



2013 Grain Farmers of Ontario Ontario Wheat Quality Scoop



Overview

YOUR REPORT ON THE QUALITY OF THE 2013 ONTARIO WHEAT CROP

THIS REPORT PRESENTS the results of the 2013 Ontario Quality Scoop Program, a joint effort between Grain Farmers of Ontario and the Canadian Grain Commission (CGC). Conducted with the cooperation of grain companies, the Quality Scoop Program provides wheat quality information to Ontario wheat producers, marketers and processors. Sample collection commences as soon as the first wheat deliveries arrive at elevators and terminals.

Representative sample collection accurately portrays the overall wheat crop grown in a particular region. The samples are shipped to CGC's Grain Research Laboratory where they are cleaned, sent to grading, and blended into composite samples based on their grade and location. The composite samples are analyzed, milled and evaluated at CGC for end-use applications, such as baking, from which a range of data is generated.

Wheat acreage in Ontario increased over 2012, as early soybean harvest and good weather allowed for increased planting. In general, the quality of the 2013 Ontario wheat crop was variable due to wet weather conditions throughout the province. While there was good quality wheat, there was also wheat whose characteristics were better suited for the feed trade.

Todd Austin
Marketing Manager

Sample collection points



FIGURE 1. SAMPLE COLLECTION POINTS



TABLE 1: REGIONAL LOCATIONS

SOUTHWEST	NORTHWEST	NIAGARA
Chatham Kent Bridge Melbourne Norwich Florence Sarnia Talbotville	Goderich Guelph Hensall Owen Sound Palmerston	Hamilton Port Colborne

Quality Scoop data

2009-2013



TABLE 1: CANADA EASTERN SOFT RED WINTER WHEAT

Quality data for 2009-2013 harvest survey grade composite samples

	2013****	2012***	2011**	2010*	2009*
WHEAT					
Protein content, %	9.5	8.80	8.80	8.90	8.47
Protein content (dmd), %	10.9	10.1	10.1	10.3	9.8
Falling Number, s	360	385	369	353	315
RVA Stirring number, RVU			113	125	106
Alpha-amylase activity, units/g	3				
Ash content, %	1.5	1.47	1.46	1.46	1.43
PSI, %	75	72.0	66.0	69.0	71.0
Flour yield, %		75.1	72.6	74.1	71.8
Flour yield, clean wheat basis, %	74.9				
Flour yield, 0.50% ash basis, %	76.3				
FLOUR					
Protein content, %	8.3	7.8	7.3	7.4	7.0
Protein loss on milling, %	1.1		1.5		
Wet gluten, %	22.4	20.5	21.7	20.8	20.3
Ash content, %	0.47	0.47	0.46	0.42	0.37
Minolta colour - L*			86.5	85.3	85.6
Minolta colour - a*			-1.64	-1.53	-1.53
Minolta colour - b*			17.1	17.0	16.1
Grade colour, Satake units ¹		-2.2			
Brightness, L* ¹	91.93	94.7			
Redness, a* ¹	0.27	0.29			
Yellowness, b* ¹	9.23	11			
Starch damage, UCD			10.1	9.8	11.8
Starch damage, %	3.3	3.4			
Amylograph peak viscosity, BU	528	650	615	517	310
Alpha-amylase activity, units/g	1.7				
SRC, water, %	55				
SRC, lactic acid, %	89				
SRC, sucrose, %	94				
SRC, sodium carbonate, %	74				
FARINOGRAM					
Absorption, %	51.1	50.4	48.5	48.2	48.3
Dough development time, min	1	1.13	1.00	1.00	1.00
Stability, min	1.8	1.9	1.2	1.4	1.2
Mixing tolerance index, BU	87	99			
ALVEOGRAM					
P (height x 1.1), mm	32	29	22	19	20
L, mm	53	90	122	110	93
W, x 10 ⁻⁴ J	48	57	57	44	43
COOKIE TEST					
Spread, mm	83.4	82.5	81.7	82.1	85.2
Ratio (spread/thickness)	9.4	9.5	8.6	11.5	11.3
Wire-cut, width, mm	81.9	79.8			
Wire-cut, ratio (width/thickness)	9	7.5			

* Average of Southwest, Niagara and Northwest Regional Data

** Grade 1 Samples, Average of Southwest, Central and Niagara Regional Data

*** Average of Northwest, Southwest and Niagara Regional Data

**** Better than 2 Samples, Average of Northwest, Southwest and Niagara Regional Data

Unless otherwise specified, data are reported on a 13.5% moisture basis for wheat and a 14.0% moisture basis for flour

¹ Canadian Grain Commission methodology used, for complete methodology descriptions please see <http://www.grainscanada.gc.ca/wheat-ble/method-methode/awmtrm-mmab-eng.htm>.

Quality Scoop data

2009-2013



TABLE 2: CANADA EASTERN SOFT WHITE WINTER WHEAT

Quality data for 2009-2013 harvest survey grade composite samples

	2013****	2012***	2011**	2010*	2009*
WHEAT					
Protein content, %	9.9	8.9	9.0	9.0	8.4
Protein content (dmd), %	11.5	10.4	10.4	10.4	9.8
Falling Number, s	370	378	367	364	299
RVA Stirring number, RVU			113	106	93
Alpha-amylase activity, units/g	5.5				
Ash content, %	1.55	1.50	1.55	1.52	1.44
PSI, %	74	73	65	68	71
Flour yield, %		75.2	73.1	73.3	71.3
Flour yield, clean wheat basis, %	74.8				
Flour yield, 0.50% ash basis, %	74.3				
FLOUR					
Protein content, %	8.7	8.0	7.5	7.5	7.0
Protein loss on milling, %	1.2		1.5	1.5	1.4
Wet gluten, %	23.8	20.9	22.9	21.1	20.1
Ash content, %	0.51	0.49	0.41	0.44	0.40
Minolta colour - L*			86.4	86.4	85.9
Minolta colour - a*			-1.79	-1.98	-1.85
Minolta colour - b*			16.7	17.8	17.0
Grade colour, Satake units ¹		-2.20			
Brightness, L* ¹	91.91	94.7			
Redness, a* ¹	0.31	0.29			
Yellowness, b* ¹	10.79	11			
Starch damage, UCD			11.0	10.4	11.0
Starch damage, % ¹	3.2	3.4			
Amylograph peak viscosity, BU	500	688	558	620	390
Alpha-amylase activity, units/g	3.5				
SRC, water, %	53				
SRC, lactic acid, %	80				
SRC, sucrose, %	89				
SRC, sodium carbonate, %	71				
FARINOGRAM					
Absorption, %	49.9	49.4	48.2	47.5	49.0
Dough development time, min	1.25	1.0	0.9	1.2	0.9
Stability, min	2	1.7	1.2	1.4	0.8
Mixing tolerance index, BU	90	110			
ALVEOGRAM					
P (height x 1.1), mm	25	24	20	19	20
L, mm	64	101	154	108	85
W, x 10 ⁻⁴ J	35	51	59	47	41
COOKIE TEST					
Spread, mm	82.4	82.7	80.8	81.8	84.6
Ratio (spread/thickness)	9.6	9.6	9.1	11.6	11.6
Wire-cut, width, mm	81	79.7			
Wire-cut, ratio (width/thickness)	8.6	7.8			

* Grade 2 Samples

** Grade 1 Samples, Average of Southwest and Central Regional Data

*** Grade 2 or better Samples, Average of Northwest, Southwest and Niagara Regional Data

Unless otherwise specified, data are reported on a 13.5% moisture basis for wheat and a 14.0% moisture basis for flour

¹ Canadian Grain Commission methodology used, for complete methodology descriptions please see <http://www.grainscanada.gc.ca/wheat-ble/method-methode/wmtrm-mmab-eng.htm>.

Quality Scoop data

2009-2013



TABLE 3: CANADA EASTERN HARD RED WINTER WHEAT

Quality data for 2009-2013 harvest survey grade composite samples

	2013***	2012***	2011**	2010*	2009*
WHEAT					
Protein content, %	11.1	10.3	12.70	11.00	10.70
Protein content (dmd), %	12.8	11.9	14.60	12.70	12.30
Falling Number, s	330	410	388	324	306
RVA Stirring number, RVU			120	113	115
Alpha-amylase activity, units/g	18.5				
Ash content, %	1.52	1.44	1.59	1.51	1.47
PSI, %	60	58	43	51	51
Flour yield, %		75.8	72.8	77.4	73.9
Flour yield, clean wheat basis, %	76				
Flour yield, 0.50% ash basis, %	77.5				
FLOUR					
Protein content, %	10.1	9.2	11.9	10.2	9.3
Protein loss on milling, %	1		0.8	0.8	
Wet gluten, %	25.6	22.6	30.7	26.0	24.1
Ash content, %	0.47	0.46	0.51	0.49	0.38
Minolta colour - L*			84.9	84.8	85.9
Minolta colour - a*			-0.98	-0.67	-1.07
Minolta colour - b*			14.4	14.9	15.0
Grade colour, Satake units ¹		-2.00			
Brightness, L* ¹	91.42	94.4			
Redness, a* ¹	0.44	0.49			
Yellowness, b* ¹	9.74	9.9			
Starch damage, UCD			19.9	17.1	16.7
Starch damage, % ¹	6.7	8.2			
Amylograph peak viscosity, BU	225	495	560	150	260
Alpha-amylase activity, units/g	7.5				
SRC, water, %	65				
SRC, lactic acid, %	140				
SRC, sucrose, %	109				
SRC, sodium carbonate, %	90				
FARINOGRAM					
Absorption, %	57.8	60.2	57.8	55.8	56.6
Dough development time, min	2	1.75	3.10	4.00	2.00
Stability, min	7.5	2.50	11.25	6.40	4.80
Mixing tolerance index, BU	15	45			
ALVEOGRAM					
P (height x 1.1), mm	77	104	71	55	69
L, mm	81	68	160	137	90
W, x 10 ⁻⁴ J	219	255	364	214	216
EXTENSOGRAM (45/145 MIN)					
Rmax, BU			486/530	275/283	350/368
R5, BU			261/292	194/212	231/234
E, cm			218/212	179/169	182/194
A, cm ²			136/144	68/66	85/95
Length, cm ¹		15			
Height at 5cm, BU ¹	229	320			
Maximum height, BU ¹	335	430			
Area, cm ² ¹	94	80			
BAKING (REMIX-TO-PEAK BAKING TEST)					
Absorption, % ¹	57	57			
Remix time, min ¹	2.2	2.0			
Loaf volume, cm ³ / 100g flour ¹	837	720			

* Grade 2 Samples

** Grade 2 or Better, Average of Central/Eastern and Southwest Regional Data

*** Grade 2 or Better, Average of Northwest, Southwest, Eastern and Niagara Regional Data

Unless otherwise specified, data are reported on a 13.5% moisture basis for wheat and a 14.0% moisture basis for flour

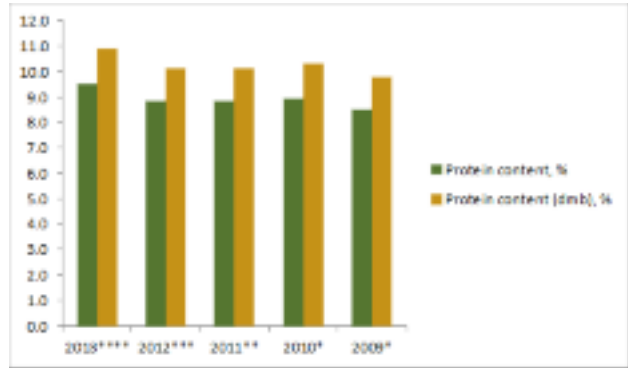
¹ Canadian Grain Commission methodology used, for complete methodology descriptions please see <http://www.grainscanada.gc.ca/wheat-ble/method-methode/wmtm-mmab-eng.htm>.

Wheat Protein Levels

2009-2013

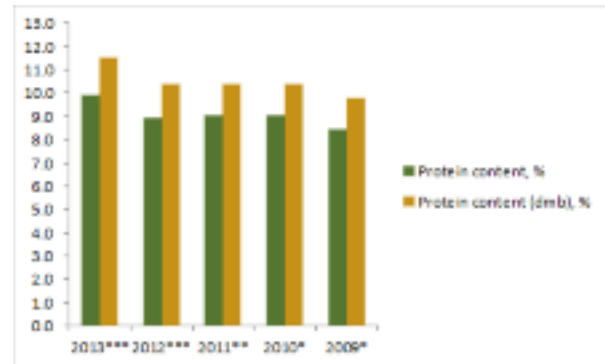


**FIGURE 1:
CANADA EASTERN SOFT RED WINTER WHEAT
PROTEIN LEVELS (2009-2013)**



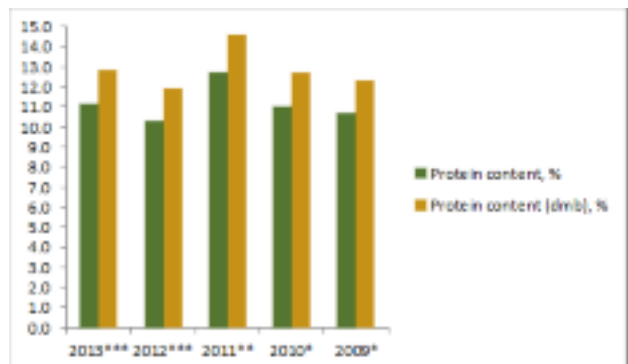
* Average of Southwest, Niagara and Northwest Regional Data
 ** Grade 1 Samples, Average of Southwest, Central and Niagara Regional Data
 *** Average of Northwest, Southwest and Niagara Regional Data
 **** Better than 2 Samples, Average of Northwest, Southwest and Niagara Regional Data

**FIGURE 2:
CANADA EASTERN SOFT WHITE WINTER WHEAT
PROTEIN LEVELS (2009-2013)**



* Grade 2 Samples
 ** Grade 1 Samples, Average of Southwest and Central Regional Data
 *** Grade 2 or Better Samples, Average of Northwest, Southwest and Niagara Regional Data

**FIGURE 3:
CANADA EASTERN HARD RED WINTER WHEAT
PROTEIN LEVELS (2009-2013)**



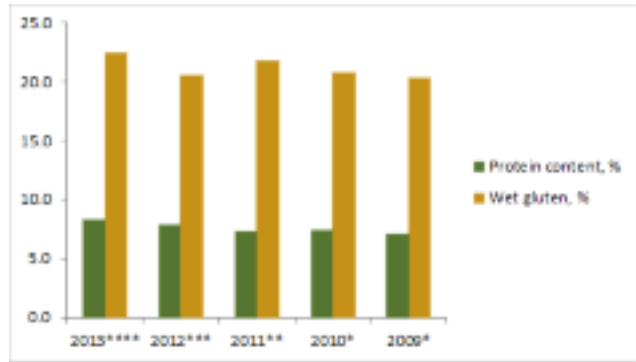
* Grade 2 Samples
 ** Grade 2 or Better, Average of Central/ Eastern and Southwest Regional Data
 *** Grade 2 or Better, Average of Northwest, Southwest and Niagara Regional Data

Flour Protein Levels

2009-2013

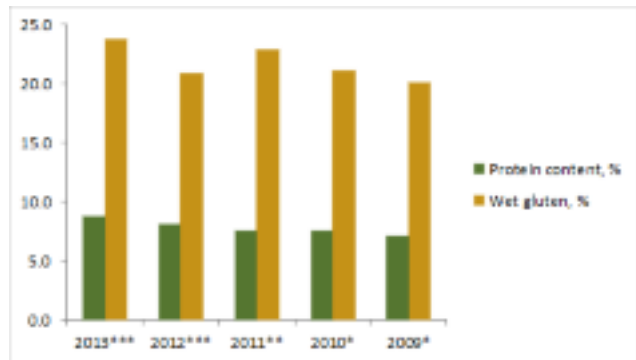


**FIGURE 1:
CANADA EASTERN SOFT RED WINTER WHEAT
FLOUR PROTEIN LEVELS (2009-2013)**



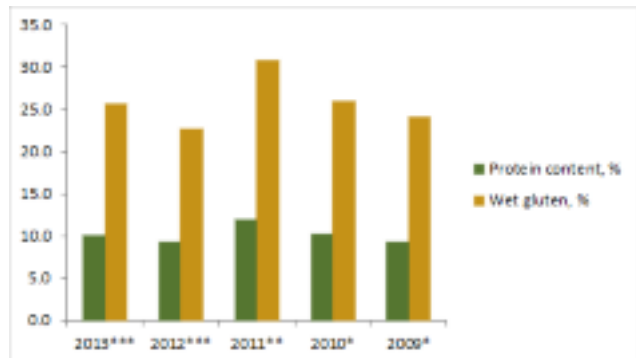
* Average of Southwest, Niagara and Northwest Regional Data
 ** Grade 1 Samples, Average of Southwest, Central and Niagara Regional Data
 *** Average of Northwest, Southwest and Niagara Regional Data
 **** Better than 2 Samples, Average of Northwest, Southwest and Niagara Regional Data

**FIGURE 2:
CANADA EASTERN SOFT WHITE WINTER WHEAT
FLOUR PROTEIN LEVELS (2009-2013)**



* Grade 2 Samples
 ** Grade 1 Samples, Average of Southwest and Central Regional Data
 *** Grade 2 or Better Samples, Average of Northwest, Southwest and Niagara Regional Data

**FIGURE 3:
CANADA EASTERN HARD RED WINTER WHEAT
FLOUR PROTEIN LEVELS (2009-2013)**



* Grade 2 Samples
 ** Grade 2 or Better, Average of Central/ Eastern and Southwest Regional Data
 *** Grade 2 or Better, Average of Northwest, Southwest and Niagara Regional Data

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