



Canadian Grain  
Commission

Commission canadienne  
des grains



## Quality of Western Canadian Oilseeds – 2018 Harvest

Véronique J. Barthet

Grain Research Laboratory, Canadian Grain Commission, Canada

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Canada 

# 2018 Canola quality



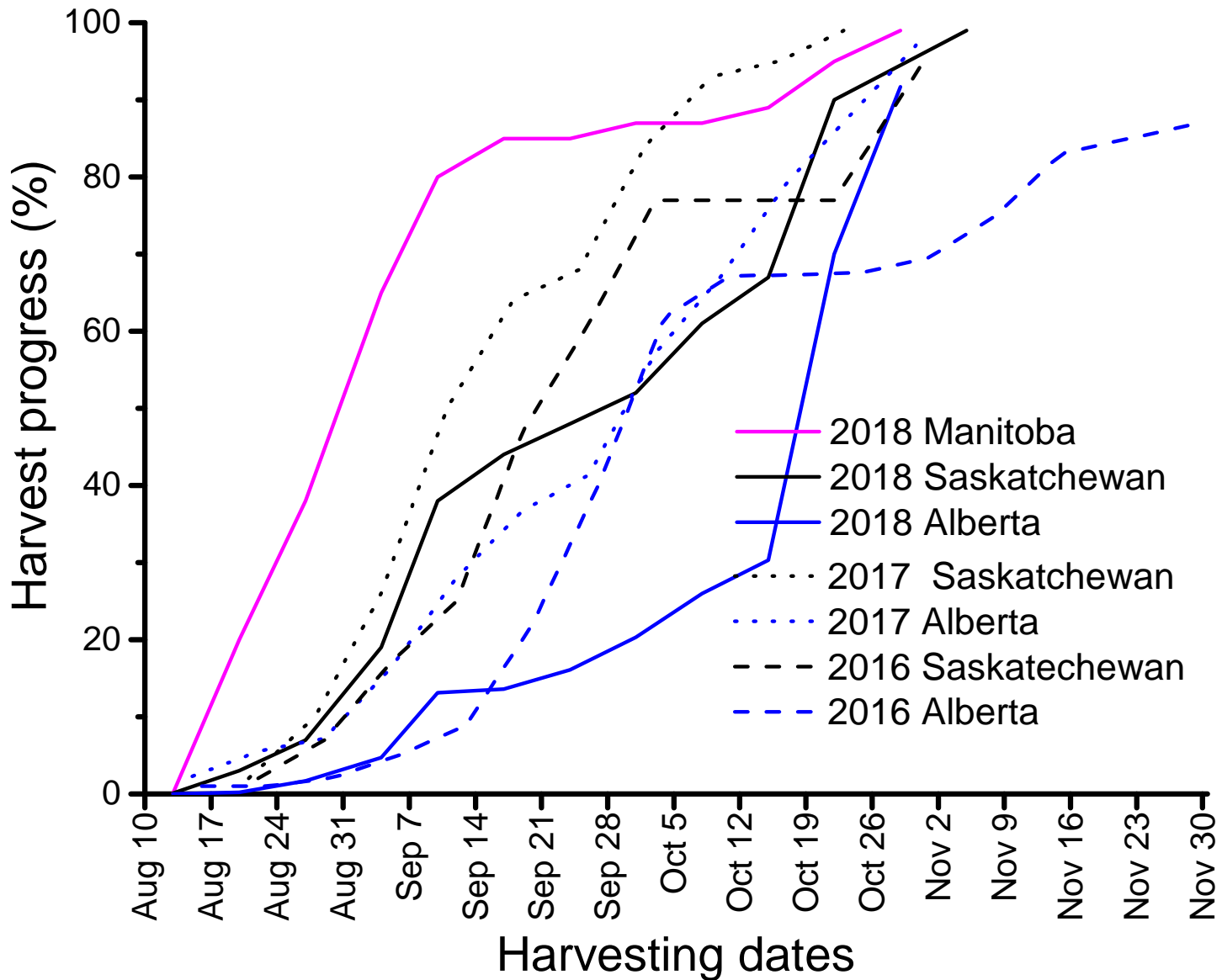
September 2018 - Panda at the Calgary zoo - CTV news



# Number of samples in the harvest survey (As of November 27<sup>th</sup>, 2018)

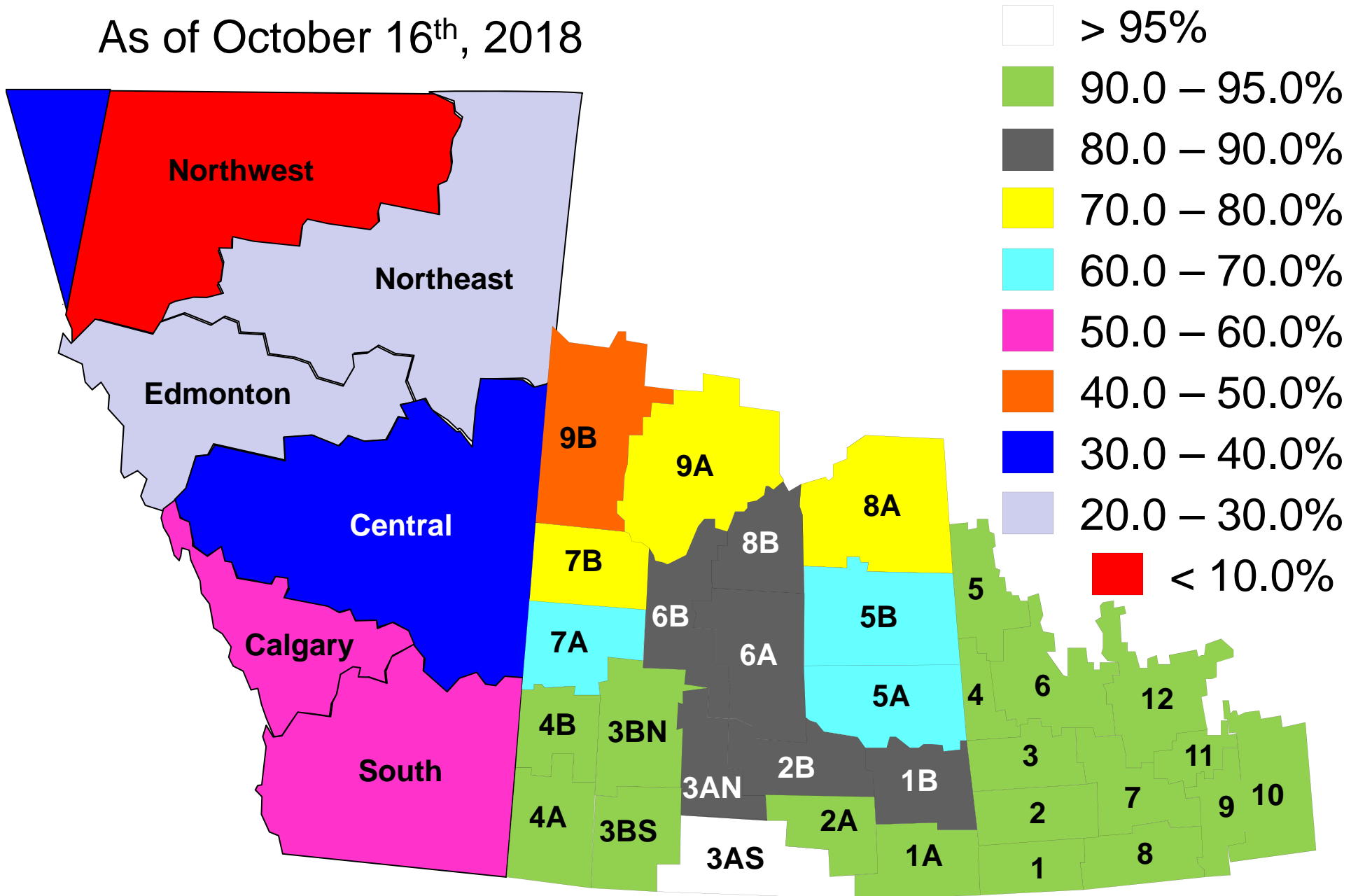
	<b>2018</b>	<b>2017</b>	<b>2016</b>
Manitoba	<b>452</b>	440	438
Saskatchewan	<b>931</b>	1049	879
Alberta	<b>878</b>	800	715
Western Canada	<b>2261</b>	2289	2032

# 2018 Canola harvest progress (%)

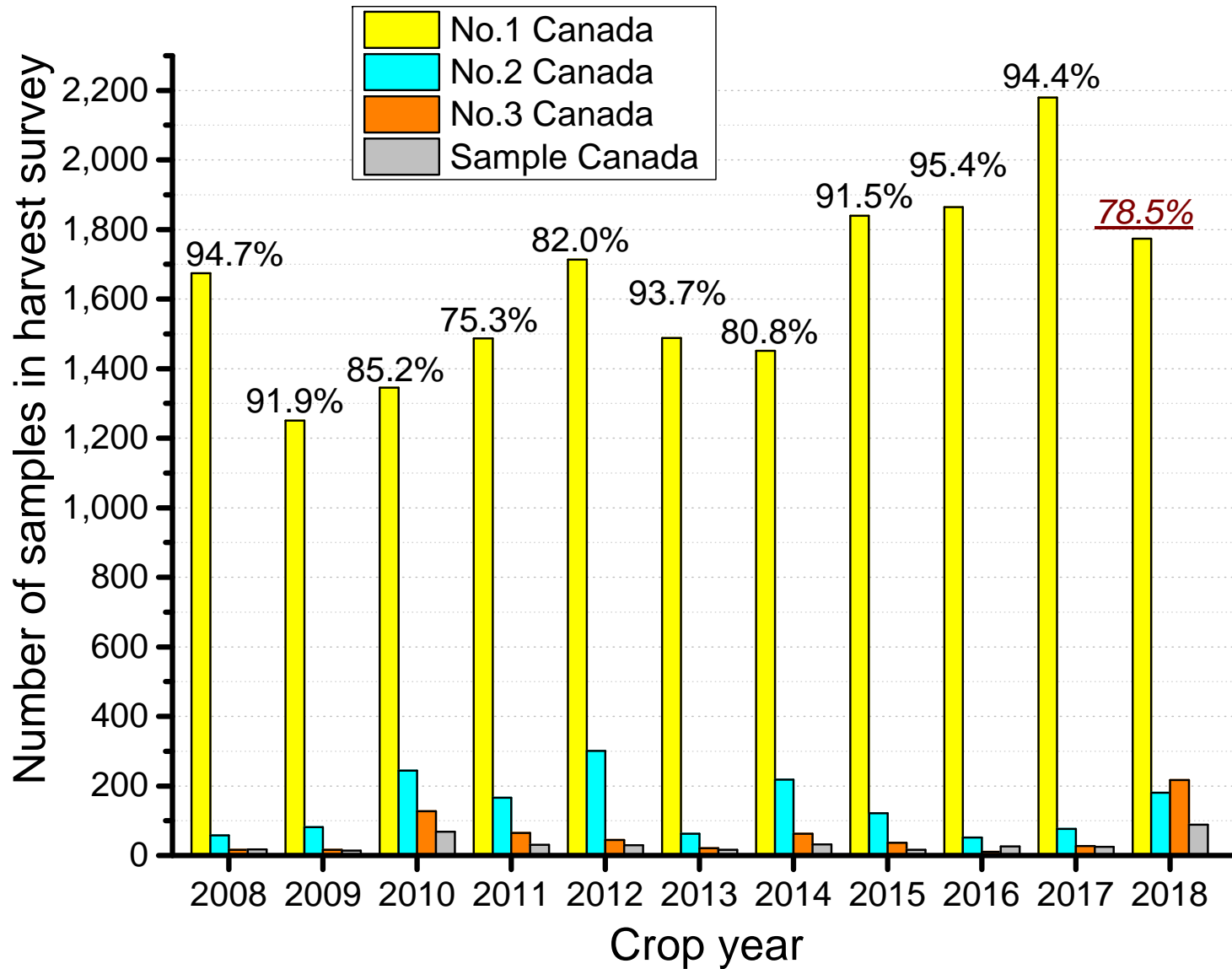


# % of Canola harvested in Western Canada

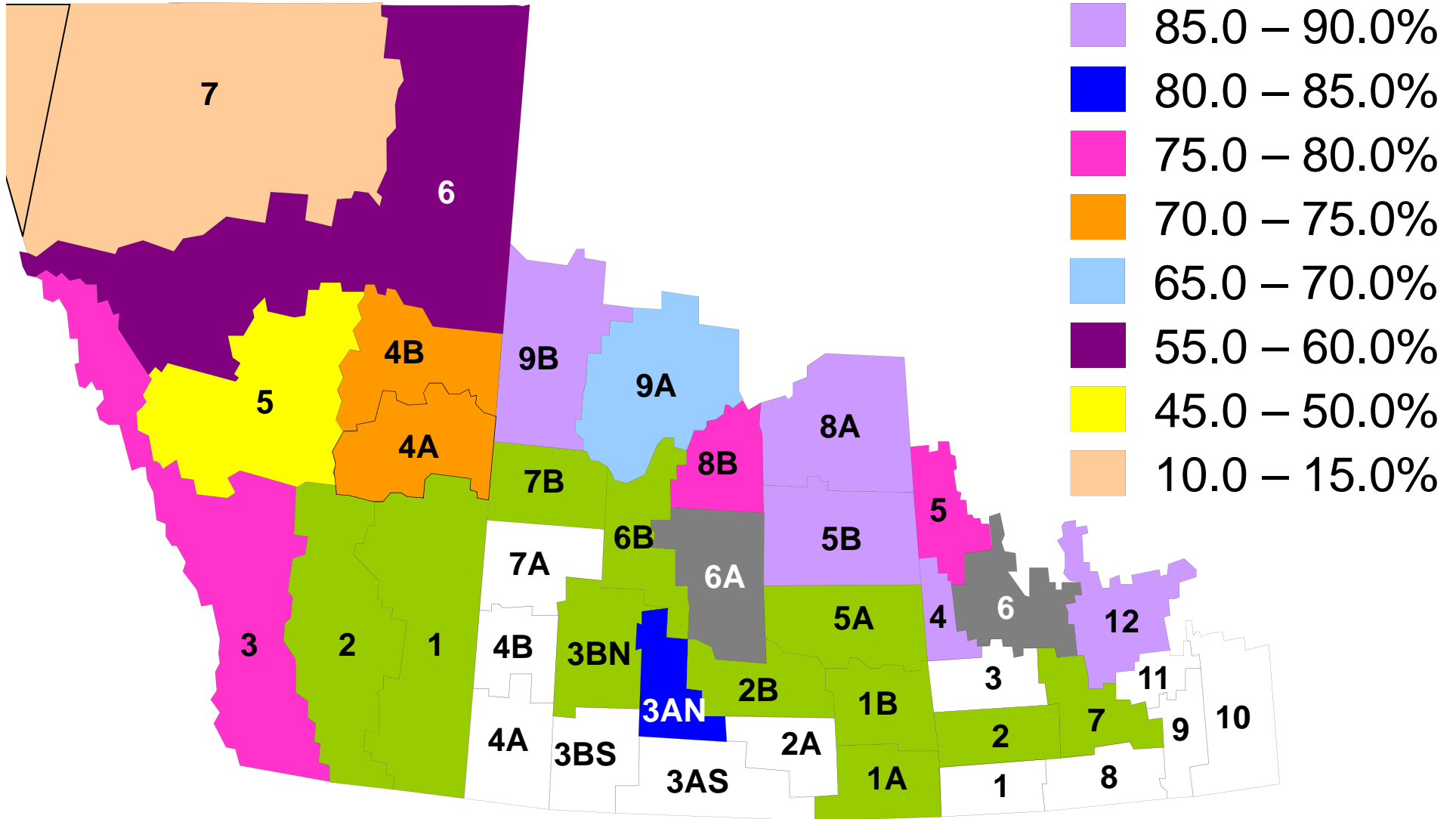
As of October 16<sup>th</sup>, 2018



# Grade distribution in harvest



# % Canada No.1 Canola distribution (as of November 27<sup>th</sup>, 2018)



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

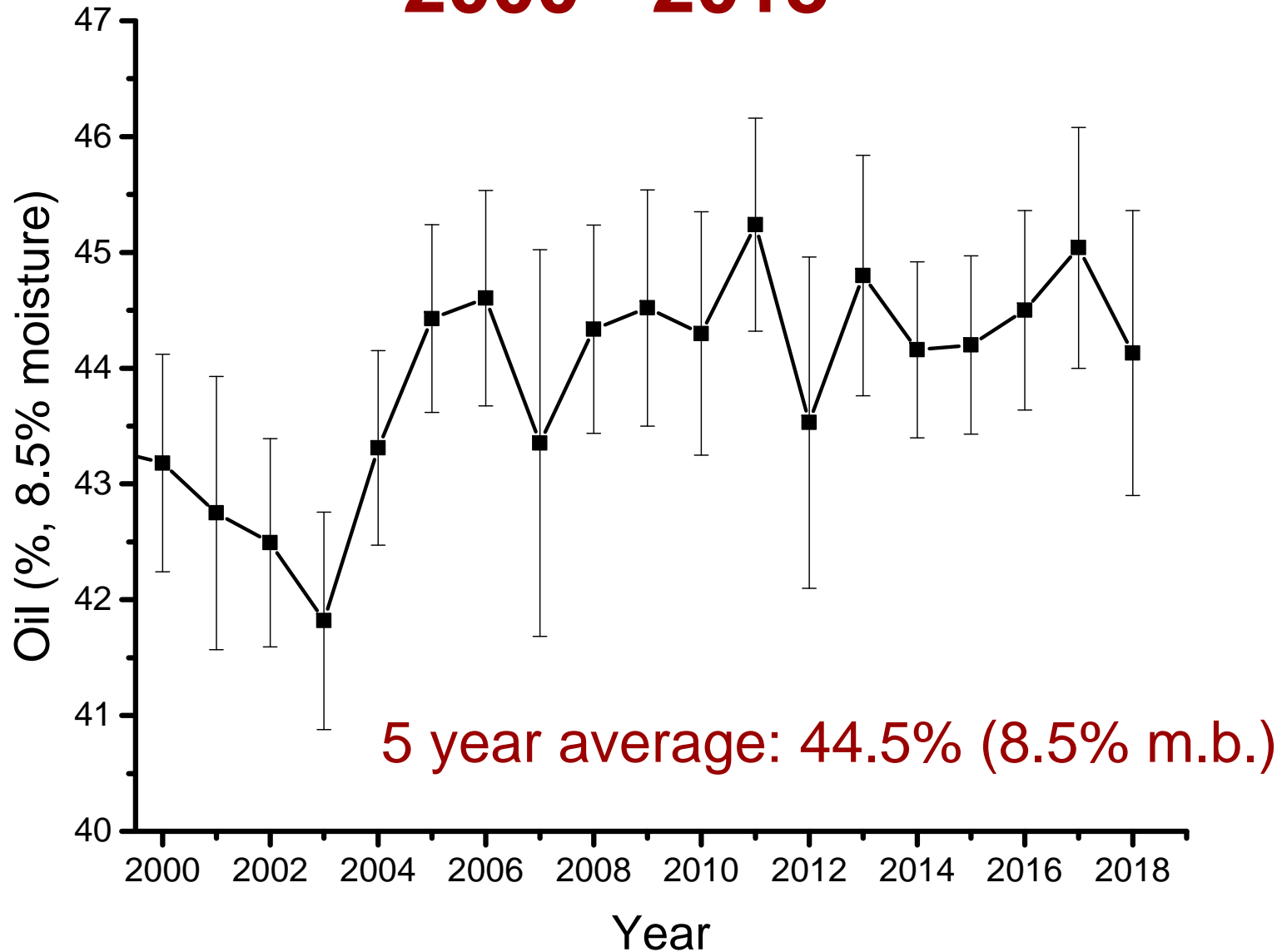
	2018		2017	
	Mean	Range	Mean	Range
<b>Manitoba</b>	<b>44.4</b>	<b>39.5 – 50.2</b>	<b>45.0</b>	<b>40.2 – 51.2</b>
<b>Saskatchewan</b>	<b>44.6</b>	<b>37.8 – 49.4</b>	<b>45.3</b>	<b>38.2 – 51.1</b>
<b>Alberta</b>	<b>43.4</b>	<b>37.9 – 50.1</b>	<b>44.7</b>	<b>36.9 – 50.8</b>
	<b>44.1</b>	<b>37.9 – 50.2</b>	<b>45.0</b>	<b>36.9 – 51.2</b>
<b>Western Canada</b>	<b>5 year average</b>			<b>44.5</b>
	<b>10 year average</b>			<b>44.4</b>



# Oil content Canola (8.5% moisture)

	No.1	No. 2	No.3	Sample
<b>Nber of samples</b>	<b>1774</b>	<b>181</b>	<b>217</b>	<b>89</b>
<b>% in grade</b>	<b>78.5</b>	<b>8.0</b>	<b>9.6</b>	<b>3.9</b>
<b>Manitoba</b>	<b>44.4</b>	<b>44.5</b>	<b>45.2</b>	<b>41.6</b>
<b>Saskatchewan</b>	<b>44.6</b>	<b>45.1</b>	<b>44.6</b>	<b>44.9</b>
<b>Alberta</b>	<b>43.4</b>	<b>44.7</b>	<b>45.3</b>	<b>44.6</b>
<b>Western Canada</b>	<b>44.1</b>	<b>44.8</b>	<b>45.2</b>	<b>44.5</b>

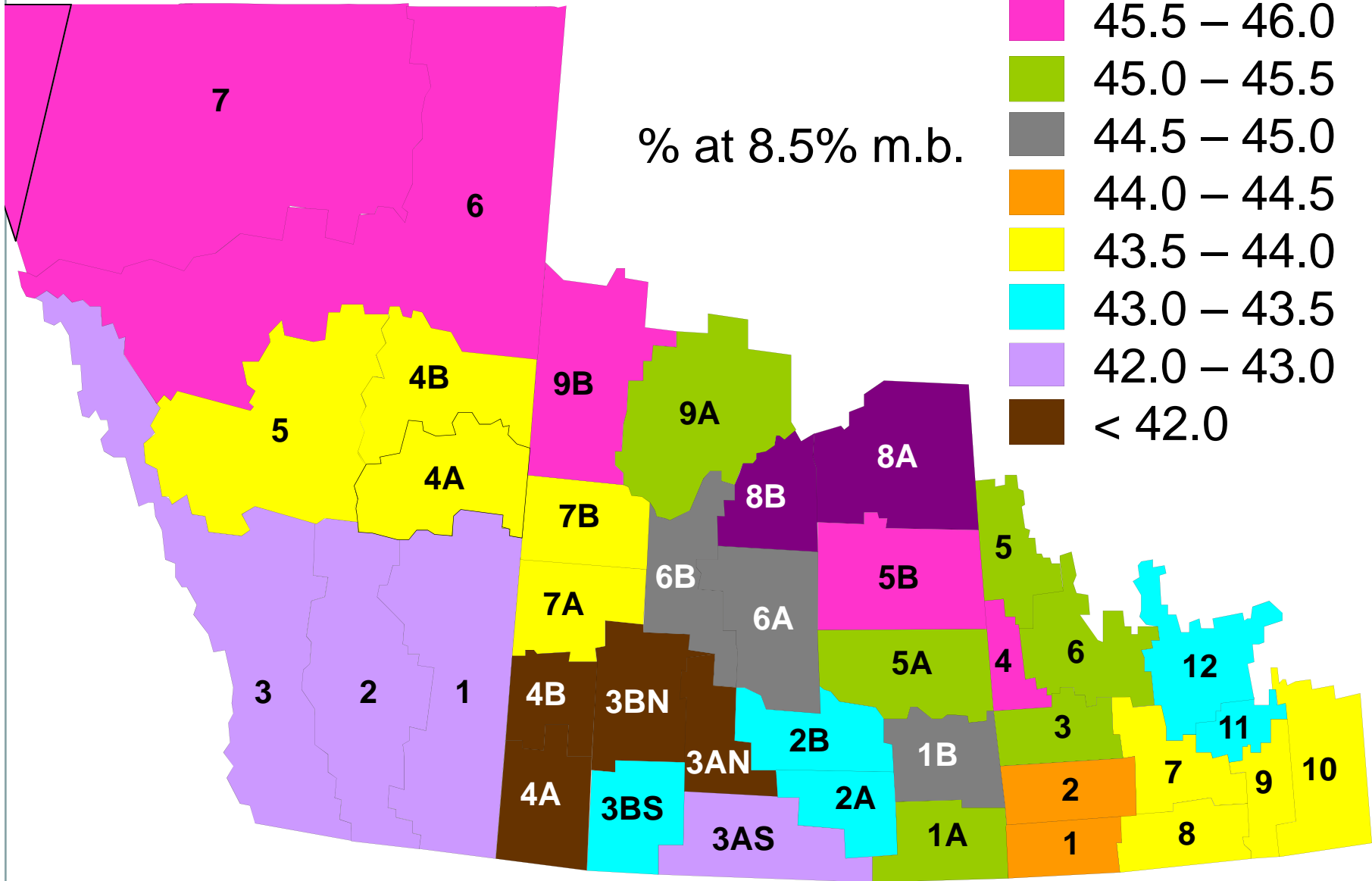
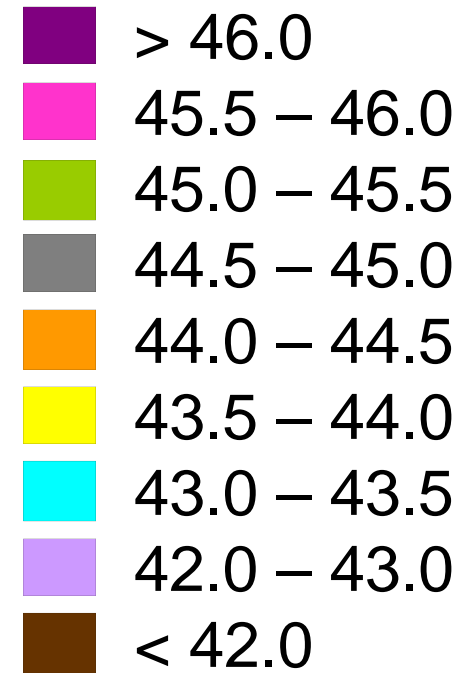
# Oil content – Canola No. 1 Canada 2000 - 2018



# Oil content - Canola No.1 Canada

(as of November 27<sup>th</sup>, 2018)

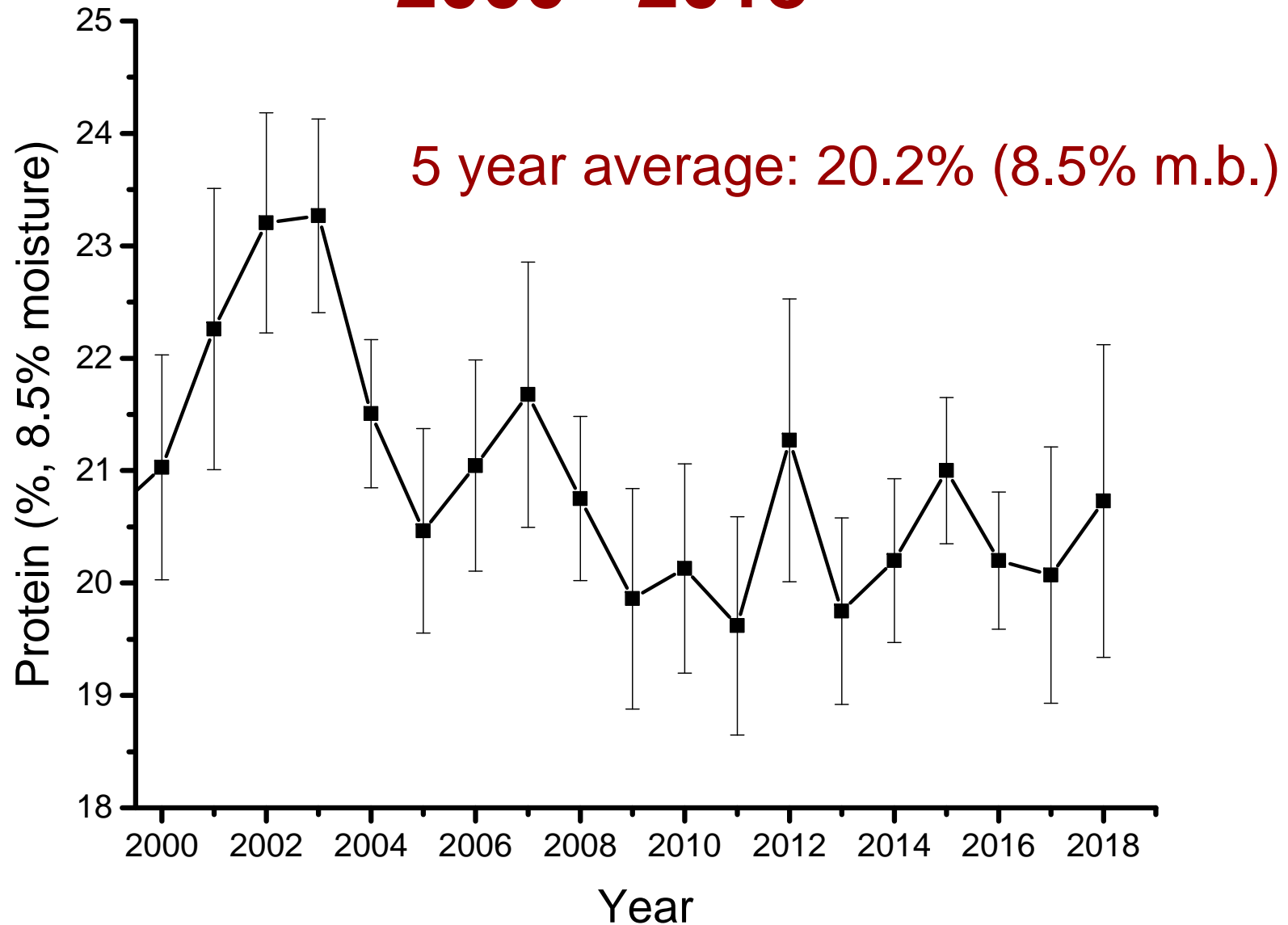
% at 8.5% m.b.



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

	2018		Average		
	Average	Range	2017	2016	2015
<b>Manitoba</b>	<b>20.8</b>	<b>15.1 – 25.7</b>	19.9	20.9	21.0
<b>Saskatchewan</b>	<b>20.4</b>	<b>14.9 – 27.4</b>	19.8	19.6	20.5
<b>Alberta</b>	<b>21.8</b>	<b>15.9 – 28.9</b>	20.7	20.8	21.7
<b>Western Canada</b>	<b>20.9</b>	<b>14.9 – 28.9</b>	<b>20.1</b>	<b>20.2</b>	<b>21.0</b>

# Protein content – Canola No. 1 Canada 2000 - 2018

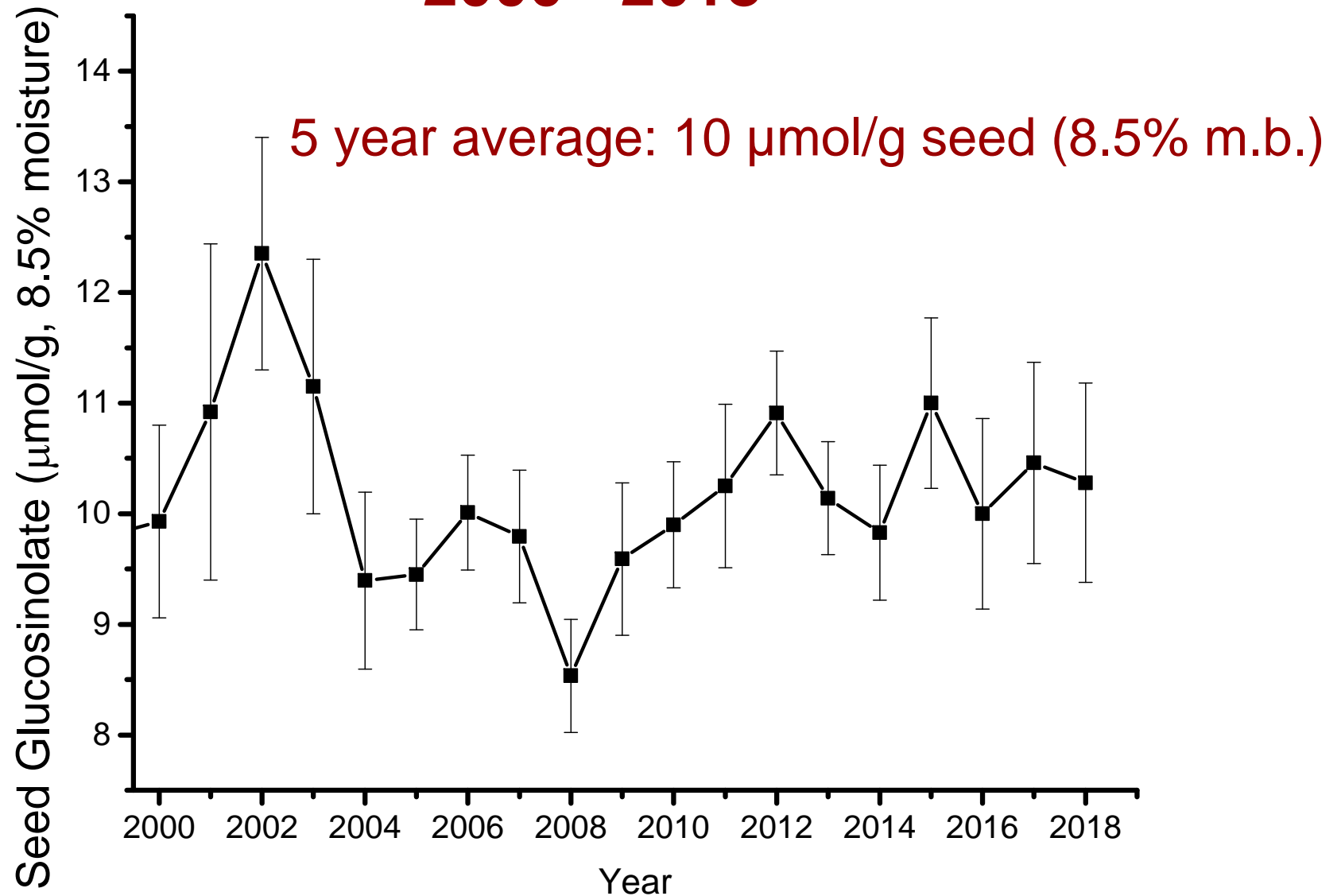




## Glucosinolate content - No.1 Canada Canola ( $\mu\text{mol/g}$ seed at 8.5% m.b)

	2018	2017	2016	2015
Manitoba	11	10	10	10
Saskatchewan	10	10	10	11
Alberta	11	11	10	11
Western Canada	11	10	10	11

# Seed total glucosinolates – Canola No. 1 Canada 2000 - 2018



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

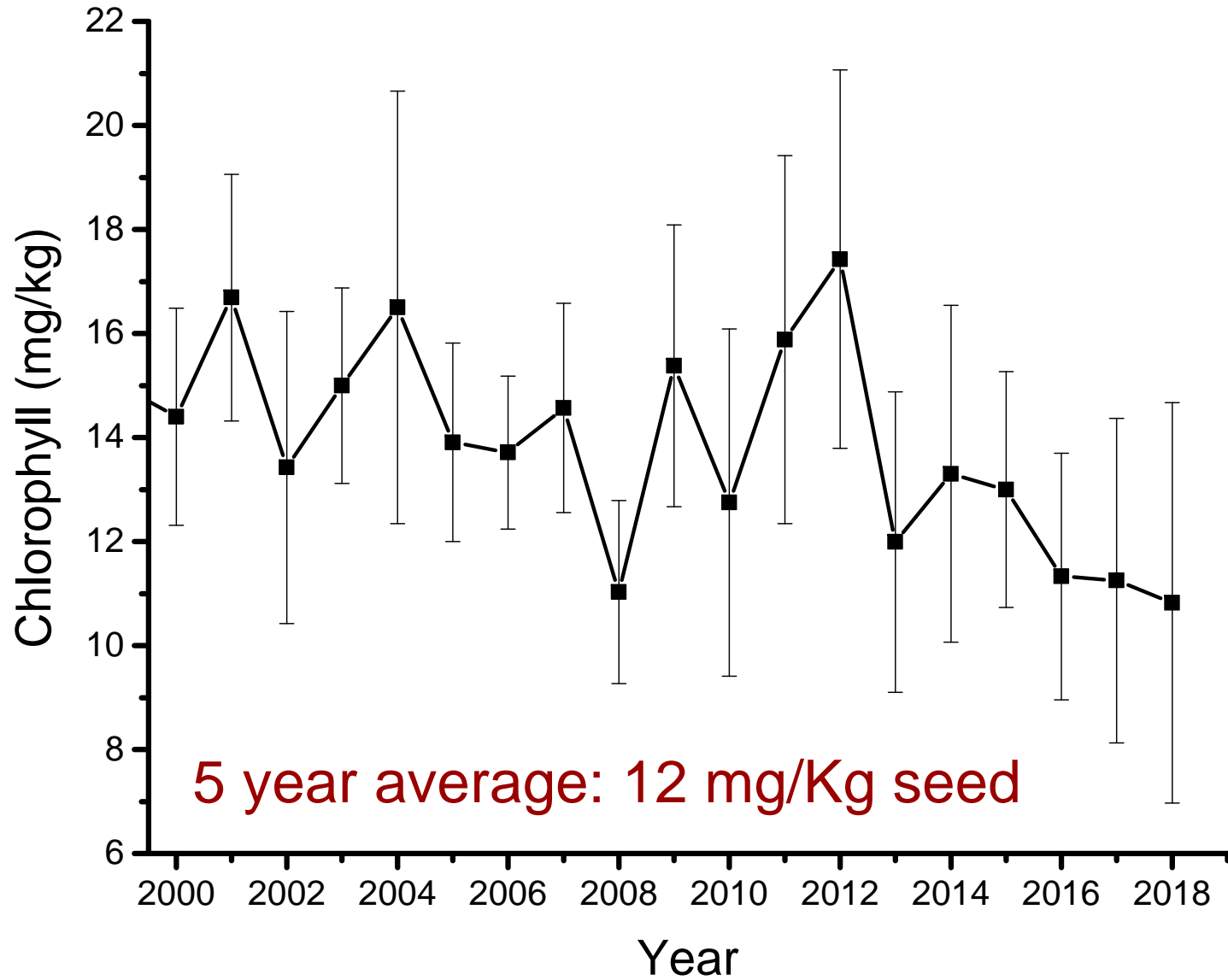
	In the seed (mg/kg)				
	2018	2017	2016	2015	2014
<b>Manitoba</b>	<b>9</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
<b>Saskatchewan</b>	<b>11</b>	<b>11</b>	<b>12</b>	<b>12</b>	<b>14</b>
<b>Alberta</b>	<b>13</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>14</b>
<b>Western Canada</b>	<b>11</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>13</b>



# Chlorophyll content Canola (as is)

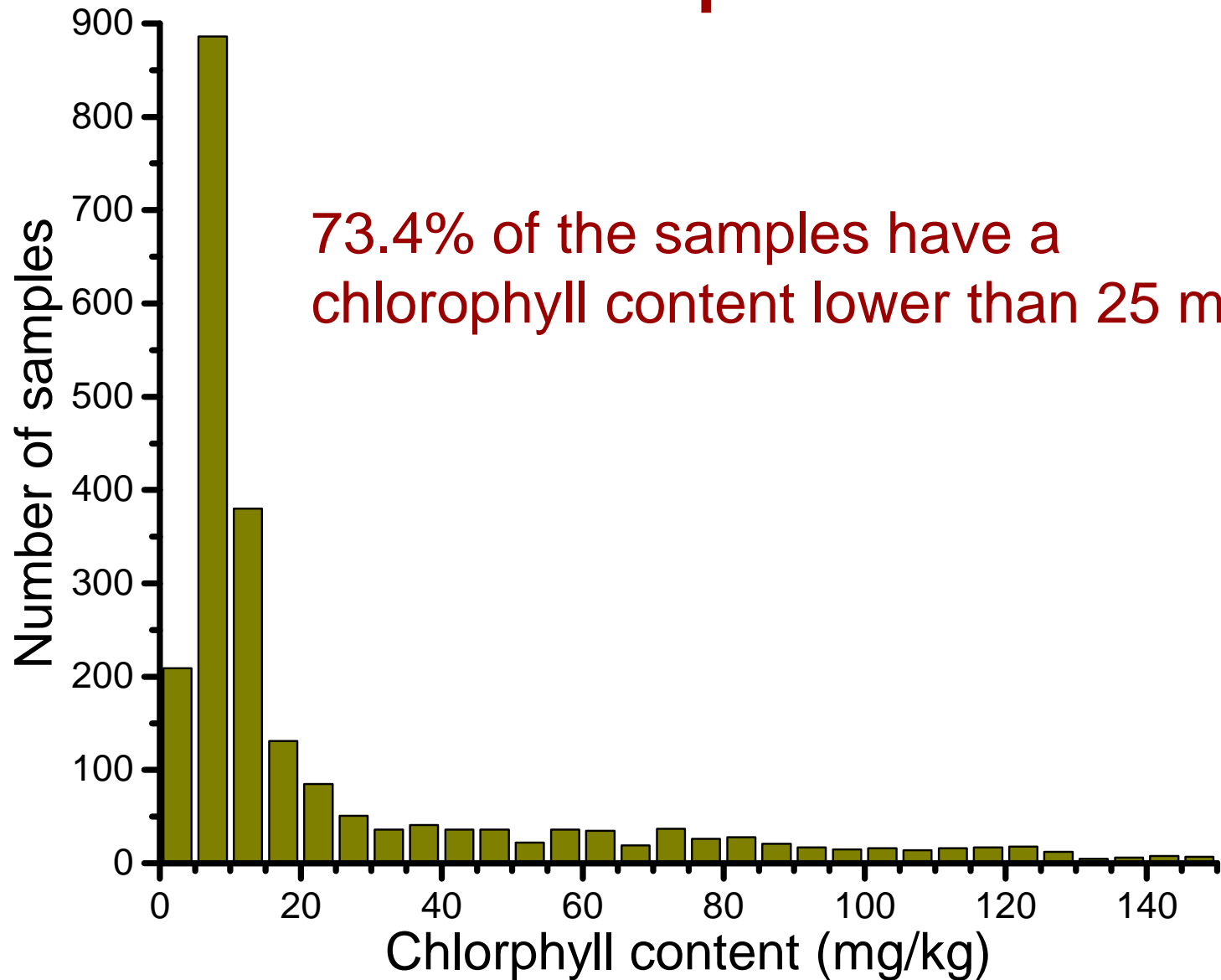
	<b>No.1</b>	<b>No. 2</b>	<b>No.3</b>	<b>Sample</b>
<b>Nber of samples</b>	<b>1774</b>	<b>181</b>	<b>217</b>	<b>89</b>
<b>% in grade</b>	<b>78.5</b>	<b>8.0</b>	<b>9.6</b>	<b>3.9</b>
<b>Manitoba</b>	<b>9</b>	<b>41</b>	<b>69</b>	<b>89</b>
<b>Saskatchewan</b>	<b>11</b>	<b>47</b>	<b>80</b>	<b>153</b>
<b>Alberta</b>	<b>13</b>	<b>54</b>	<b>91</b>	<b>147</b>
<b>Western Canada</b>	<b>11</b>	<b>52</b>	<b>89</b>	<b>145</b>

# Chlorophyll content - Canola No.1 Canada 2000 - 2018



# Chlorophyll content distribution

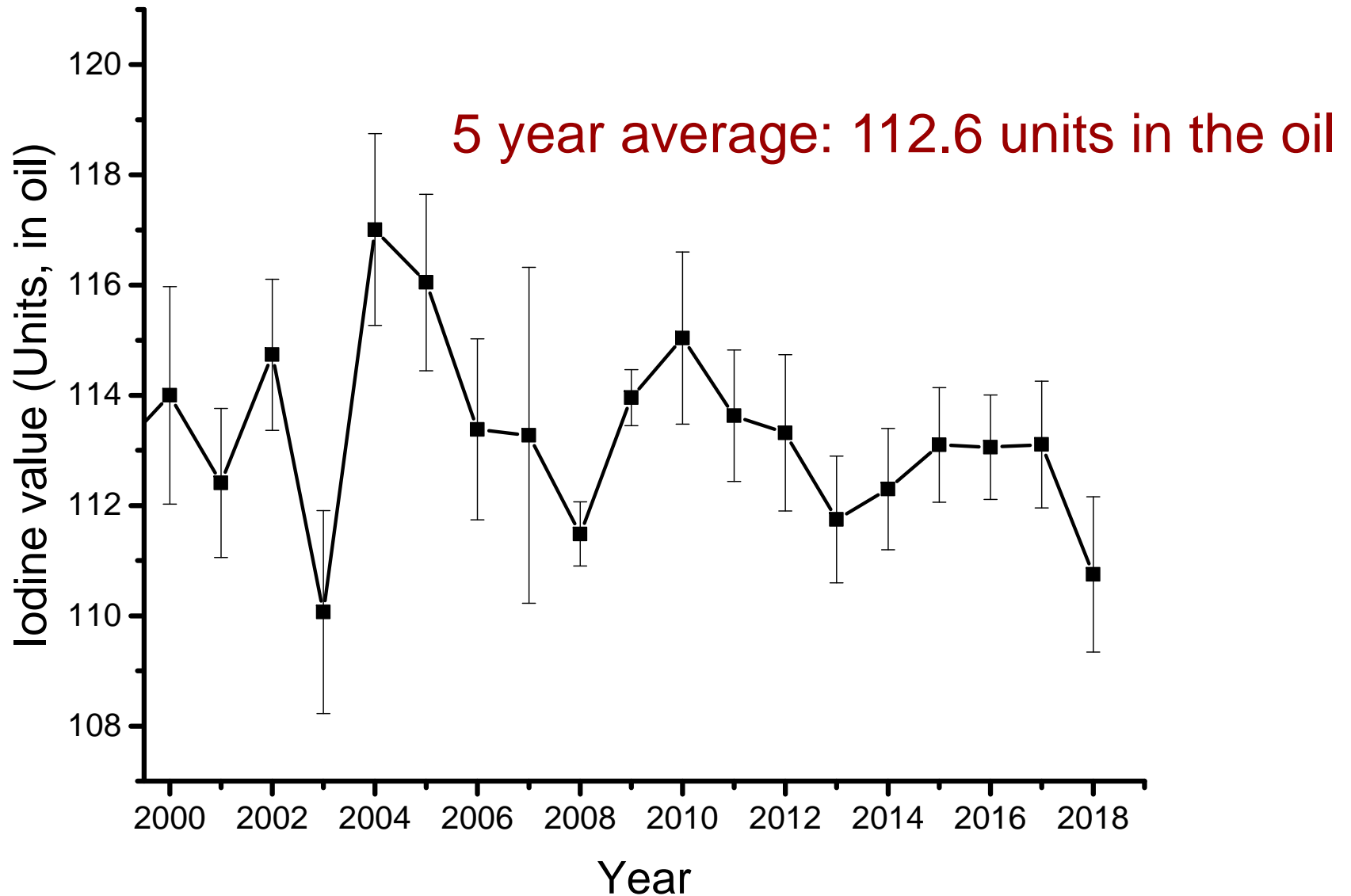
## All samples



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

	2018		Average		
	Average	Range	2017	2016	2015
<b>Manitoba</b>	<b>110.7</b>	<b>103.2 – 117.3</b>	<b>112.8</b>	<b>113.1</b>	<b>112.5</b>
<b>Saskatchewan</b>	<b>110.4</b>	<b>104.0 – 118.7</b>	<b>113.1</b>	<b>113.3</b>	<b>113.0</b>
<b>Alberta</b>	<b>111.5</b>	<b>104.4 – 119.4</b>	<b>113.3</b>	<b>113.5</b>	<b>113.4</b>
<b>Western Canada</b>	<b>110.8</b>	<b>103.2 – 119.4</b>	<b>113.1</b>	<b>113.3</b>	<b>113.1</b>

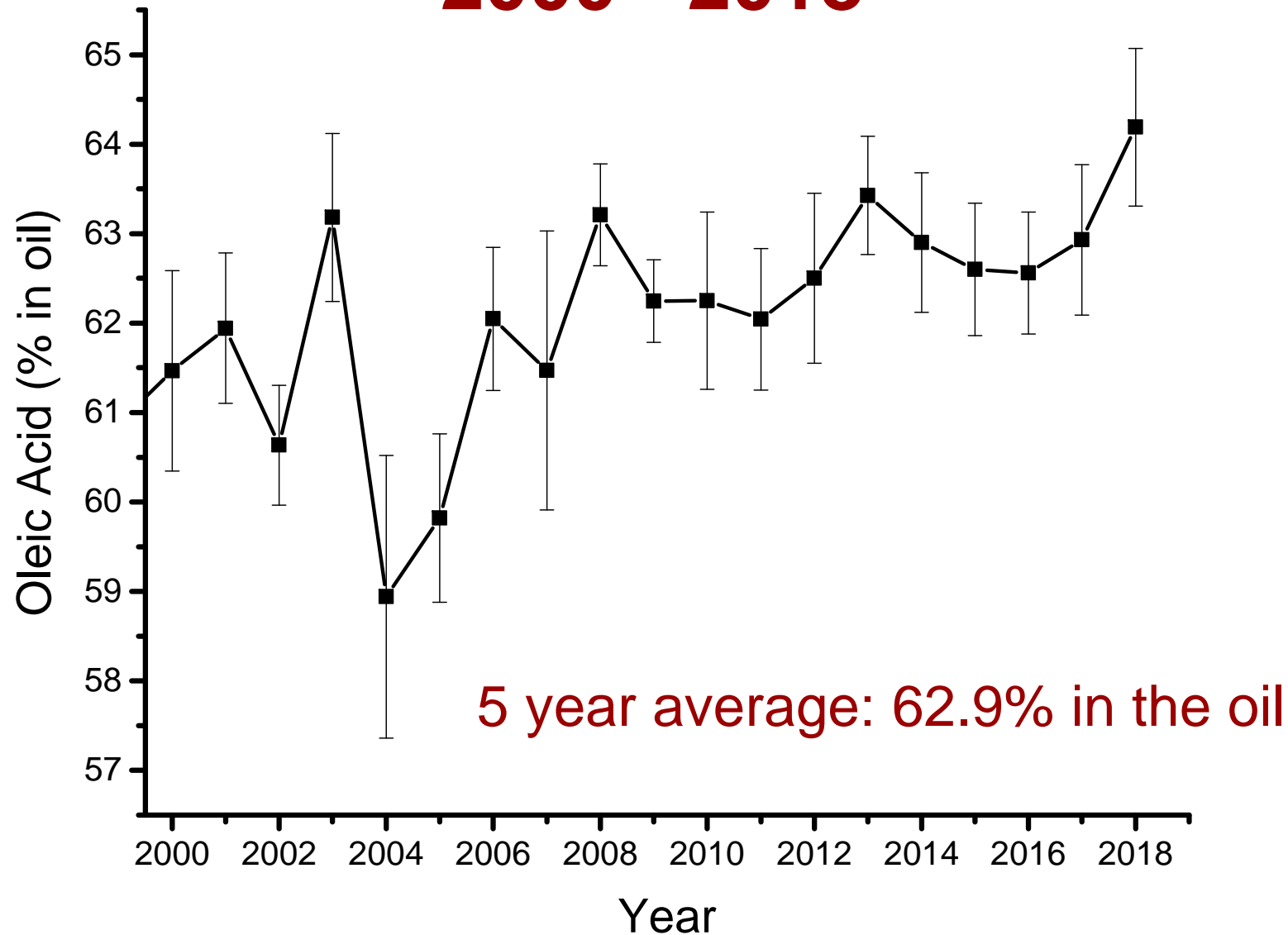
# Iodine value - Canola No. 1 Canada 2000 - 2018



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

	2018		Average		
	Average	Range	2017	2016	2015
<b>Manitoba</b>	<b>64.1</b>	<b>59.3 – 69.4</b>	<b>62.9</b>	<b>62.4</b>	<b>62.4</b>
<b>Saskatchewan</b>	<b>64.3</b>	<b>58.7 – 69.3</b>	<b>63.0</b>	<b>62.6</b>	<b>62.6</b>
<b>Alberta</b>	<b>63.9</b>	<b>58.3 – 69.3</b>	<b>62.8</b>	<b>62.6</b>	<b>62.6</b>
<b>Western Canada</b>	<b>64.2</b>	<b>58.3 – 69.4</b>	<b>62.9</b>	<b>62.6</b>	<b>62.6</b>

# Oleic acid content - Canola No. 1 Canada 2000 - 2018

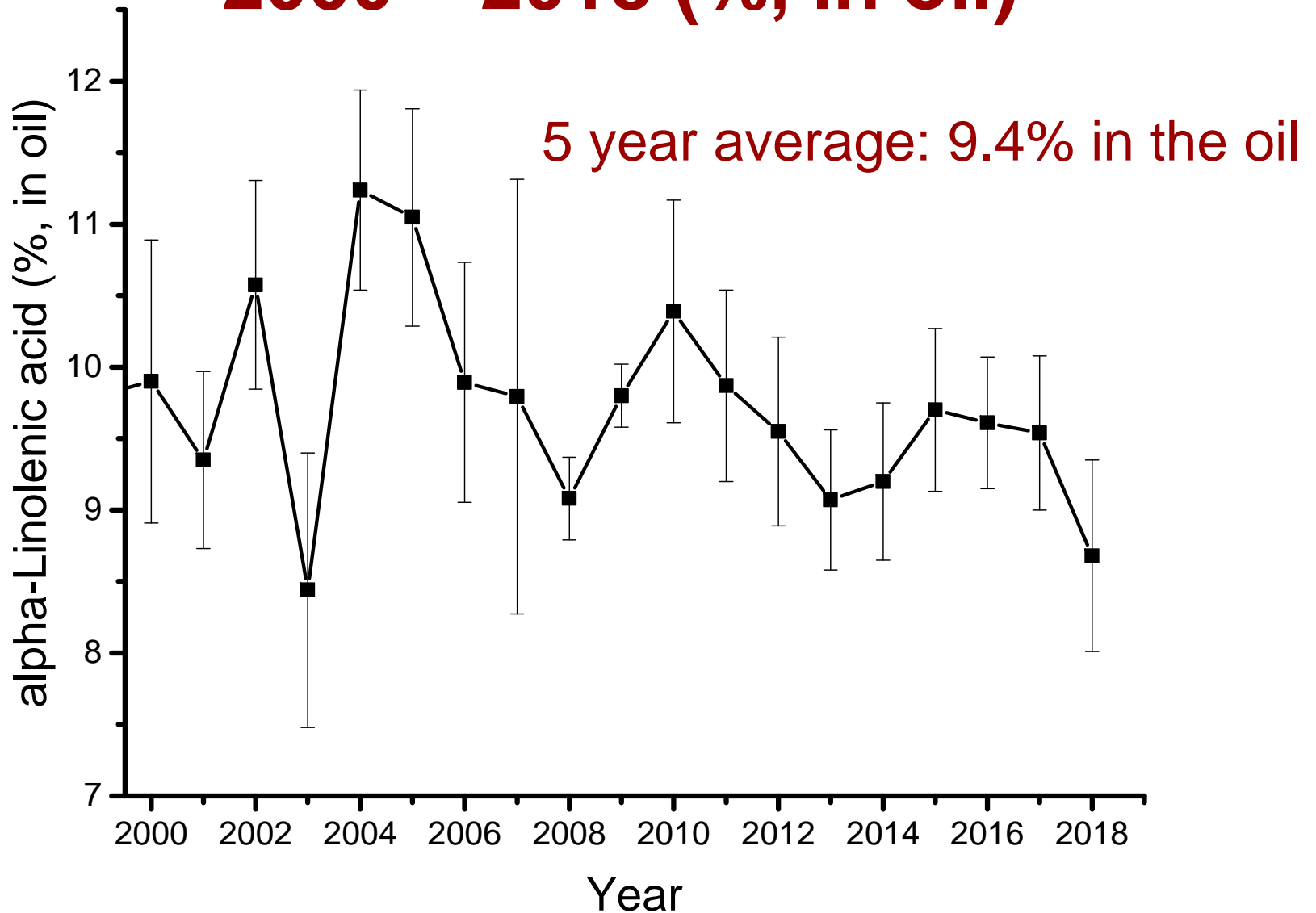


# **$\alpha$ -Linolenic acid content - No.1 Canada Canola (% in oil)**

	2018		Average		
	Average	Range	2017	2016	2015
<b>Manitoba</b>	<b>8.5</b>	<b>6.1 – 11.4</b>	<b>9.3</b>	<b>9.3</b>	<b>9.2</b>
<b>Saskatchewan</b>	<b>8.5</b>	<b>6.2 – 12.3</b>	<b>9.5</b>	<b>9.5</b>	<b>9.3</b>
<b>Alberta</b>	<b>9.1</b>	<b>5.4 – 12.3</b>	<b>9.7</b>	<b>9.9</b>	<b>10.1</b>
<b>Western Canada</b>	<b>8.7</b>	<b>5.4 – 12.3</b>	<b>9.5</b>	<b>9.6</b>	<b>9.7</b>



# $\alpha$ -Linolenic acid - Canola No. 1 Canada 2000 – 2018 (% in oil)

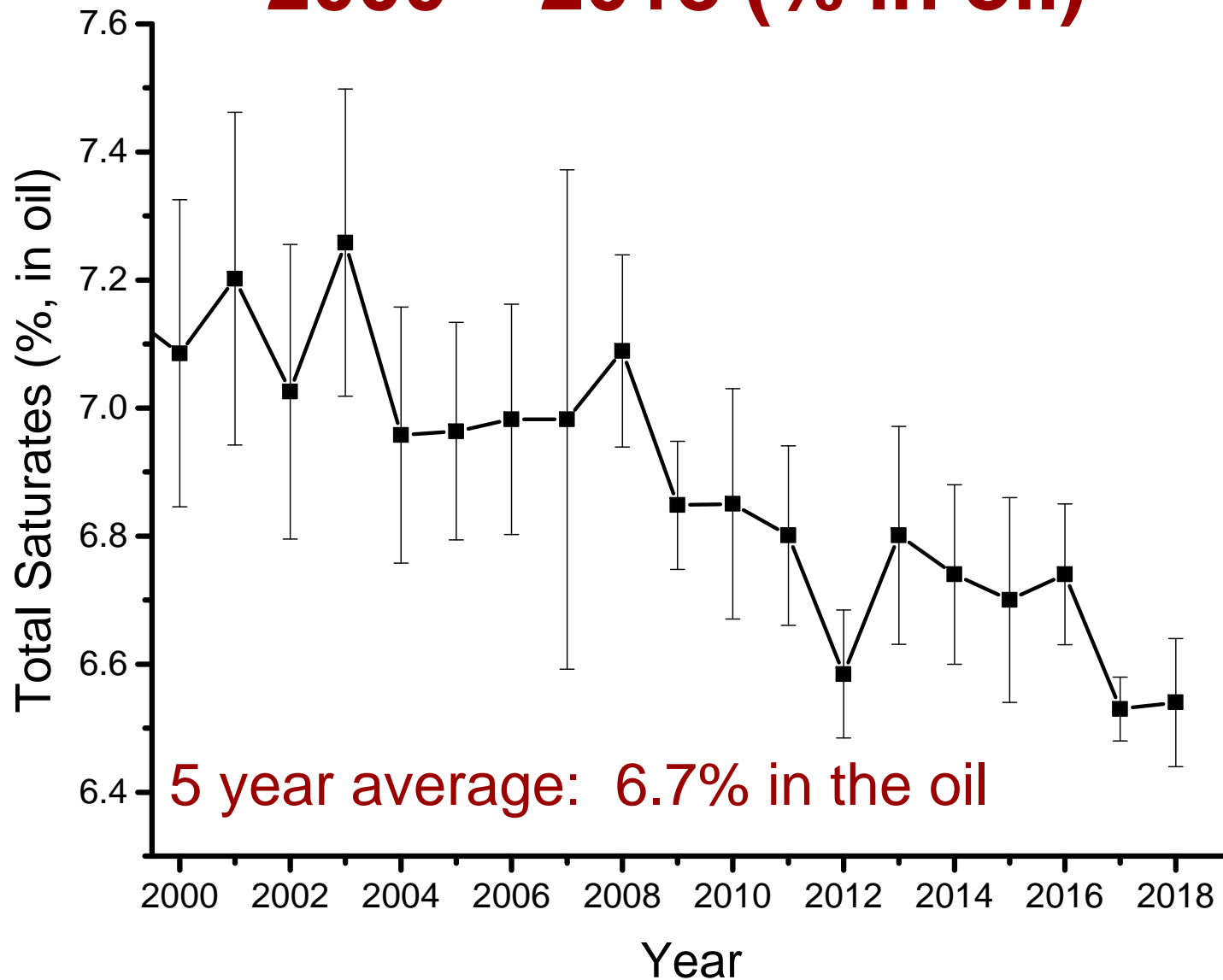




# Total Saturates Content - No.1 Canada Canola (% in oil)

	2018	2017	2016	2015
<b>Manitoba</b>	<b>6.5</b>	<b>6.6</b>	<b>6.8</b>	<b>6.8</b>
<b>Saskatchewan</b>	<b>6.5</b>	<b>6.5</b>	<b>6.8</b>	<b>6.8</b>
<b>Alberta</b>	<b>6.5</b>	<b>6.5</b>	<b>6.8</b>	<b>6.7</b>
<b>Western Canada</b>	<b>6.5</b>	<b>6.5</b>	<b>6.8</b>	<b>6.7</b>

# Total saturates - Canola No. 1 Canada 2000 – 2018 (% in oil)





# Acknowledgements

- Canadian producers and processors
- Industry Service - Winnipeg
- Ann Puvirajah
- Bert Siemens
- Brad Speiss
- Hayeon Oh
- Katharine Schulz
- Keara Haswell
- Marnie MacLean



## 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)