



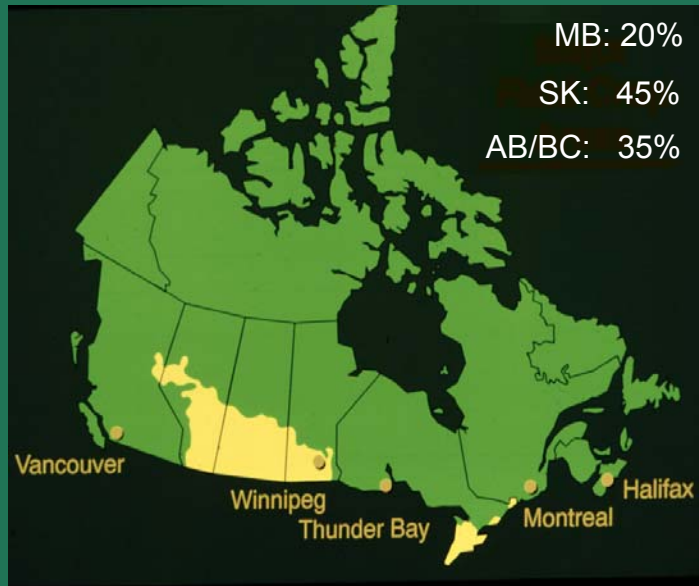
Canadian Grain Commission
Commission canadienne
des grains

Canada

Quality of western Canadian canola 2008

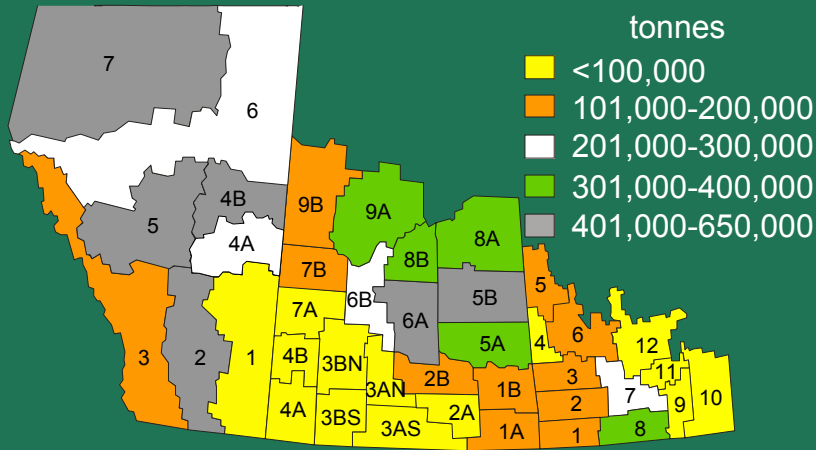
D.R. DeClercq
Grain Research Laboratory
Canadian Grain Commission

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Crop growing areas

Mean canola production for 2003-2007



“Heat-loving crops lagging”

“Crops in Peace River area suffer from lack of rain”

*“Wet summer messing up farmers' fall;
Harvest running late ..”*

“Canola yields generally good “

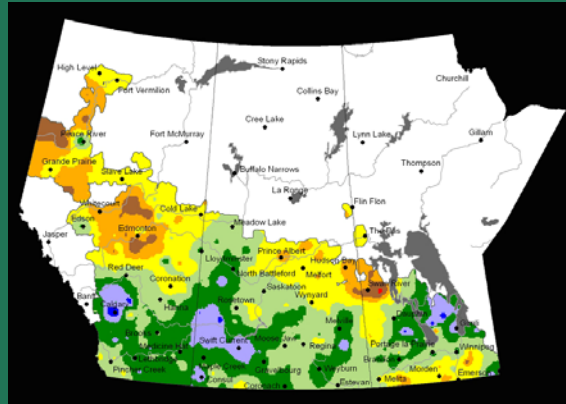
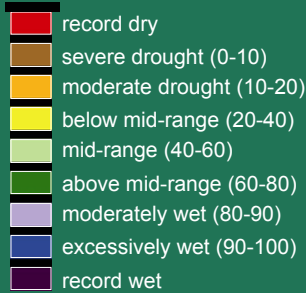
“Farmers set canola record: Stats Canada”

“Bigger, better crops in 2008”

Crop Highlights from 2008

Current precipitation compared to historical distribution

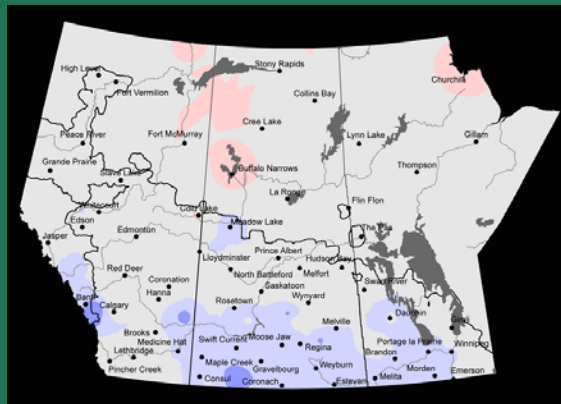
April 1, 2008 – August 31, 2008



Prepared by PFRA (Prairie Farm Rehabilitation Administration) using data from the Timely Monitoring Network and the many federal and provincial agencies and volunteers that support it.

Monthly mean temperature difference from normal

June 2008 (degrees C)



Prepared by PFRA (Prairie Farm Rehabilitation Administration) using data from the Timely Monitoring Network and the many federal and provincial agencies and volunteers that support it.

Monthly mean temperature difference from normal

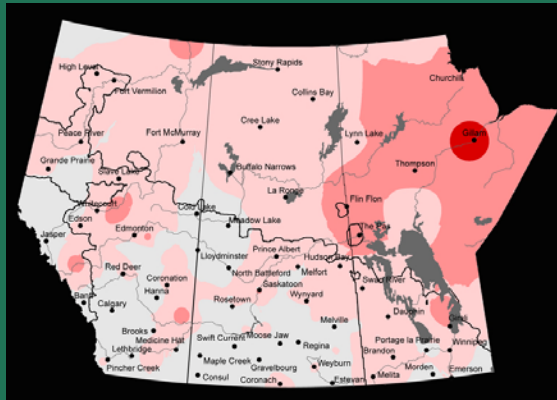
July 2008 (degrees C)



Prepared by PFRA (Prairie Farm Rehabilitation Administration) using data from the Timely Monitoring Network and the many federal and provincial agencies and volunteers that support it.

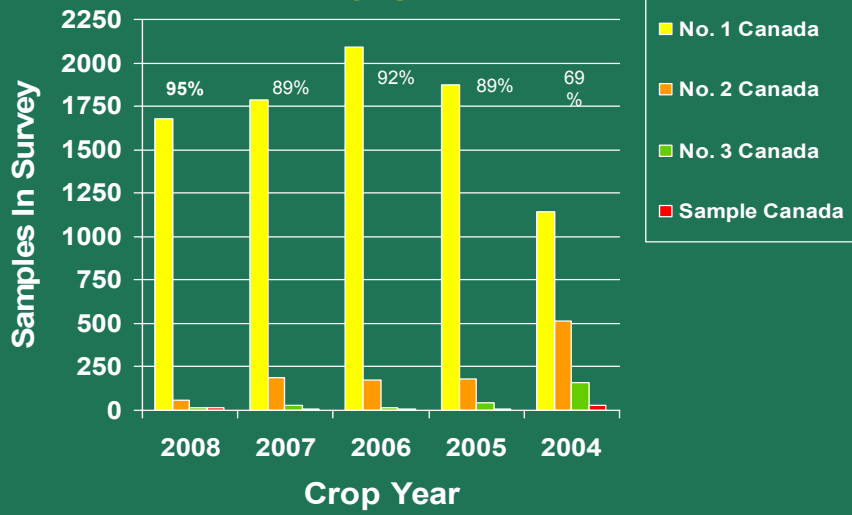
Monthly mean temperature difference from normal

August 2008 (degrees C)



Prepared by PFRA (Prairie Farm Rehabilitation Administration) using data from the Timely Monitoring Network and the many federal and provincial agencies and volunteers that support it.

Samples received by grade



Per Cent Brassica

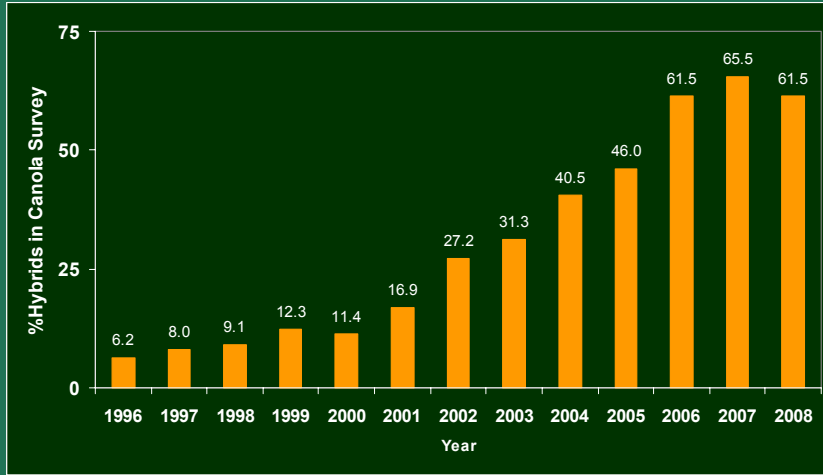
Region	2008		2007		2006		2005		2004	
	<i>rapa</i>	<i>napus</i>	<i>rapa</i>	<i>napus</i>	<i>rapa</i>	<i>napus</i>	<i>rapa</i>	<i>napus</i>	<i>rapa</i>	<i>napus</i>
MB	0	100	0	100	0	100	0	100	0	100
SK	0	100	1	99	1	99	1	99	1	99
AB	1	99	2	98	1	99	2	98	4	96
W. Canada	0.2	99.8	0.9	99.1	0.6	99.4	1.1	98.9	1.8	98.2

Canola varieties in GRL survey

Type	Percent of total identified varieties			
	2008	2007	2006	2005
GMO	94.4	92.1	90.6	77.6
Clearfield	4.8	5.3	6.5	12.1
Conventional	0.7	2.6	2.9	10.3
Total	100	100	100	100

Source: Variety identified commodity canola survey samples

Canola hybrid varieties in GRL survey



Canola quality tests

Quality factor	Oilseed tests used
Oil content	ISO 10565:1993 - pulsed NMR
Protein content	AOCS Ba 4e-93
Chlorophyll	ISO 10519:1993
Glucosinolates	ISO 9167-3:2007
Fatty acid composition	ISO 5508:1990
Free fatty acids	Ke et al., Analytica Chemica Acta 99 (1978)

2008 harvest survey No. 1 Canada canola

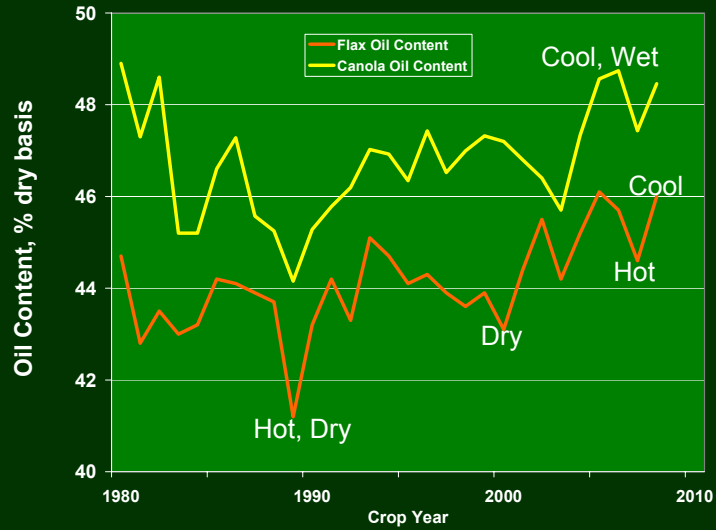
	Oil content	Protein content	Chlorophyll content
	%	%	mg/kg
Manitoba	43.5	21.4	12
Saskatchewan	44.6	20.3	12
Alberta	44.5	21.0	10
Western Canada	44.3	20.8	11

Oil content of No. 1 Canada canola

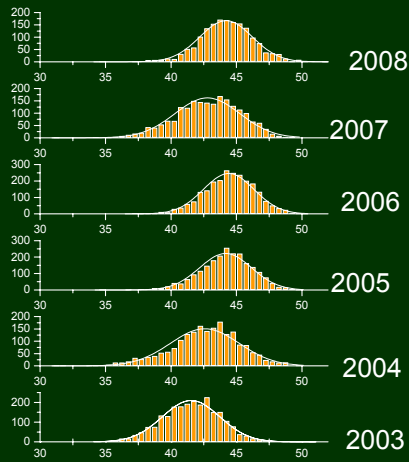
2008 average 44.3%
2007 average 43.4%
1998-07 mean 43.2%



Effect of Environment on Oil Content of Canola and Flax



Oil content distribution 2003 to 2008 Harvests

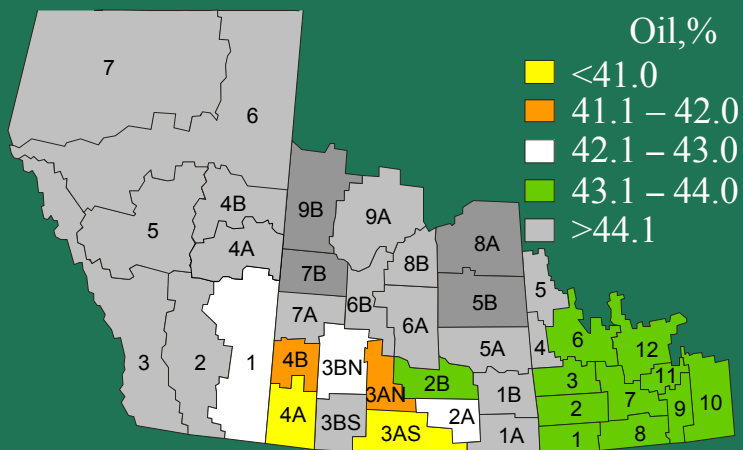


Oil content of No. 1 Canada canola

	Oil content, %	
	2008	2007
Manitoba	43.5	41.6
Saskatchewan	44.6	43.3
Alberta	44.5	44.4
Western Canada	44.3	43.4

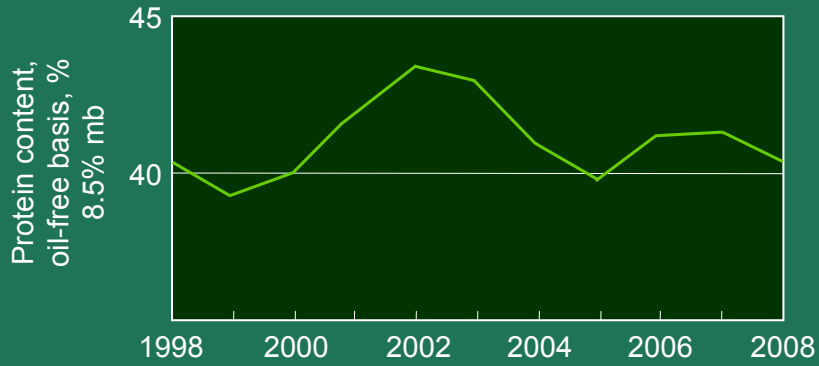
Mean canola oil contents for 2008

all grades



Protein content (oil-free basis) of No. 1 Canada canola

2008 average	40.3%
2007 average	41.2%
1998-07 mean	41.0%



Oil and protein content of No. 1 Canada canola

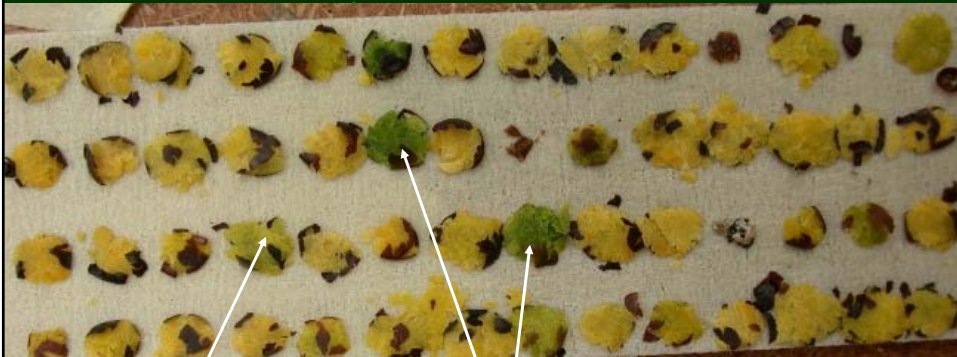




Grain Grading guide: canola

Canola Grade	Damage		
	Distinctly Green (%)	Heated (%)	Total (%)
No. 1 Canada	2	0.1	5
No. 2 Canada	6	0.5	12
No. 3 Canada	20	2	25
Grade, if No 3 specs not met	Canola sample Canada Account Damaged	Canola sample Canada Account Heated	Canola sample Canada Account Damaged

Green seeds



Not DGR

Distinctly green seeds
(DGR)



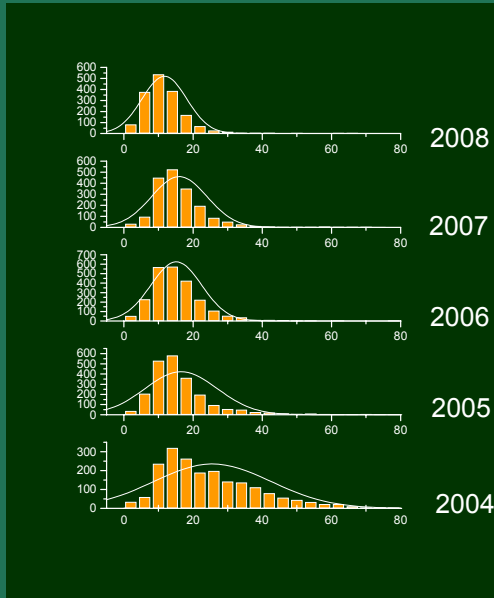
Chlorophyll content in 2008 western Canadian canola

	No. 1 Canada	No. 2 Canada	No. 3 Canada	Sample Canada
	mg/kg	mg/kg	mg/kg	mg/kg
Manitoba	12	21	16	14
Saskatchewan	12	23	20	10
Alberta	10	29	48	15
Western Canada	11	25	29	13

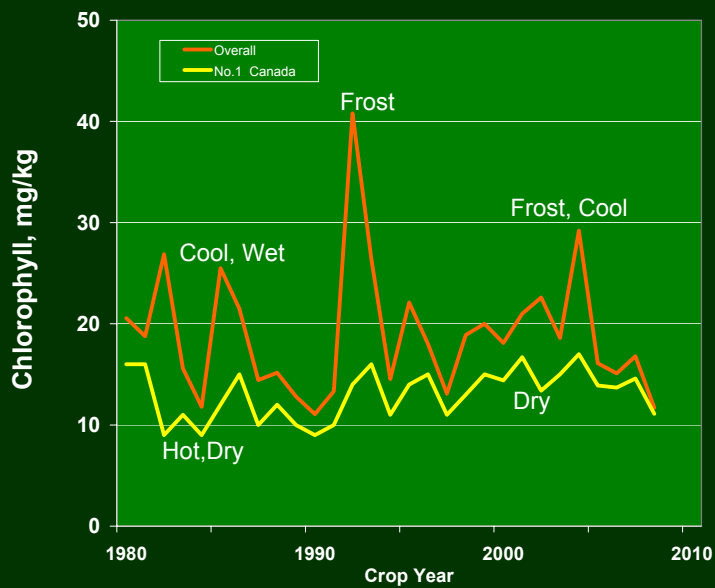
Chlorophyll content of No. 1 Canada canola

	Chlorophyll content, mg/kg	
	2008	2007
Manitoba	12	15
Saskatchewan	12	14
Alberta	10	14
Western Canada	11	15

Chlorophyll Distribution 2004 to 2008



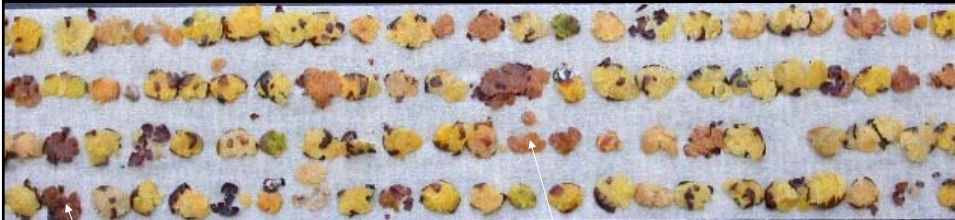
Effect of Environment on Chlorophyll



Sprouted seed



Heat damage-canola



Dark/chocolate seed
(HTD)

Brown/oxidized seeds

Free fatty acid content in 2008 western Canadian canola

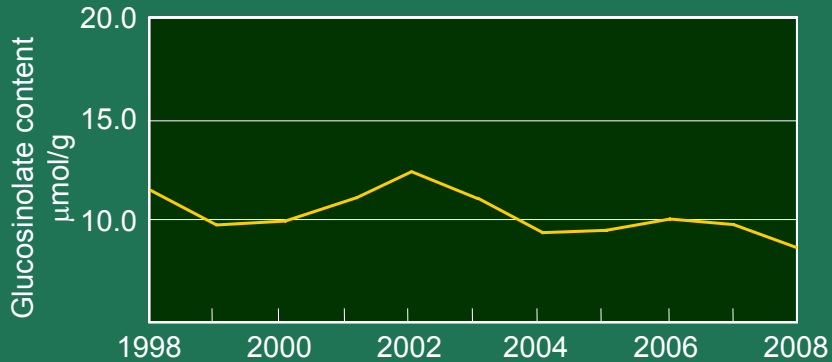
	No. 1 Canada	No. 2 Canada	No. 3 Canada	Sample Canada
	%	%	%	%
Manitoba	0.12	0.25	—	—
Saskatchewan	0.08	0.32	—	—
Alberta	0.12	0.36	—	—
Western Canada	0.10	0.32	0.32	0.16

Free fatty acid content of No. 1 Canada canola

	Free fatty acid content, %	
	2008	2007
Manitoba	0.12	0.19
Saskatchewan	0.08	0.16
Alberta	0.12	0.12
Western Canada	0.10	0.18

Total seed glucosinolate content of No. 1 Canada canola

2008 average 9 $\mu\text{mol/g}$
 2007 average 10 $\mu\text{mol/g}$
 1998-07 mean 10 $\mu\text{mol/g}$



Common fatty acids

Structural name and common formula	Abbreviated formula
$\text{CH}_3(\text{CH}_2)_{14}\text{COOH}$ palmitic acid	C16:0
$\text{CH}_3(\text{CH}_2)_{16}\text{COOH}$ stearic acid	C18:0
$\text{CH}_3(\text{CH}_2)_7\text{CH}=\text{CH}(\text{CH}_2)_7\text{COOH}$ oleic acid	C18:1
$\text{CH}_3(\text{CH}_2)_4\text{CH}=\text{CHCH}_2\text{CH}=\text{CH}(\text{CH}_2)_7\text{COOH}$ linoleic acid	C18:2
$\text{CH}_3\text{CH}_2\text{CH}=\text{CHCH}_2\text{CH}=\text{CHCH}_2\text{CH}=\text{CH}(\text{CH}_2)_7\text{COOH}$ linolenic acid	C18:3

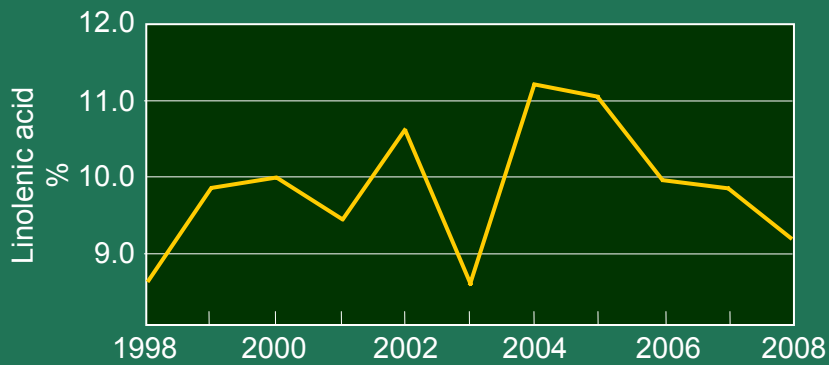
Erucic acid content of No. 1 Canada canola

2008 average	0.01%
2007 average	0.04%
1998-07 mean	0.12%



Linolenic acid content of No. 1 Canada canola

2008 average	9.1%
2007 average	9.8%
1998-07 mean	9.9%



Linolenic acid content of No. 1 Canada canola

	C18:3 acid content, %	
	2008	2007
Manitoba	9.1	8.8
Saskatchewan	9.1	9.4
Alberta	9.1	10.9
Western Canada	9.1	9.8

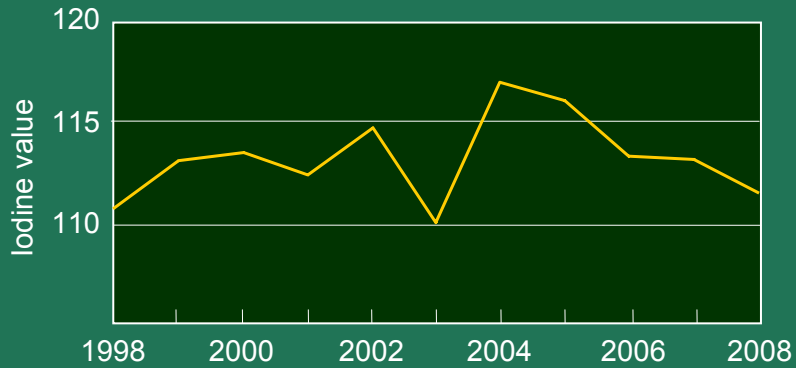
Oleic acid content of No. 1 Canada canola

2008 average 63.2%
2007 average 61.5%
1998-07 mean 61.3%



Iodine value of No. 1 Canada canola

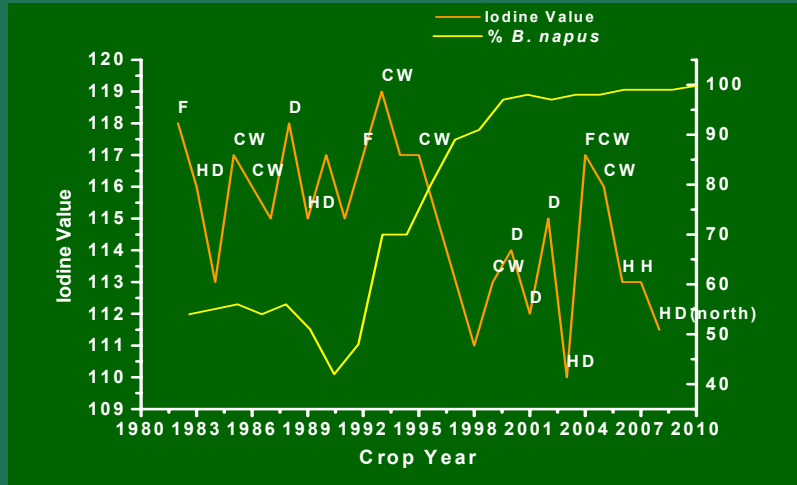
2008 average 111
2007 average 113
1998-07 mean 113



Iodine value in 2008 western Canadian canola

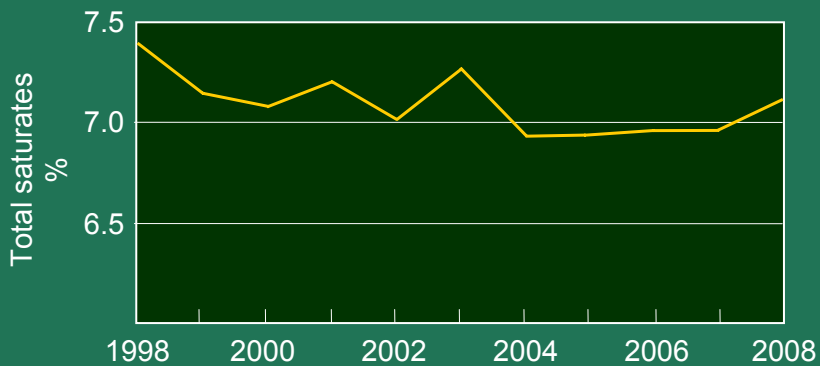
	No. 1 Canada	No. 2 Canada	No. 3 Canada
Manitoba	111.8	113.2	-
Saskatchewan	111.5	113.1	-
Alberta	111.3	114.6	-
Western Canada	111.5	113.6	114.2

Effect of Environment on the Iodine Value of Canola



Saturated fatty acid content of No. 1 Canada canola

2008 average	7.1%
2007 average	7.0%
1998-07 mean	7.1%



Saturated fatty acid content in 2008 western Canadian canola

	No. 1 Canada	No. 2 Canada	No. 3 Canada	Sample Canada
	%	%	%	%
Manitoba	7.1	7.1	—	—
Saskatchewan	7.1	7.1	—	—
Alberta	7.1	7.0	—	—
Western Canada	7.1	7.1	7.0	6.9

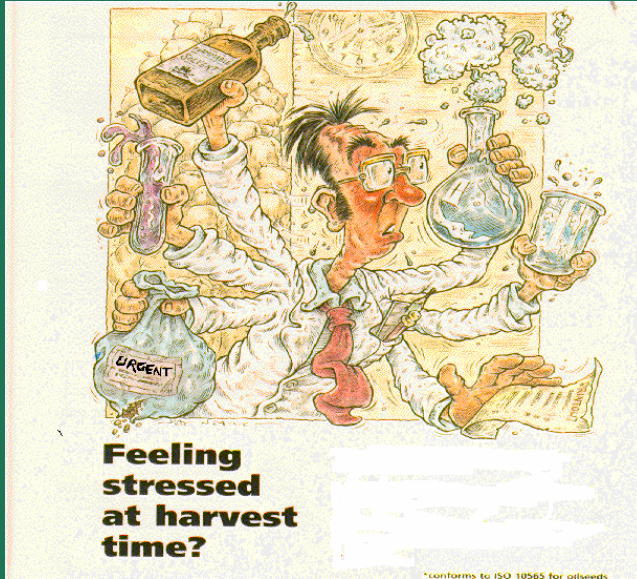
Saturated fatty acid content of No. 1 Canada canola

	Saturated fatty acid content, %	
	2008	2007
Manitoba	7.1	7.3
Saskatchewan	7.1	7.1
Alberta	7.1	6.6
Western Canada	7.1	7.0



Links to CGC websites

- Official Grain Guide:
<http://www.grainscanada.gc.ca>
- Canola export reports:
<http://www.grainscanada.gc.ca/canola/export>
- Canola harvest reports:
<http://www.grainscanada.gc.ca/canola/harvest>



**Feeling
stressed
at harvest
time?**

*conforms to ISO 10585 for all brands

No Crop Stress in 2009 !

Canada 

