



Canadian Grain
Commission

Commission canadienne
des grains



Quality of Western Canadian Canola – 2017 Harvest

Véronique J. Barthet

Grain Research Laboratory, Canadian Grain Commission, Canada

Canola week

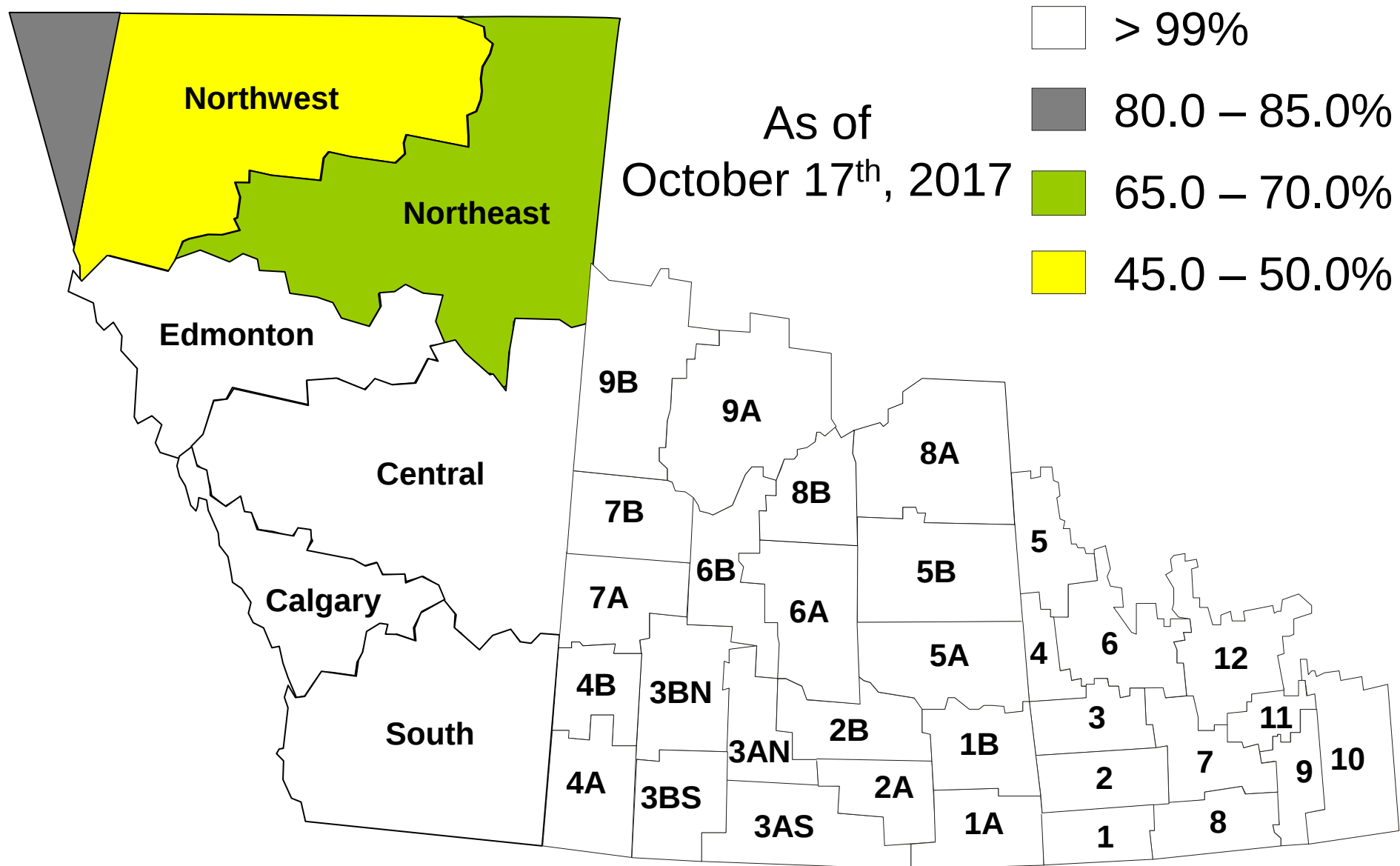
Saskatoon – December 5th, 2017

Canada 

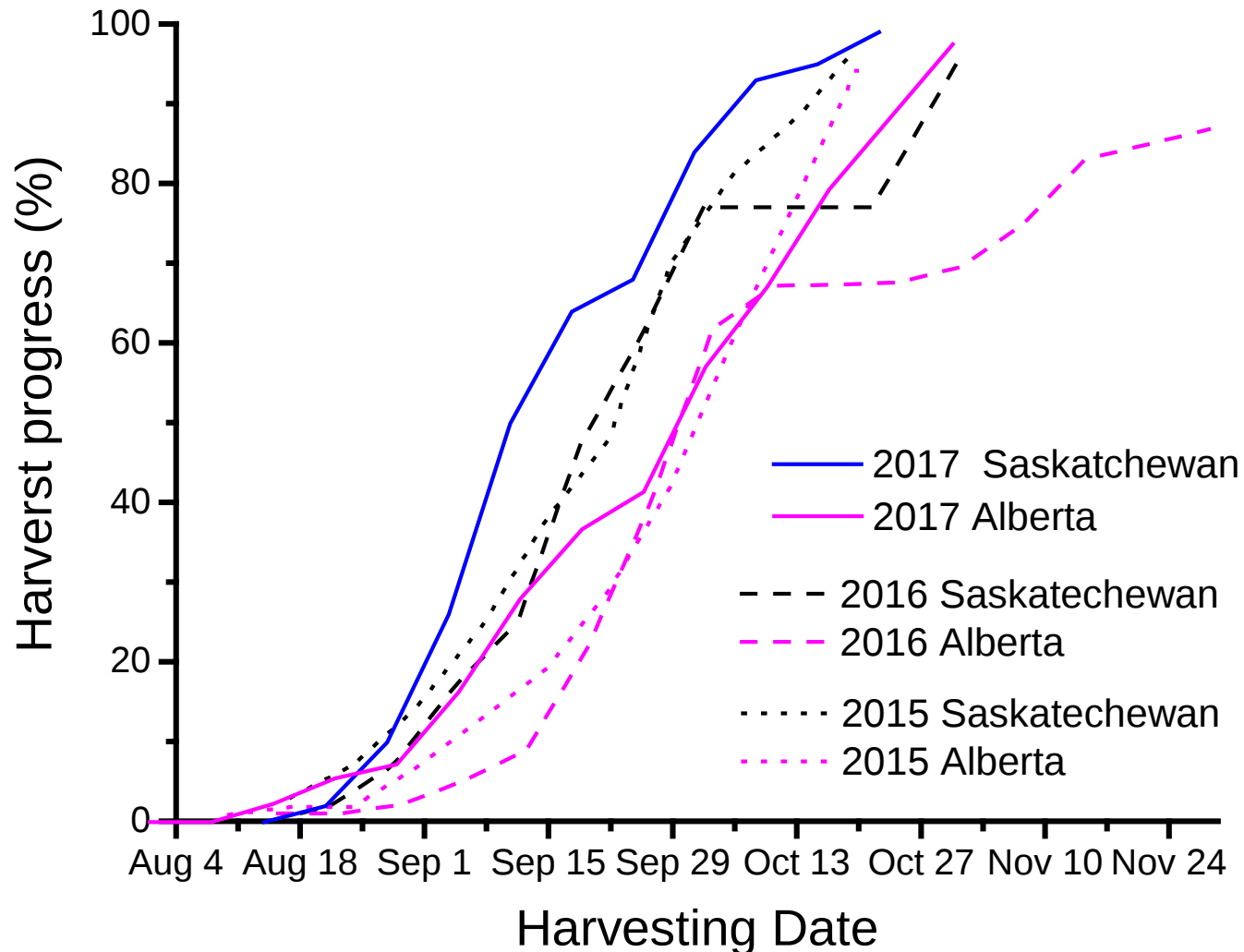
Number of samples in the harvest survey (November 23rd, 2017)

	2017	2016	2015
Manitoba	437	402	434
Saskatchewan	1,032	782	900
Alberta	764	537	668
Western Canada	2,233	1,796	2,002

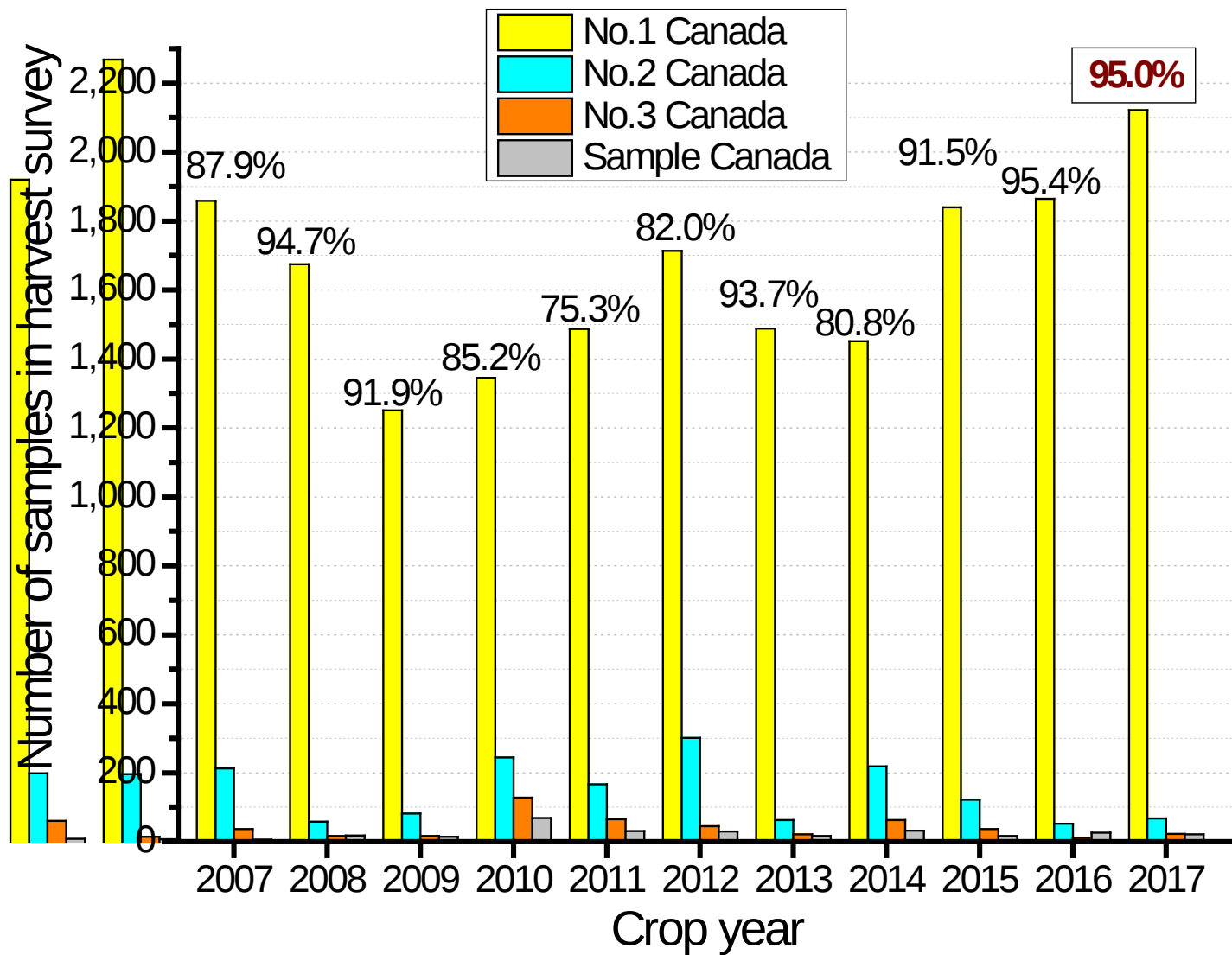
% of Canola harvested in Western Canada



Harvest progress – 2015-17 harvests

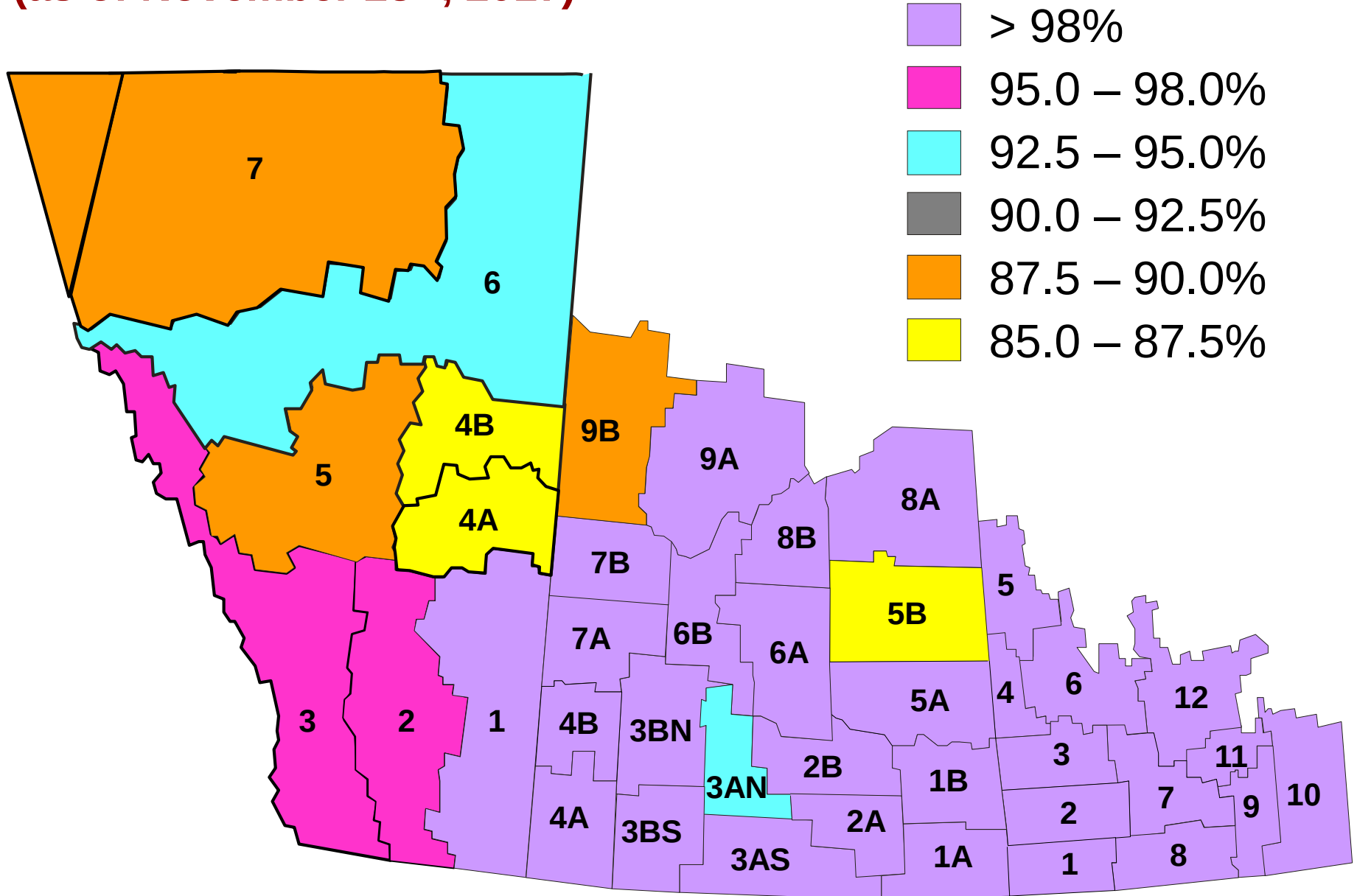


Grade distribution in harvest



Canola, No.1 Canada distribution

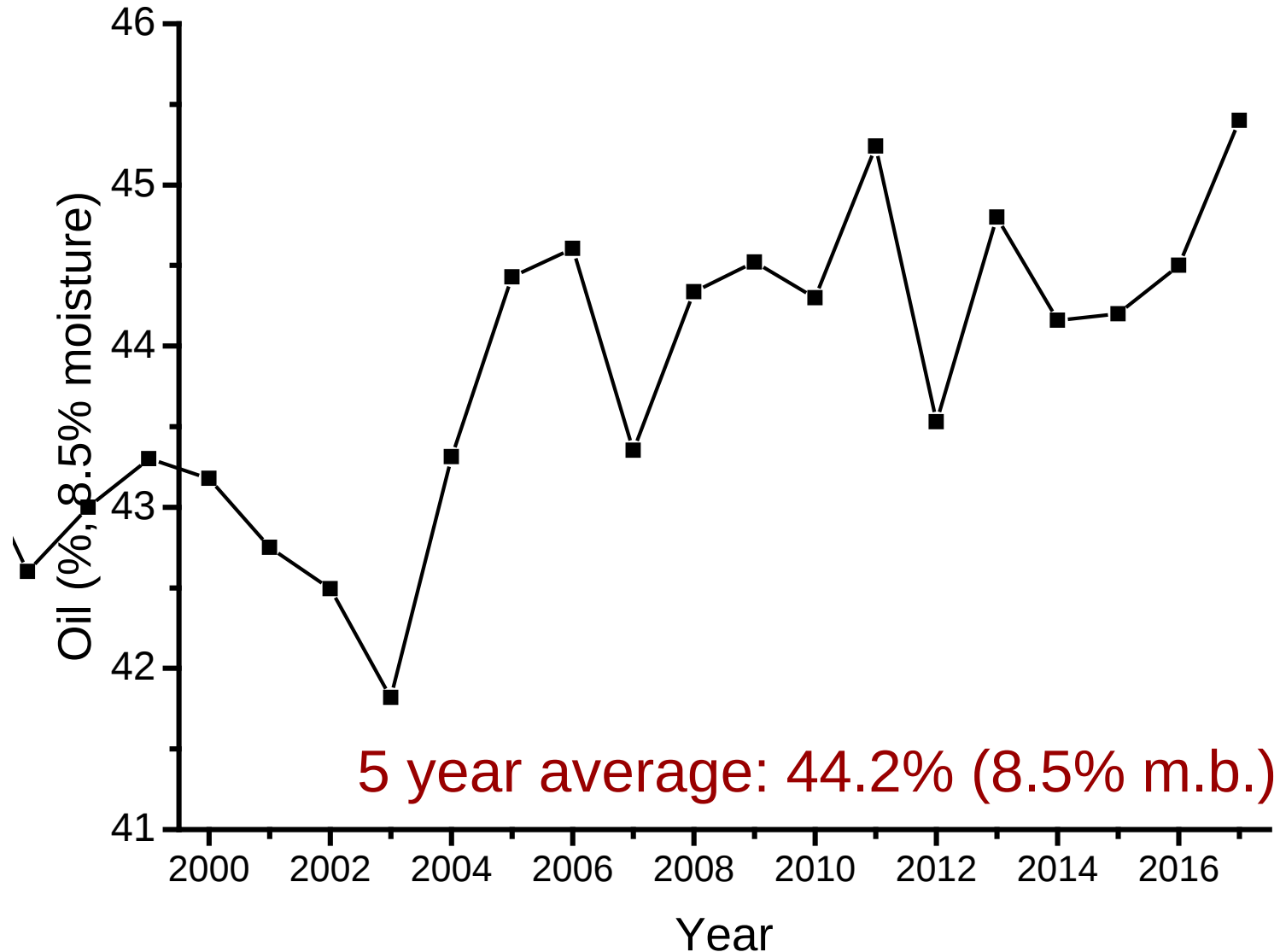
(as of November 23rd, 2017)



Oil content Canola No.1 Canada (%, 8.5% moisture)

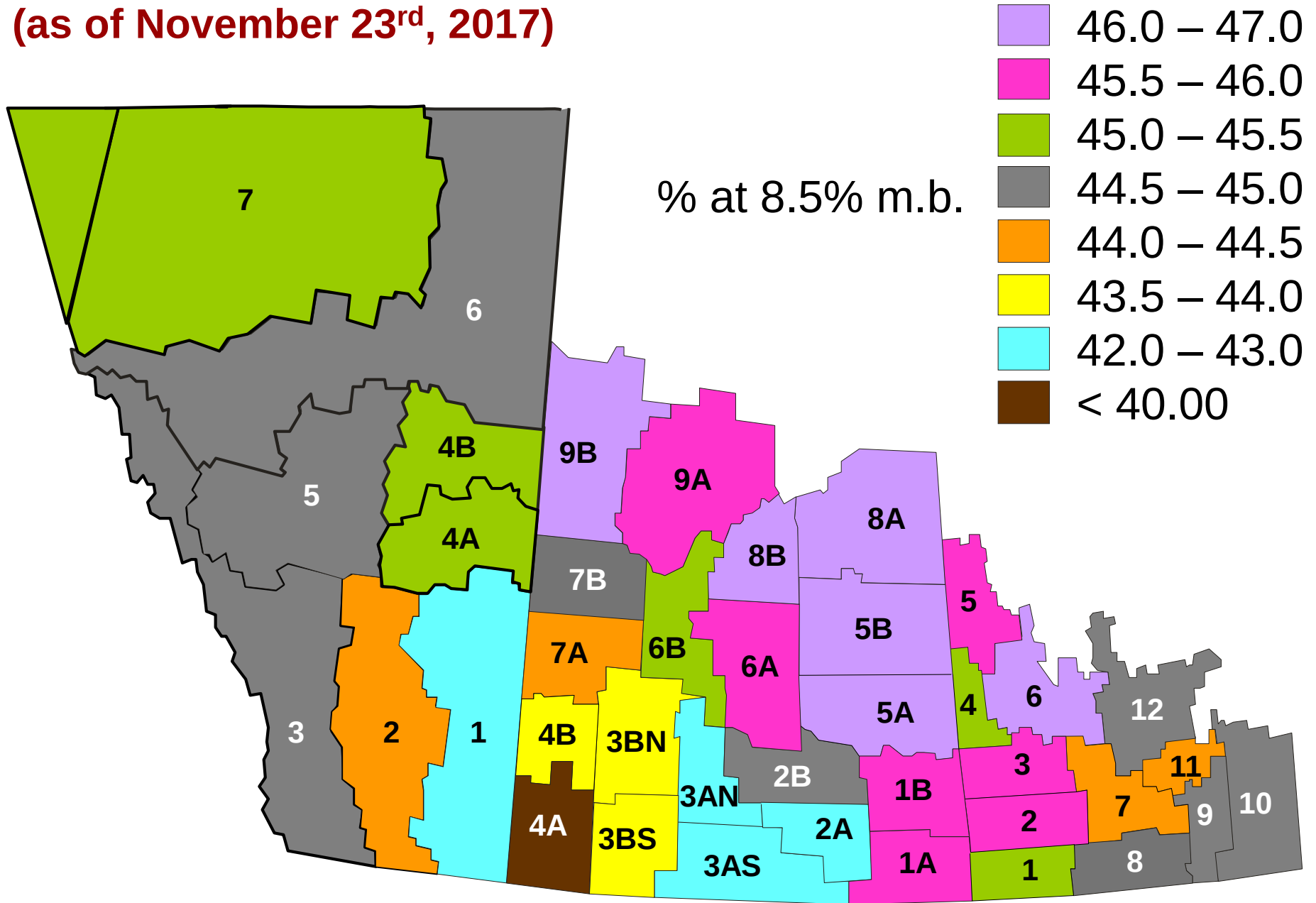
	2017		2016	
	Average	Range	Average	Range
Manitoba	45.4	40.2 – 51.2	44.0	37.5 – 49.0
Saskatchewan	45.4	38.2 – 51.0	44.8	37.1 – 49.9
Alberta	45.4	36.9 – 50.8	44.2	38.0 – 49.2
Western Canada	45.4	36.9 – 51.2	44.5	37.1 – 49.9
	5 year average			44.2
	10 year average			44.3

Oil content – Canola No. 1 Canada 2000 - 2017



Oil content - Canola No.1 Canada

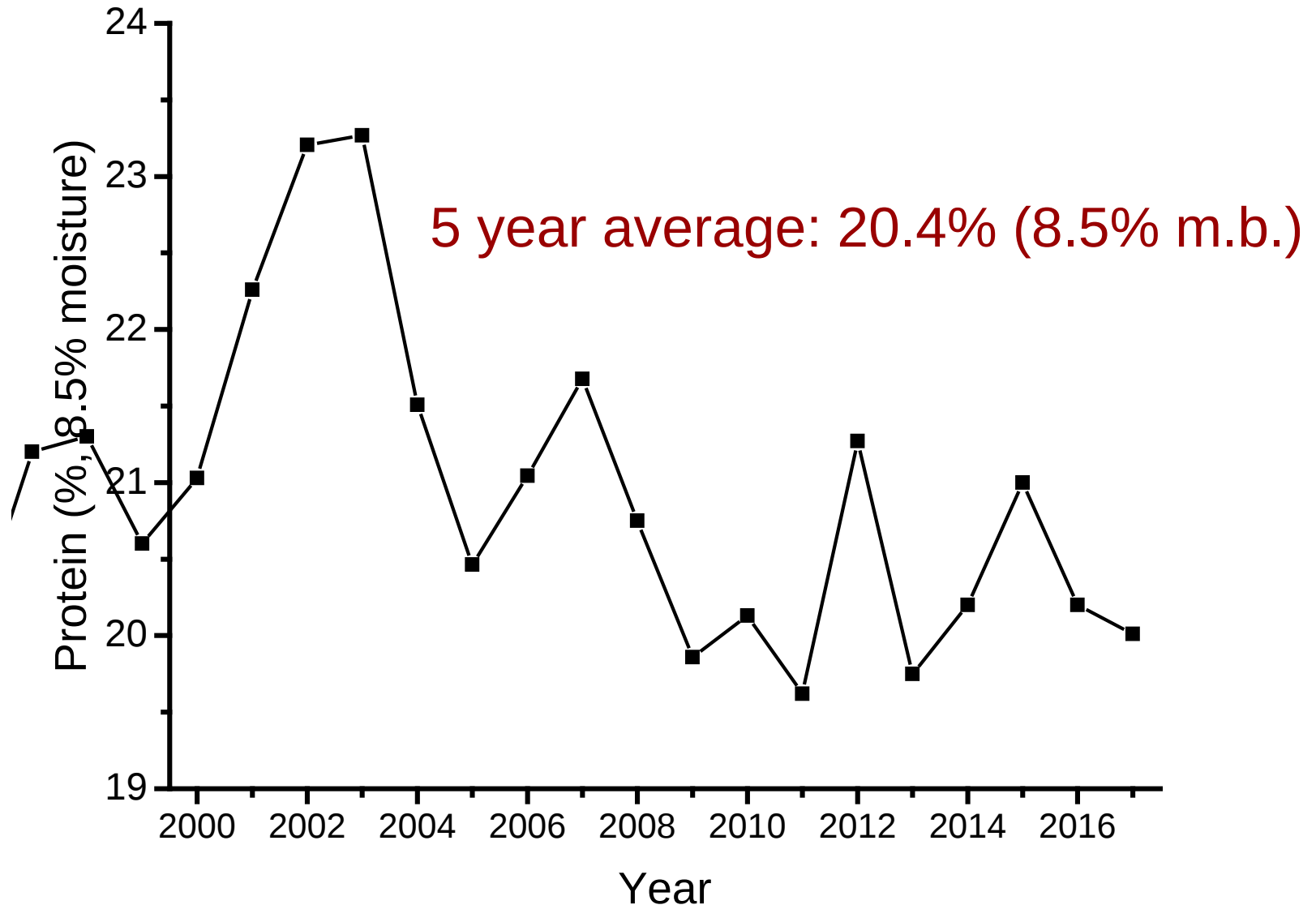
(as of November 23rd, 2017)



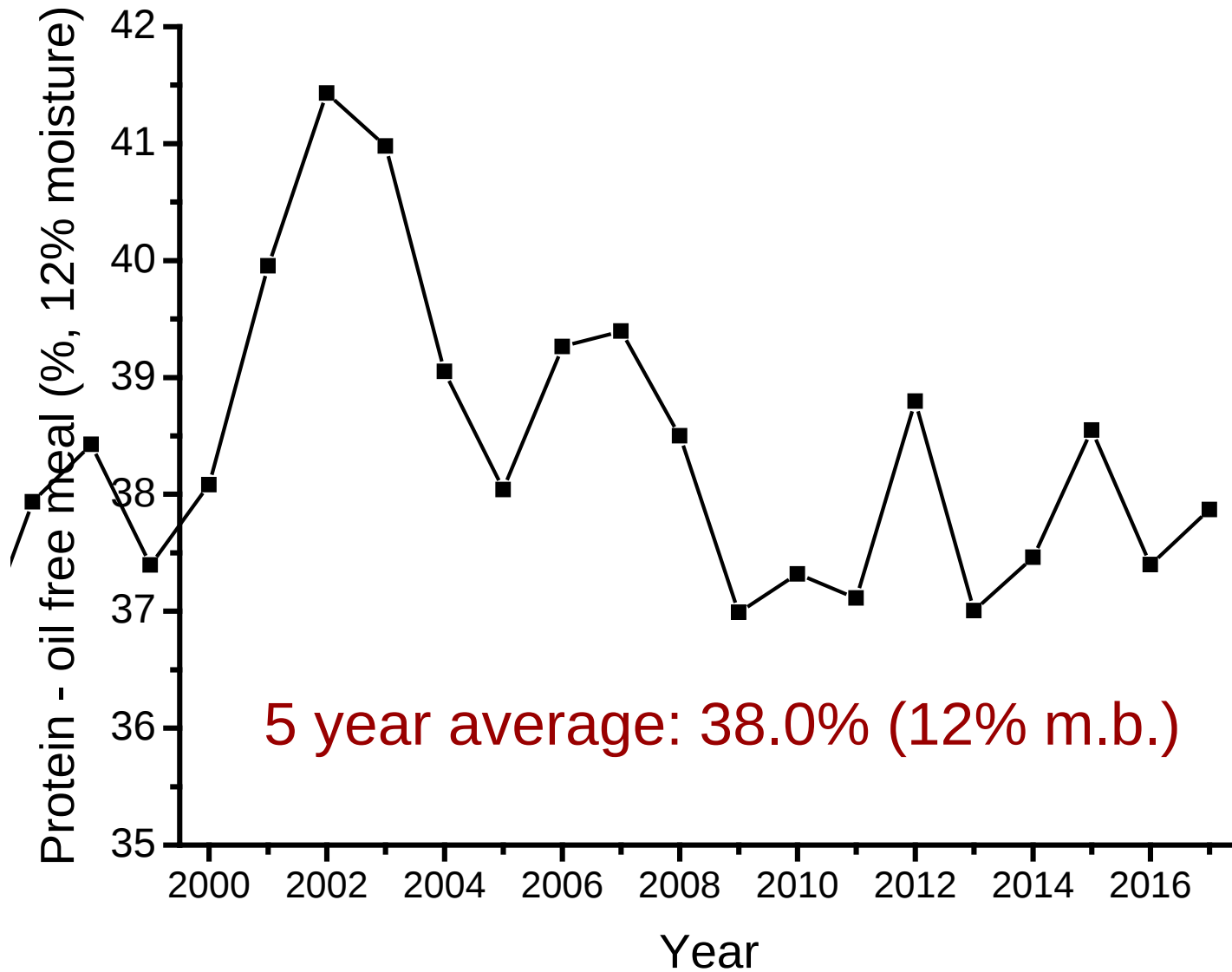
Protein content Canola No. 1 Canada (%, 8.5% m.b.)

	2017		Average	
	Average	Range	2016	2015
Manitoba	19.7	14.8 – 24.5	20.9	21.0
Saskatchewan	19.8	14.2 – 27.9	19.6	20.5
Alberta	20.5	14.7 – 29.3	20.8	21.7
Western Canada	20.1	14.7 – 29.3	20.2	21.0

Protein content – Canola No. 1 Canada 2000 - 2017



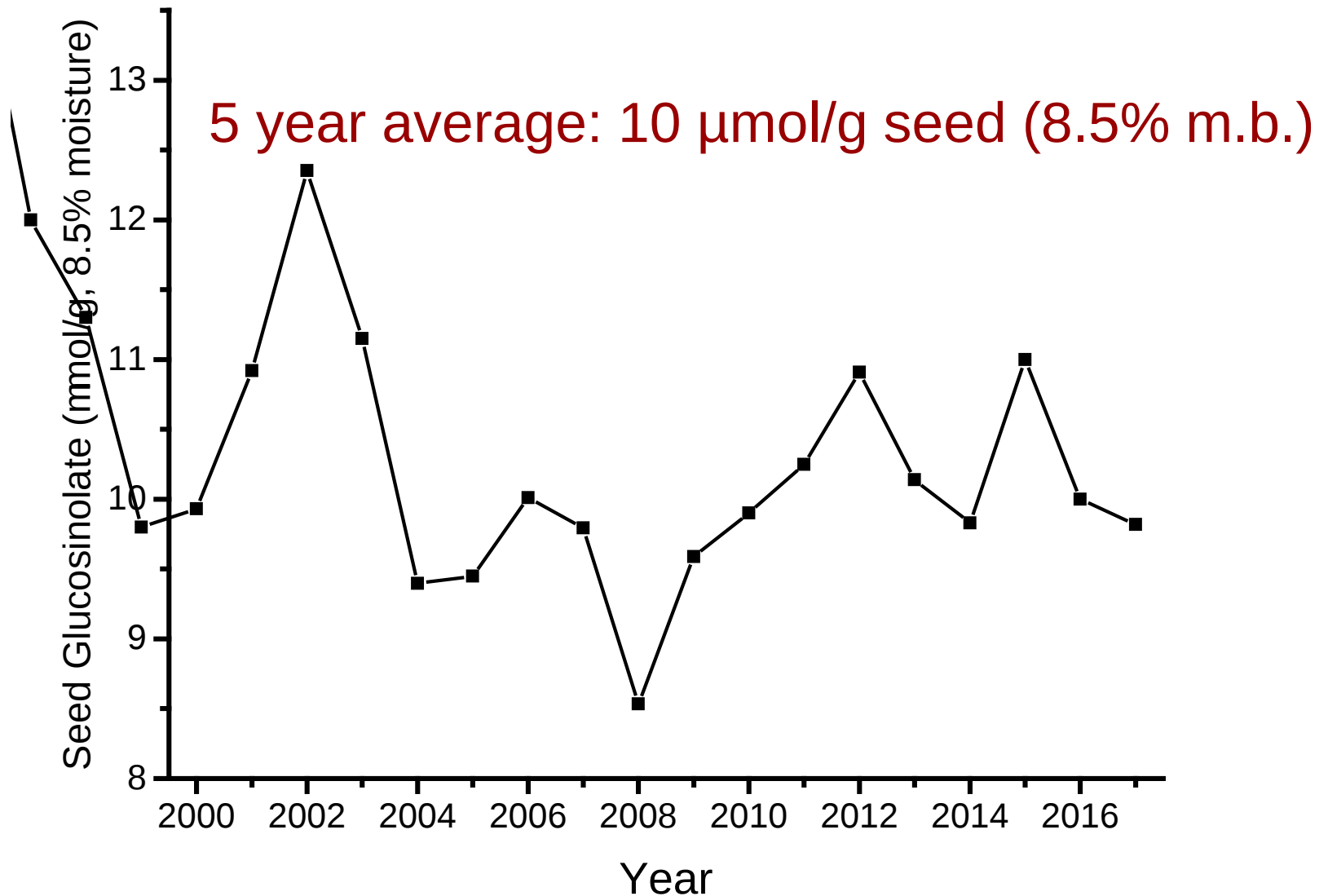
Meal protein content – Canola No. 1 Canada 2000 - 2017



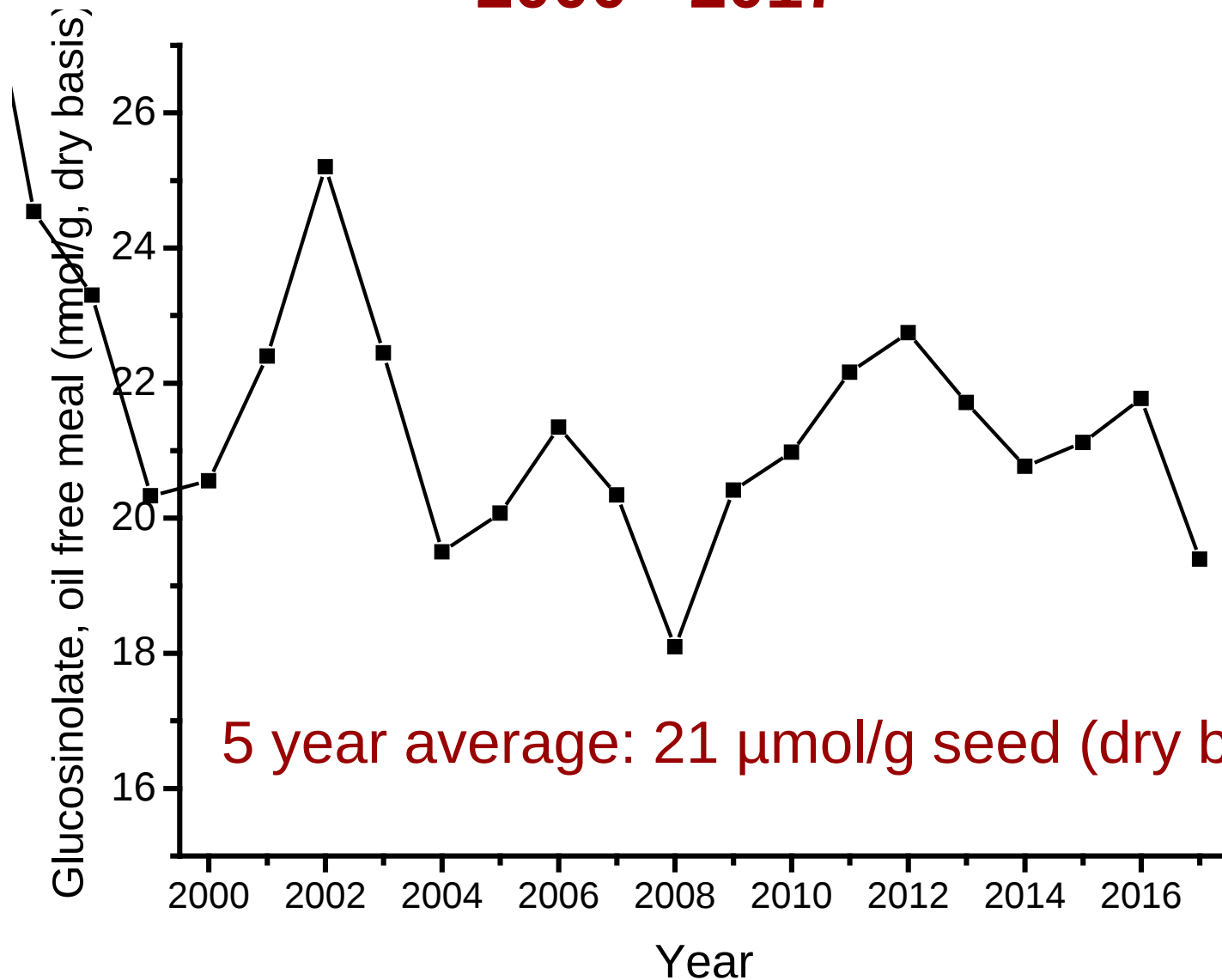
Glucosinolate content - No.1 Canada Canola (mmol/g seed at 8.5% m.b)

	2017		Average	
	Average	Range	2016	2015
Manitoba	9	5 - 14	10	10
Saskatchewan	9	5 - 19	10	11
Alberta	10	6 - 19	10	11
Western Canada	10	5 - 19	10	11

Seed total glucosinolates – Canola No. 1 Canada 2000 - 2017



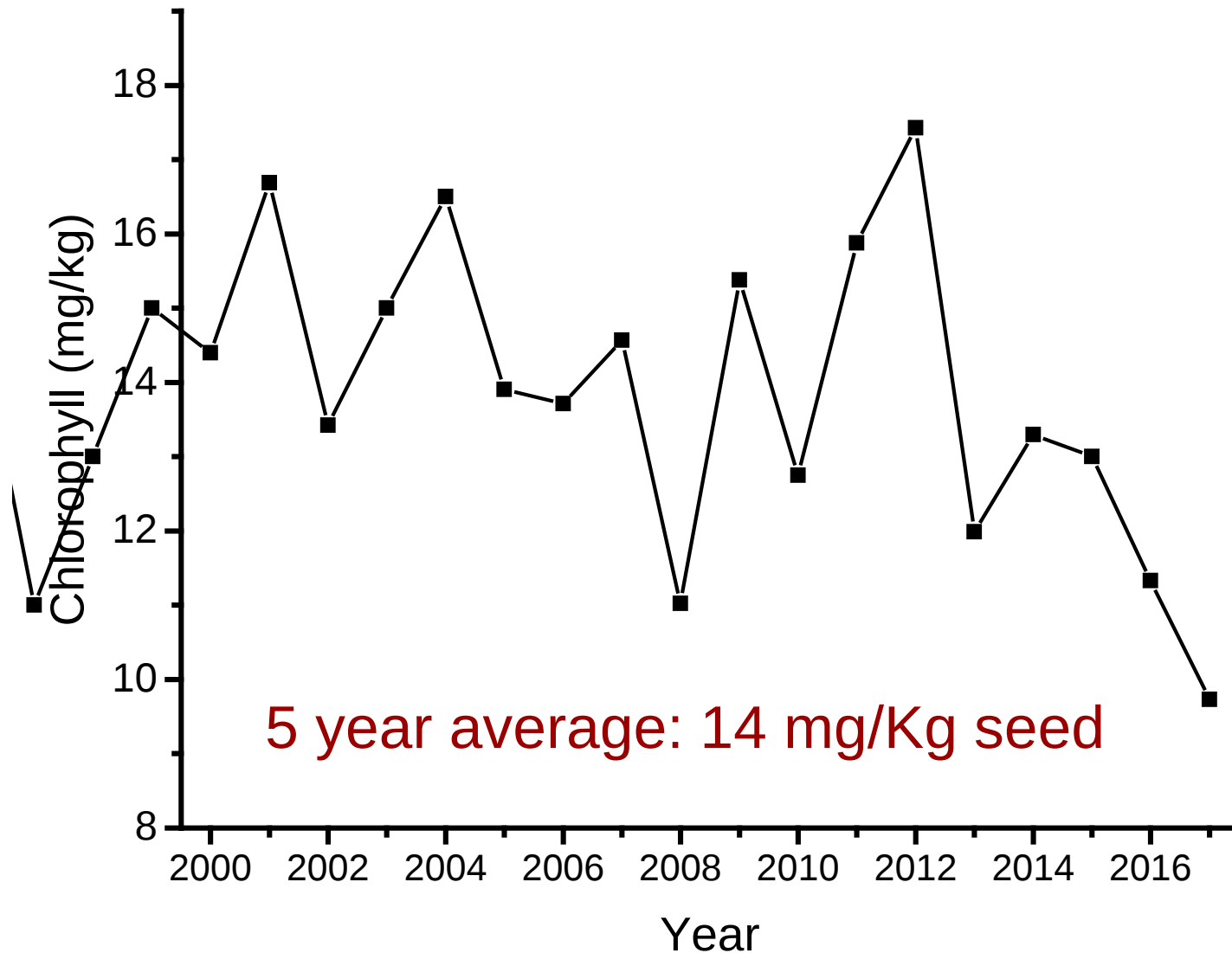
Meal total glucosinolates – Canola No. 1 Canada 2000 - 2017



Chlorophyll content - Canola No. 1 Canada (mg/Kg, as is)

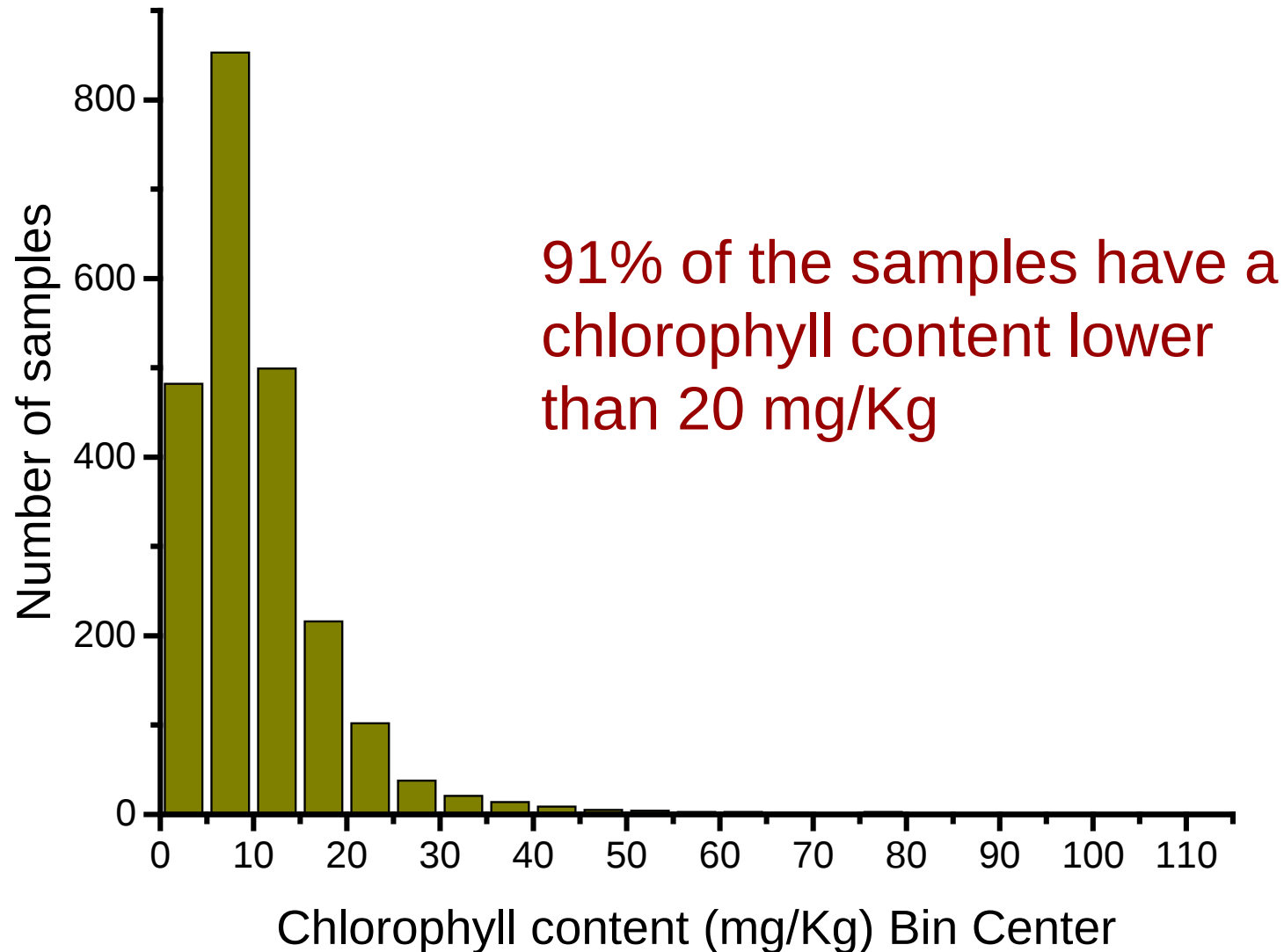
	2017		Average	
	Average	Range	2016	2015
Manitoba	7	4 – 26	10	11
Saskatchewan	10	4 – 37	12	12
Alberta	11	4 - 40	14	14
Western Canada	10	4 – 40	12	13

Chlorophyll content - Canola No.1 Canada 2000 - 2017

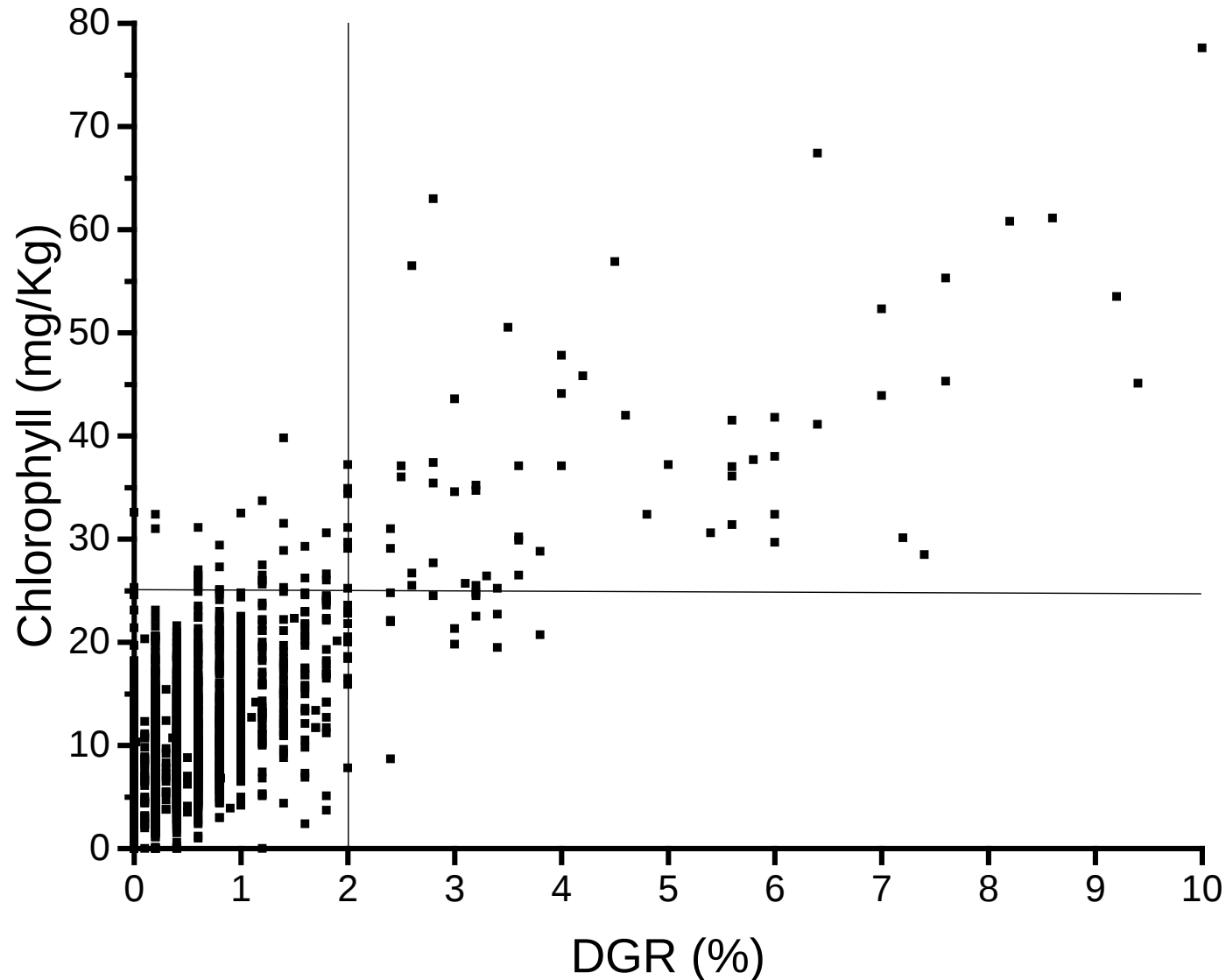


Chlorophyll content distribution

All samples



Chlorophyll content versus distinctly green seeds (DGR)

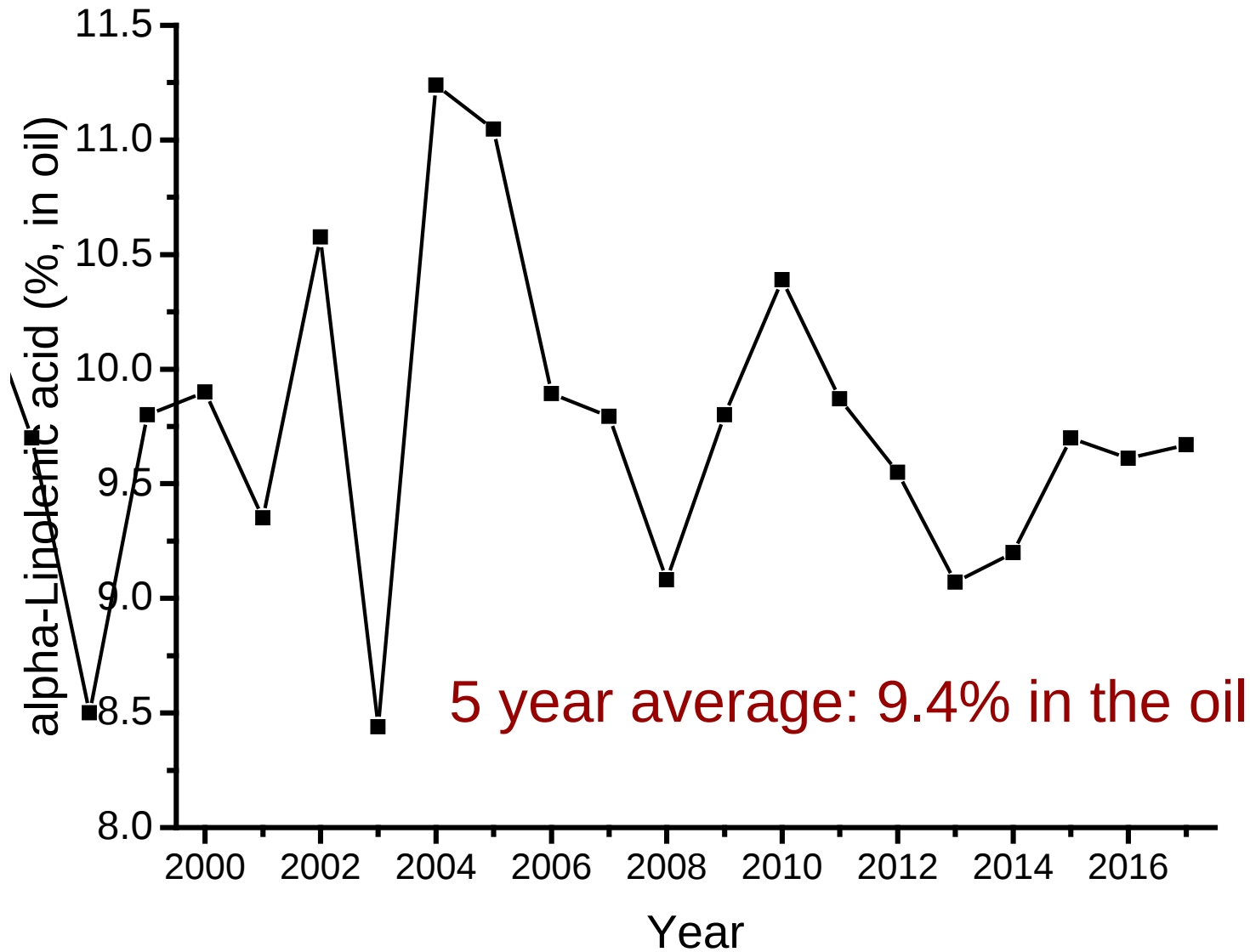


a-Linolenic acid content (% , in oil)

No.1 Canada Canola

	2017		Average	
	Average	Range	2016	2015
Manitoba	9.5	5.8 – 11.9	9.6	8.7
Saskatchewan	9.7	5.5 – 12.0	9.7	9.6
Alberta	9.7	6.4 – 12.2	9.9	10.0
Western Canada	9.7	5.5 – 12.2	9.7	9.5

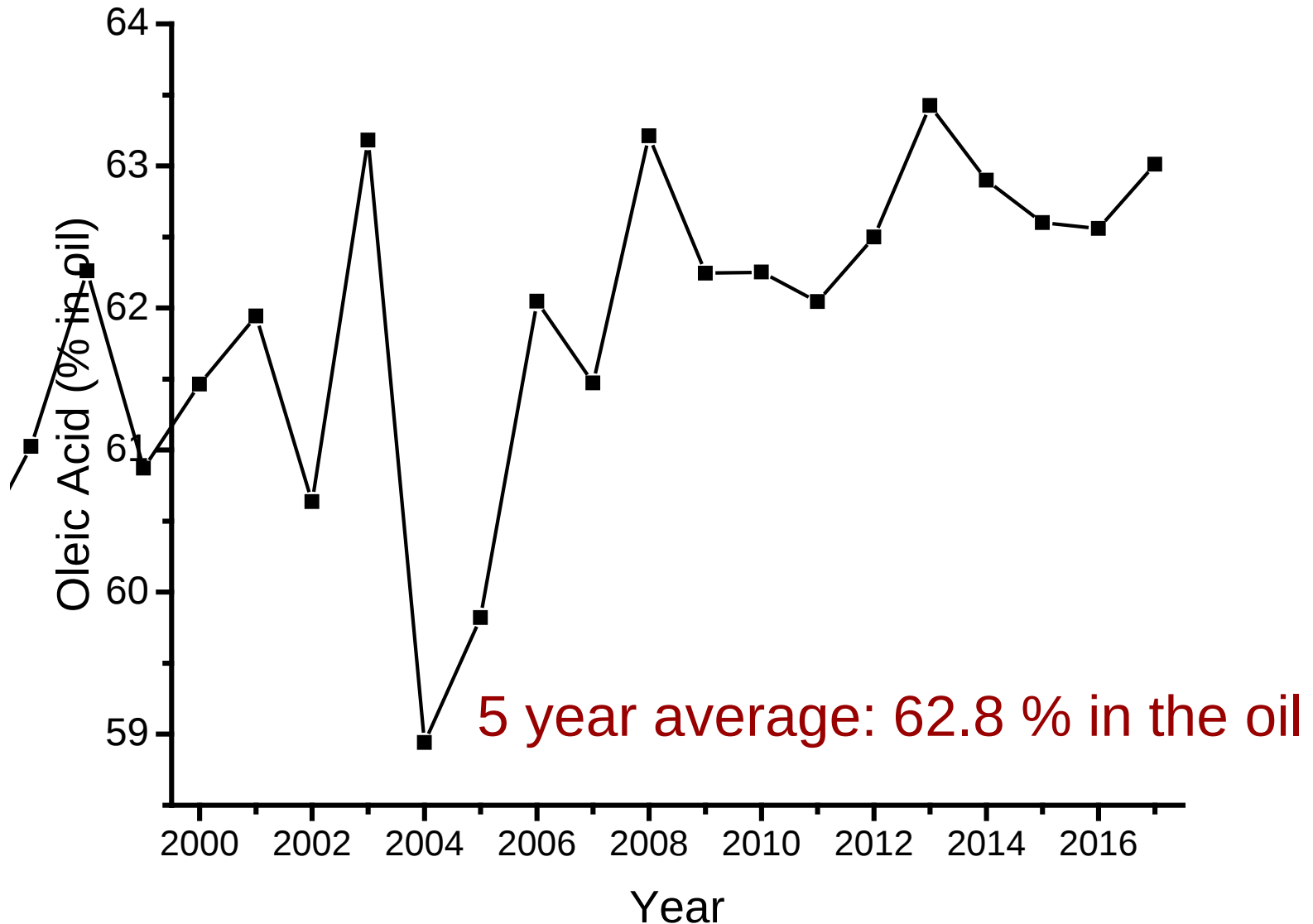
a-Linolenic acid - Canola No. 1 Canada 2000 - 2017



Oleic acid content - No.1 Canada Canola (%, in oil)

	2017		Average	
	Average	Range	2016	2015
Manitoba	63.1	59.6 – 67.8	62.1	62.4
Saskatchewan	63.0	57.7 – 68.0	62.2	62.3
Alberta	62.9	59.6 – 67.8	62.3	62.3
Western Canada	63.0	57.7 – 68.0	62.2	62.3

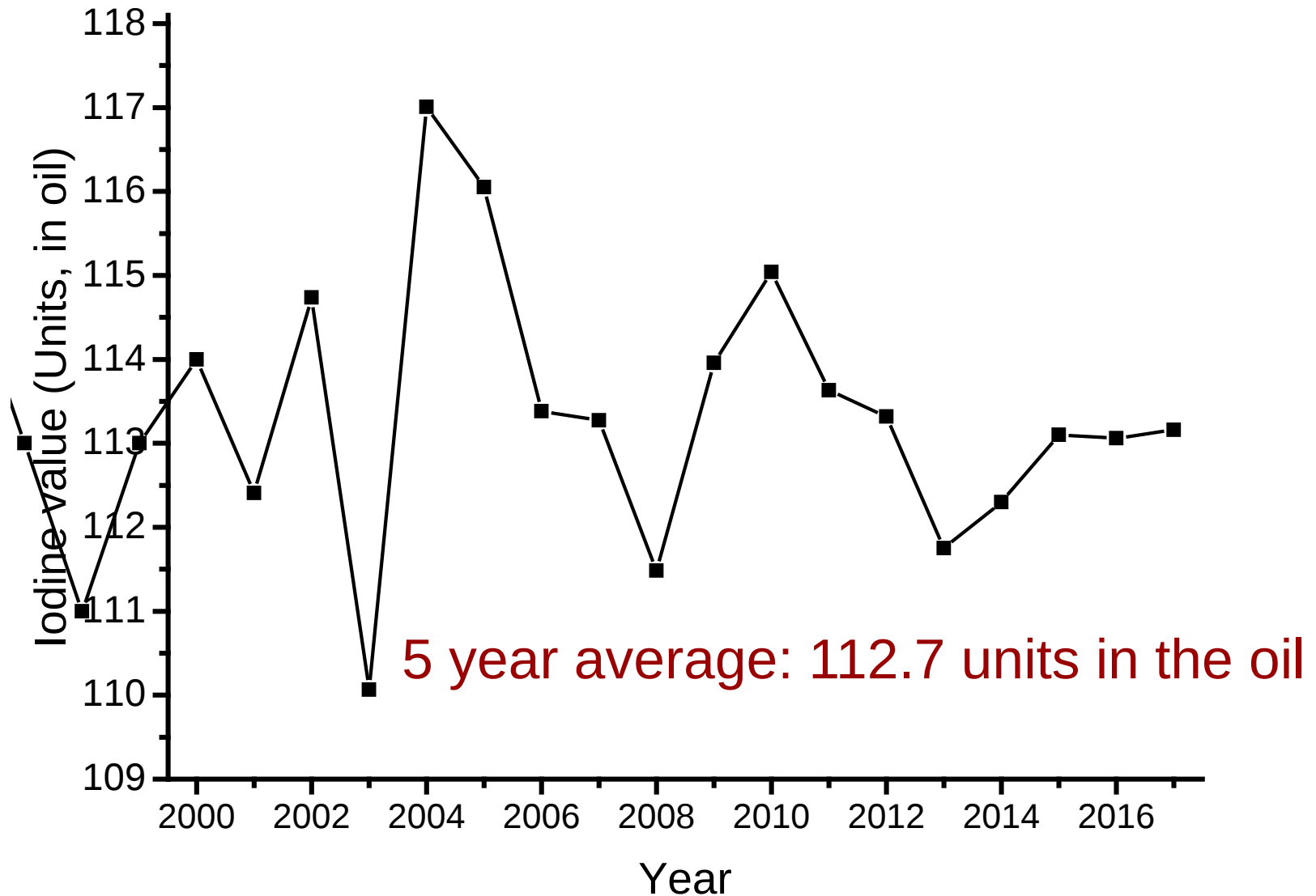
Oleic acid - Canola No. 1 Canada - 2000 - 2017



Iodine Value - No.1 Canada Canola (units in oil)

	2017		Average	
	Average	Range	2016	2015
Manitoba	112.8	106.5 – 117.8	113.1	112.5
Saskatchewan	113.2	106.8 – 119.6	113.3	113.0
Alberta	113.1	106.8 – 117.9	113.5	113.4
Western Canada	113.2	106.5 – 119.6	113.3	113.1

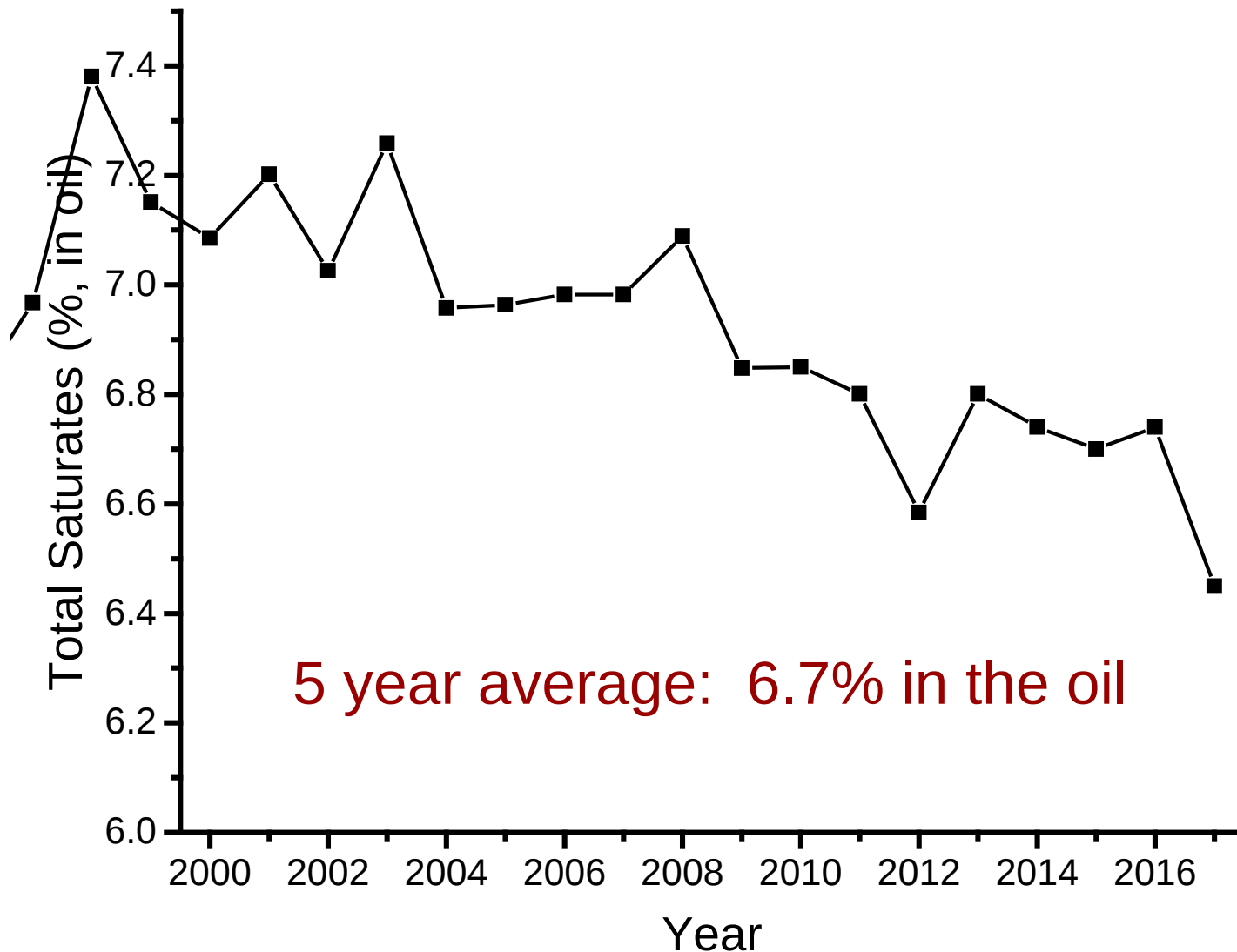
Iodine value - Canola No. 1 Canada 2000 - 2017



Total Saturates Content - No.1 Canada Canola (% in oil)

	2017	2016	2015
Manitoba	6.5	6.8	6.8
Saskatchewan	6.4	6.8	6.8
Alberta	6.5	6.8	6.7
Western Canada	6.5	6.8	6.7

Total saturates - Canola No. 1 Canada 2000 - 2017

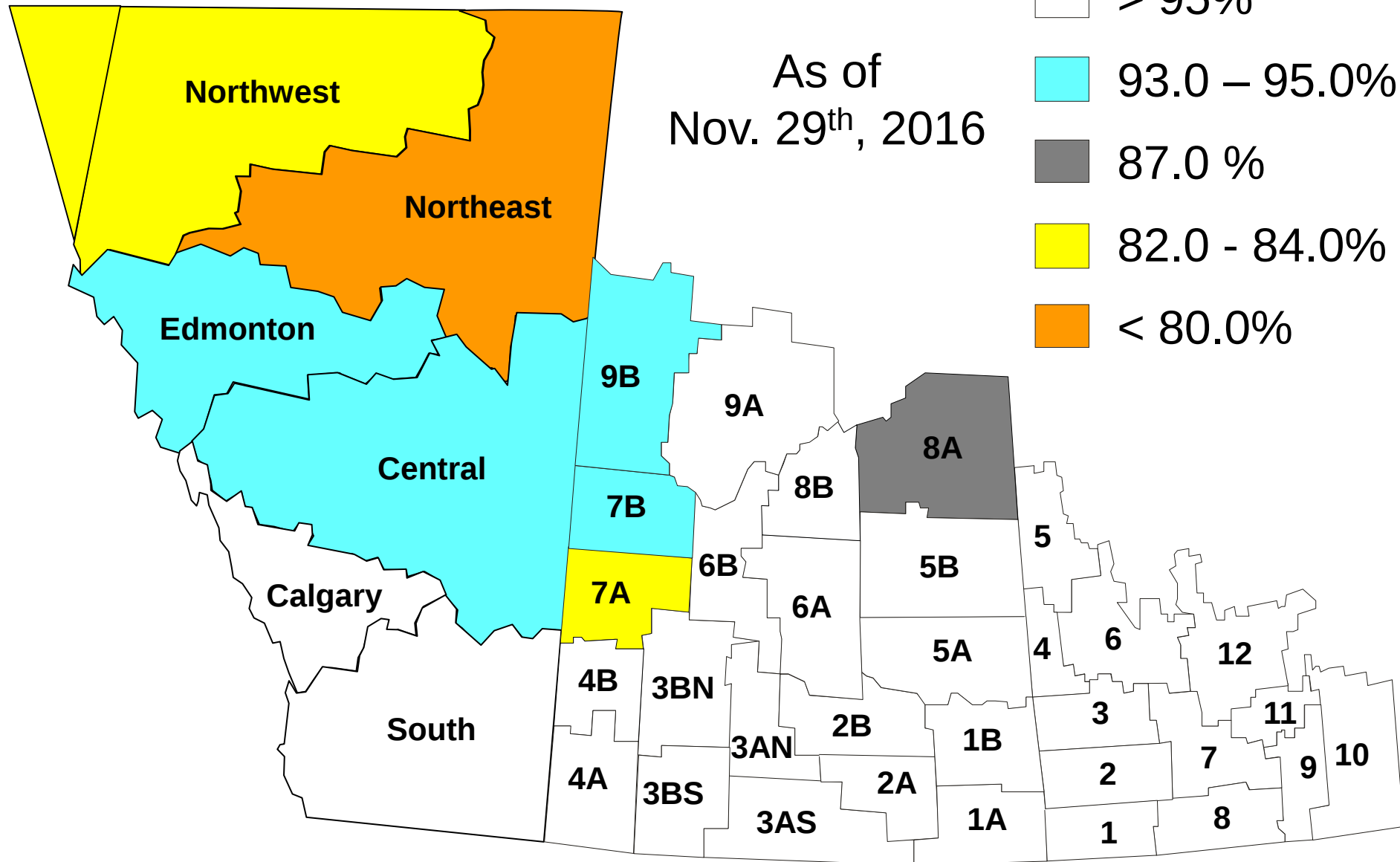
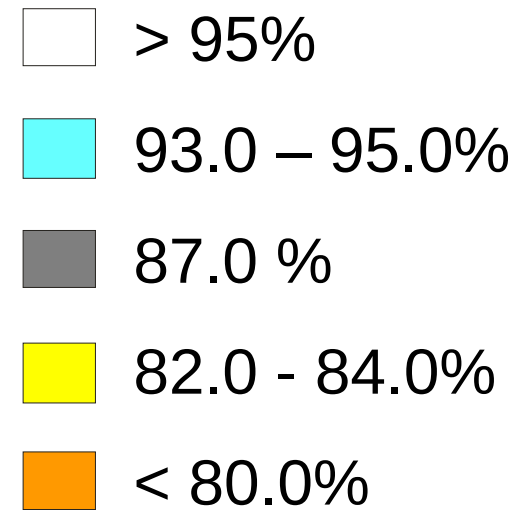


Spring canola – 2016-17 harvest



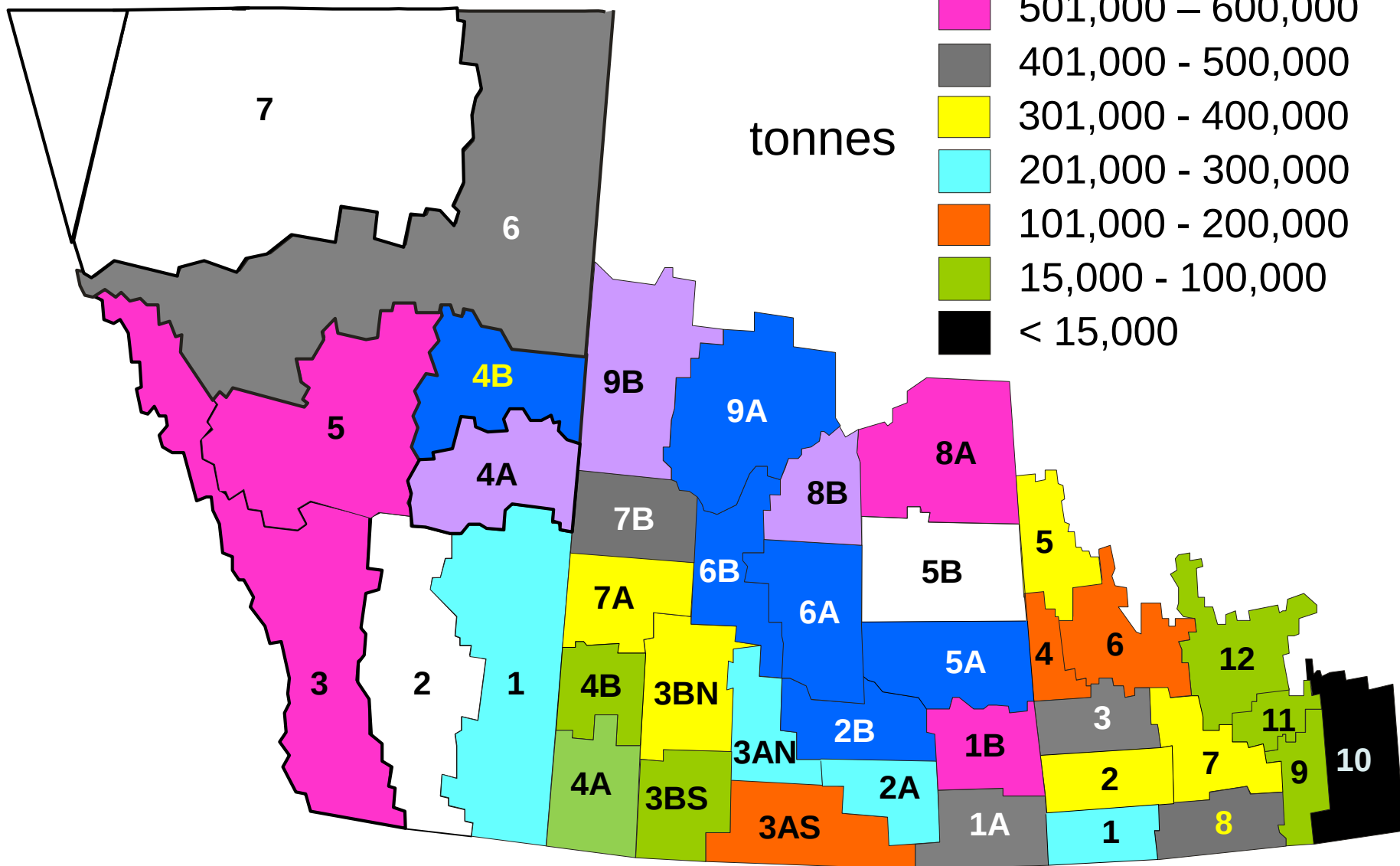
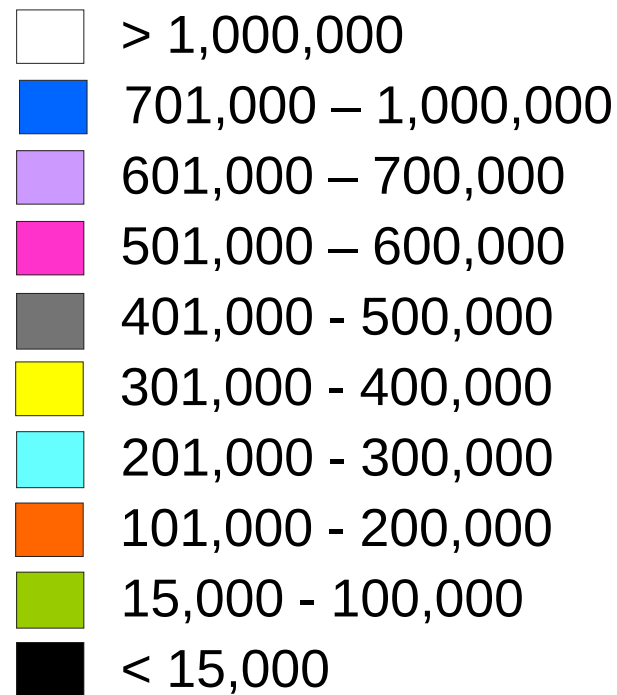
% of Canola harvested in Western Canada

As of
Nov. 29th, 2016



2016 Canola production

tonnes



Snowed-in Canola quality

Grade	Harvest - combined	N	Oil content (% 8.5% moisture)			Free Fatty Acid content (% as oleic acid in oil)		
			Mean	Min	Max	Mean	Min	Max
1	September	32	43.8	38.4	48.8	0.17	0.03	0.62
1	October	26	44.4	41.6	47.9	0.16	0.04	0.64
1	November	40	44.5	40.9	48.0	0.39	0.07	1.35
Western Canada		1827	44.3	37.1	50.0	0.20	0.03	1.35
2	September	2	42.6	42.5	42.6	0.39	0.29	0.50
2	October	3	46.0	45.9	46	0.16	0.08	0.31
2	November	1	44.0			0.13		
Sample	October	5	43.1	37.5	49	1.08	0.11	2.80
Sample	November	1	44.6			0.67		

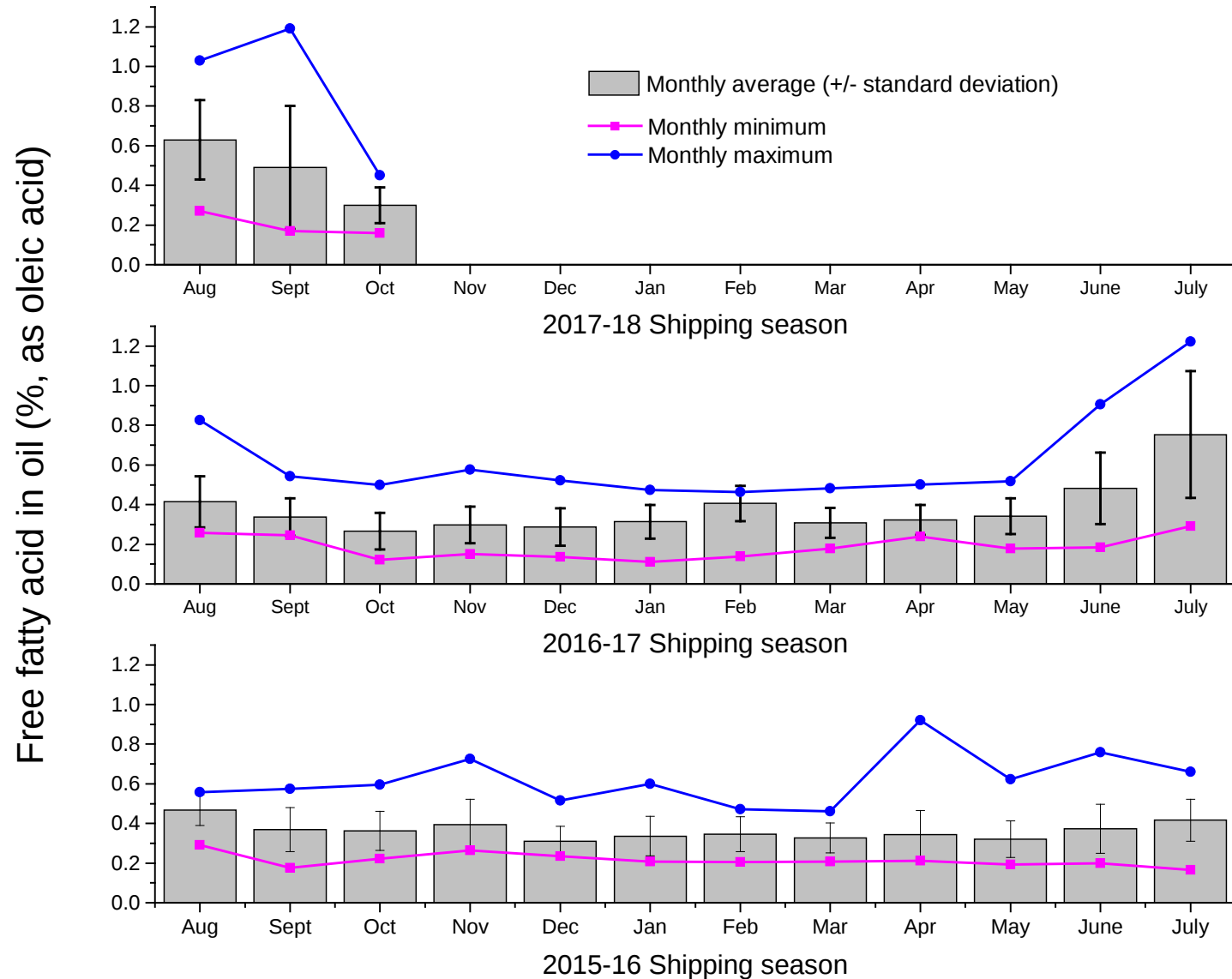
Spring Canola quality

Harvest	Grade	% in grade	N	Oil content (%, 8.5% moisture)			Free fatty acid (% as oleic acid)		
				Mean	Min	Max	Mean	Min	Max
2016	1	95.4	1827	44.3	37.1	50.0	0.20	0.03	1.35
2017 Spring	1	34.0	55	44.6	39.9	50.9	0.43	0.1	1.07
	2	25.3	41	45.1	38.9	48.2	0.87	0.34	1.99
	3	20.4	33	45.8	41.5	50.3	1.34	0.38	3.02
	SPLE	19.8	32	44.9	39.5	48.2	1.67	0.75	4.77

Quality changes after one month storage

	Free fatty acid (%, as oleic)		P-Anisidine value	
	FFA when received	21-Jul-17	Average	St. Dev
SCAN-108	0.50	0.71	1.49	0.12
SCAN-113	1.00	1.57	2.00	0.09
SCAN-114	0.76	1.24	1.81	1.05
SCAN-115	0.76	1.24	4.46	1.67
SCAN-121	1.75	2.37	3.02	0.45
SCAN-205	0.57	0.74	1.67	0.22
SCAN-210	1.40	1.78	1.87	0.26

Free Fatty Acid: export averages





Acknowledgements

- § Canadian producers and processors
- § Industry Services - Winnipeg
- § Bert Siemens
- § Brad Speiss
- § Hayeon Oh
- § Katharine Schulz
- § Marnie MacLean
- § Marlo Lisan
- § Stephane Balcaen

Links to CGC websites

§ Official Grain Guide:

§ <http://www.grainscanada.gc.ca/oggg-gocg/10/oggg-gocg-10-eng.htm>

§ Western Canadian harvest and export quality reports:

§ <http://www.grainscanada.gc.ca/quality-qualite/geuq-quf-eng.htm>



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Canola Quality Tests

- § **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 (FAMES analysis by GC)
- § **Free fatty acids:** Ke et *al.*, Analytica Chemica Acta 99 (1978)

Canola/rapeseed grading factors

	DGR (%)	Heated (%)	Total Dmg (%)	Consp. Adm (%)	Inconsp. Adm (%)
No.1 Canada	2	0.1	5.0	1.0	5.0
No.2 Canada	6	0.5	12.0	1.5	5.0
No.3 Canada	20	2.0	25.0	2.0	5.0
Sample	> 20	> 2.0	> 25.0	> 2.0	5.0