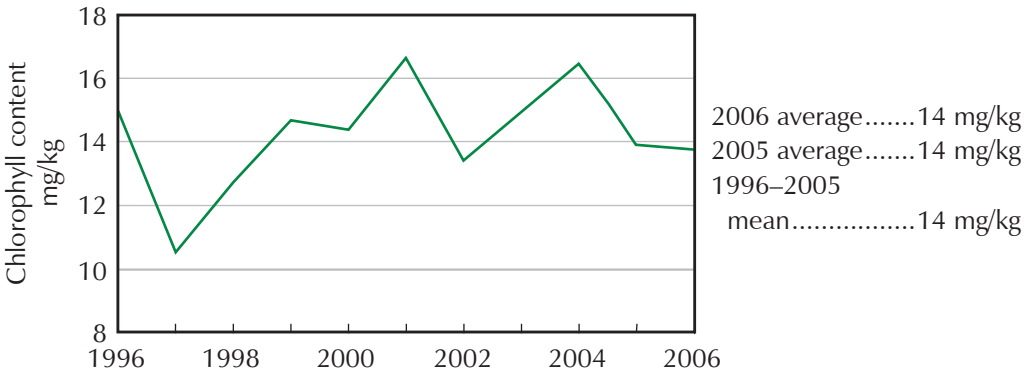
Chlorophyll content

Producer samples of Canola, No. 1 Canada averaged 14 mg/kg chlorophyll in the 2006 survey, similar to the 14 mg/kg in the 2005 harvest (Table 1). The mean chlorophyll level of 15 mg/kg for Saskatchewan samples is higher than the 13 mg/kg for Alberta and the 13 mg/kg for Manitoba. Chlorophyll levels for Canola, No. 2 Canada samples average 31 mg/kg, similar to the 32 mg/kg for Canola, No. 2 Canada seed in 2005.

Based on discussions with producers and processors, distinctly green seed (DGR) levels were similar to those in 2005 and significantly less of a degrading factor than in the frost-affected 2004 crop. Wet and cool conditions in the late fall hindered the harvesting of the 2006 canola crop in some parts of northern Alberta and northern Saskatchewan. Overall, the green seed count and the amount of chlorophyll per green seed is similar to that in the 2005 crop.

The October 2006 shipments of canola leaving Vancouver and Thunder Bay had average chlorophyll levels of 17 and 12 mg/kg respectively. Both of the October values were significantly lower than the average chlorophyll levels in the 2005–06 exports. The levels of chlorophyll in Vancouver and Thunder Bay export shipments are expected to remain lower than the 2005–06 mean values (Table 6).

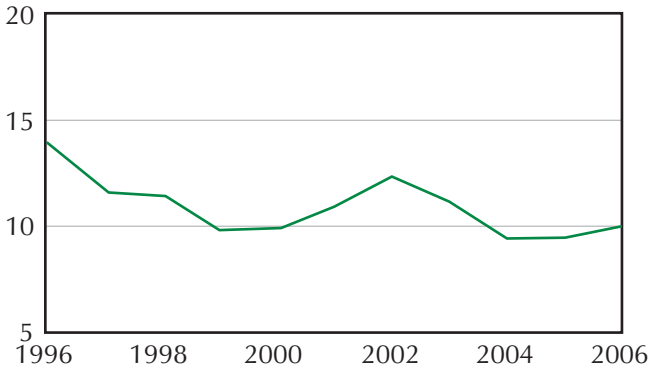
Figure 5 – Canola, No. 1 Canada
Chlorophyll content of harvest survey samples, 1996–2006



Glucosinolate content

The 2006 total seed glucosinolate level of 10 micromoles per gram is similar to the 9 micromoles per gram in 2005. The large proportion of Brassica napus samples in the 2006 crop contributed to the overall low glucosinolate levels for the crop. The average level of total seed glucosinolates in the October 2006 Vancouver and Thunder Bay canola exports indicates glucosinolate levels in exports will be similar to those in the 2005–06 shipping season.

Figure 6 – Canola, No. 1 Canada
Total seed glucosinolate content of harvest survey samples, 1996–2006

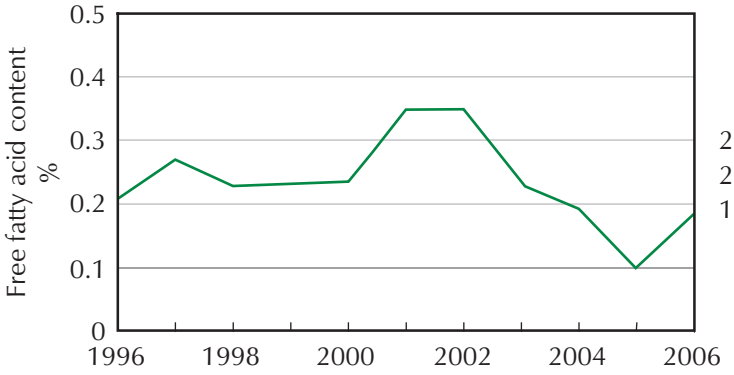


2006 average..... 10 µmol/g
2005 average..... 9 µmol/g
1996–2005
mean..... 11 µmol/g

Free fatty acid content

The 2006 harvest survey of Canola, No.1 Canada has a mean free fatty acid (FFA) content of 0.17%. This level is higher than the 2005 value of 0.11% but below the long-term mean of 0.24%. However, the FFA levels may be elevated in seed that was subject to heat stress, particularly in the southern regions of the canola growing area. Individual producer samples from some areas are notably higher in FFA (e.g. 0.7% to 1.0%) than the reported W. Canada mean of 0.17% for Canola, No.1Canada. For initial 2006–07 exports, FFA levels are expected to be around 0.4% for Canola, No.1 Canada (Table 6). Because FFA levels tend to increase over time the measured FFA's towards the end of the shipping season will likely be higher than the values seen in October shipments.

Figure 7 – Canola, No. 1 Canada
Free fatty acid content of harvest survey samples, 1996–2006



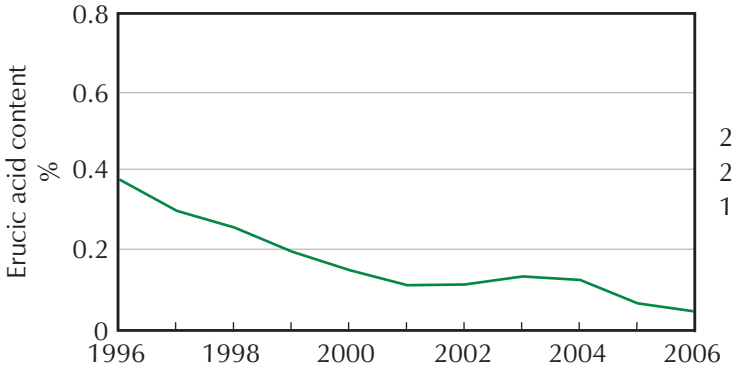
Fatty acid composition

The mean iodine value of the canola oil from 2006 harvest survey samples is 113 units compared to 116 units in 2005 (Table 2). The linolenic acid is 9.9% in 2006, which is significantly lower than the 11.0% in 2005 but similar to the 10-year mean of 9.9%. At 10.5%, the linolenic acid in Alberta is higher than in Saskatchewan, 9.8%, and Manitoba, 9.1% (Table 5). The oleic acid content of the 2006 crop increased to 62.0% from 59.8% in 2005.

The average level of erucic acid in the 2006 crop is 0.1%, similar to the 0.1% in 2005 and below the 10-year mean of 0.2%. The mean level of saturated fatty acids is 7.0% in 2006, similar to the 2005 value of 7.0%. The levels of saturated fatty acids are slightly higher in Manitoba, 7.1%, than in Saskatchewan, 7.0%, and Alberta, 6.8%. The GRL harvest survey samples were comprised of over 99% Brassica napus types, similar to the 99% in 2005.

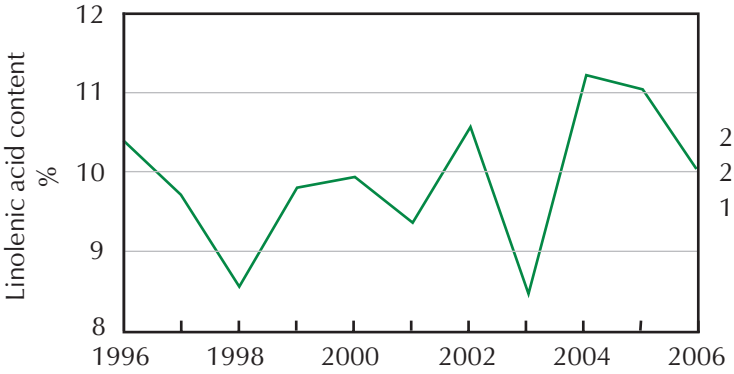
Based on the October 2006 data, the mean linolenic acid content for Canola, No.1 Canada exports from Vancouver decreased by 0.6% to a mean value of 10.8% (Table 6). The October 2006 Thunder Bay exports decreased by 1.2% to a mean value of 9.7% linolenic acid content. At 115 units, the iodine value for October Vancouver canola exports decreased by 2 units from the 2005–06 levels. The iodine value for the October Thunder Bay canola exports decreased by 3 units from the 2005–06 levels. The level of saturated fatty acids in October 2006 Vancouver canola exports was 6.8%, similar to the 2005–06 exports. The Thunder Bay October 2006 exports were 7.2% in saturated fatty acids, an increase of 0.1% from 2005–06 levels. The levels of erucic acid in all exports during the 2006–07 shipping season will likely remain near 0.1%.

Figure 8 – Canola, No. 1 Canada
Erucic acid content of harvest survey samples, 1996–2006



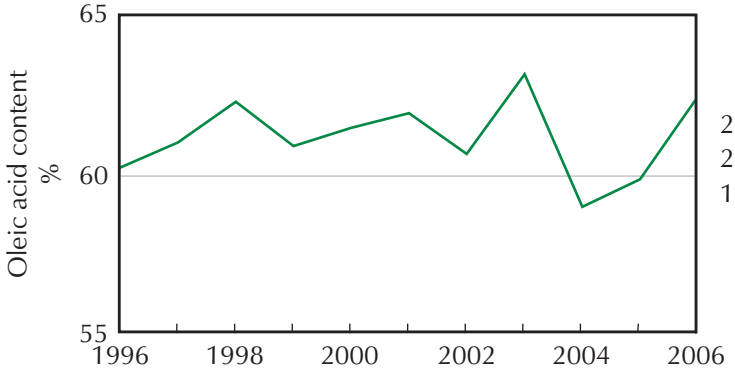
2006 average..... 0.05%
2005 average..... 0.06%
1996–2005 mean 0.18%

Figure 9 – Canola, No. 1 Canada
Linolenic acid content of harvest survey samples, 1996–2006



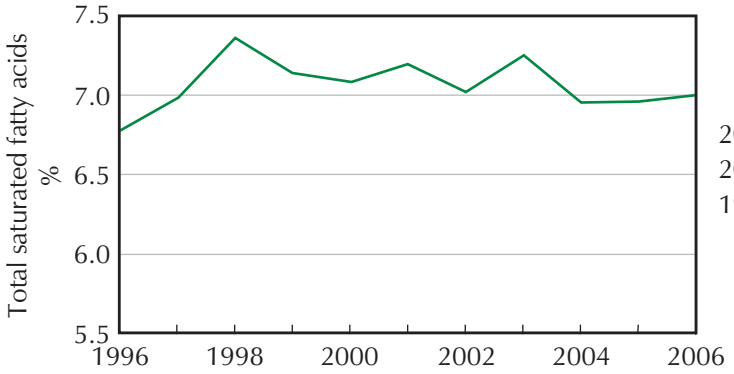
2006 average..... 9.9%
2005 average..... 11.0%
1996–2005 mean 9.9%

Figure 10 – Canola, No. 1 Canada
Oleic acid content of harvest survey samples, 1996–2006



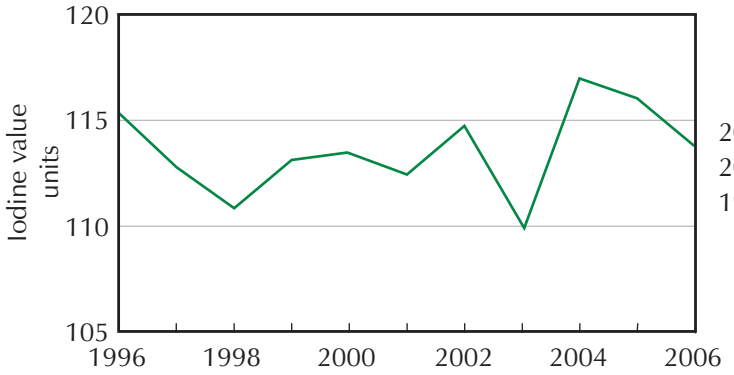
2006 average..... 62.0%
2005 average..... 59.8%
1996–2005 mean 61.0%

Figure 11 – Canola, No. 1 Canada
Total saturated fatty acids of harvest survey samples, 1996–2006



2006 average..... 7.0%
2005 average..... 7.0%
1996–2005 mean 7.1%

Figure 12 – Canola, No. 1 Canada
Iodine value of harvest survey samples, 1996–2006



2006 average.....113
2005 average.....116
1996–2005 mean 114