Canadian Grain Commission | Commission canadienne des grains

ISSN 1920-907X

Quality of western Canadian chick peas

2011

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Introduction

This report presents the quality data for the 2011 harvest survey for western Canadian chick peas. Samples submitted by western Canadian producers to the Canadian Grain Commission's (CGC) Grain Research Laboratory (GRL) were collected for data analysis.

Growing and harvesting conditions

The prairie provinces experienced excessive rainfall early in the growing season, followed by drier conditions over the summer months. Favorable weather in fall resulted in improved pulse quality and yield.

Saturated soils from heavy rains in 2010 followed by heavier than normal snowfall in eastern and northern areas, and cool weather during April and May delayed planting in 2011. Dry weather in central and northern Alberta and northern Saskatchewan during May allowed fields to be seeded. However, flooding and excessive moisture in the southern prairies, especially in southeastern Saskatchewan and southwestern Manitoba, combined with cooler temperatures, minimized planting opportunities in May and June. Overall, planting progress stopped in mid June with approximately 86 per cent of the crops sown.

Weather during July and August turned hot and dry in the southern regions, and wet in the northern regions. Temperatures in Manitoba and Saskatchewan were above normal, which helped boost crop development. However, temperatures in Alberta were below normal, which slowed crop development.

Warm and dry conditions from late August through September allowed harvest to move ahead in all prairie regions. A severe frost in parts of the prairie provinces in mid September had minimal effect on the crops, as most were mature. Warm, dry conditions at the end of September and into October allowed a rapid completion of the harvest.

Production review

Production of chick peas (Table 1) for 2011 was estimated at 91 thousand tonnes, which was down 29% from 2010 (128 thousand tonnes), and 39% from the 10-year average (148 thousand tonnes). The decreased production in 2011 was a result of smaller harvested area. Saskatchewan and Alberta accounted for 82% and 18%, respectively, of western Canadian chickpea production in 2011.

Table 1 – Production statistics for western Canadian chick peas[1]

	Harvested area		Production		Yield		Mean production[2]
Province	2011	2010	2011	2010	2011	2010	2001-2010
	thousand hectares		thousand tonnes		kg/ha		thousand tonnes
Chick peas							
Manitoba	-	-	-	-	-	-	-
Saskatchewan	42	77	75	128	1800	1700	135
Alberta[3]	8	-	16	-	2000	-	13
Western Canada	**50**	**77**	**91**	**128**	**3800**	**1700**	**148**

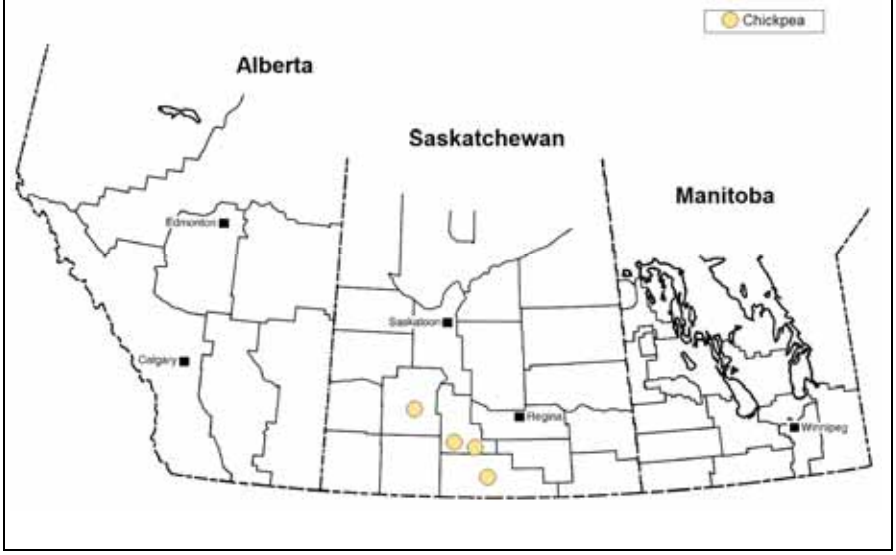
[1] Statistics Canada, *Field Crop Reporting Series, Vol. 90, No. 8.*
[2] Statistics Canada, *Field Crop Reporting Series, 2001-2010.*
[3] Includes the Peace River area of British Columbia.

Western Canadian chick peas 2011

Harvest survey samples

Samples for the CGC harvest survey were collected from producers in Saskatchewan (Fig. 1). For the 2011 harvest survey, a total of 8 Kabuli chickpea samples were received at the CGC for analysis. All samples were graded and analyzed for protein content. Only those samples receiving a grade of chickpea, Kabuli, No. 1 Canada Western or chickpea, Kabuli, No. 2 Canada Western were tested for starch content, ash content, 100-seed weight and water absorption. Due to the small number of Desi chickpea samples received, only results for Kabuli chick peas were included in the 2011 quality report. It is important to note that the samples reported by grade do not necessarily represent the actual distribution of grade.

Figure 1 – Map of western Canada showing origin of 2011 harvest survey chickpea samples



Quality of 2011 western Canadian chick peas

Protein content ranged from 19.0% to 22.7% for 2011 western Canadian chick peas (Table 2). The mean protein for 2011 was 20.9%, which was similar to 2010 (20.8%), but lower than the five-year average of 23.0% (Fig. 2).

Chick peas, Kabuli, No. 1 Canada Western (Table 3) from 2011 had lower mean protein content (20.0%) than from 2010 (20.6%), but higher mean starch content (50.6% and 46.6%, respectively). Mean ash content for chickpea, Kabuli, No. 1 Canada Western was 2.6%. Mean 100-seed weight for chick peas, Kabuli No. 1 Canada Western was lower for 2011 (38.1 g) than 2010 (40.2 g), indicating a smaller seed size for the 2011 crop. Water absorption values were similar for 2011 and 2010.

Table 2 – Mean protein content for 2011 western Canadian chick peas by grade[1]

	Protein content, %			
Grade	2011			2010
	mean	min.	max.	mean
Saskatchewan				
Chick peas, Kabuli, Canada Western No. 1	20.9	20.9	20.9	20.6
Chick peas, Kabuli, Canada Western No. 2	-	-	-	20.5
Chick peas, Kabuli, Canada Western No. 3	20.9	20.9	20.9	20.3
All grades	**21.2**	**20.0**	**22.7**	**20.8**
Alberta				
Chick peas, Kabuli, Canada Western No. 1	19.0	19.0	19.0	-
Chick peas, Kabuli, Canada Western No. 2	-	-	-	-
Chick peas, Kabuli, Canada Western No. 3	-	-	-	-
All grades	**19.0**	**19.0**	**19.0**	**-**
Western Canada				
Chick peas, Kabuli, Canada Western No. 1	20.0	19.0	20.9	20.6
Chick peas, Kabuli, Canada Western No. 2	-	-	-	20.5
Chick peas, Kabuli, Canada Western No. 3	20.9	20.9	20.9	20.3
All grades	**20.9**	**19.0**	**22.7**	**20.8**

[1] Protein content (N x 6.25) is determined by near infrared measurement calibrated against the Combustion Nitrogen Analysis reference method.

Figure 2 – Mean protein content of western Canadian Kabuli chick peas

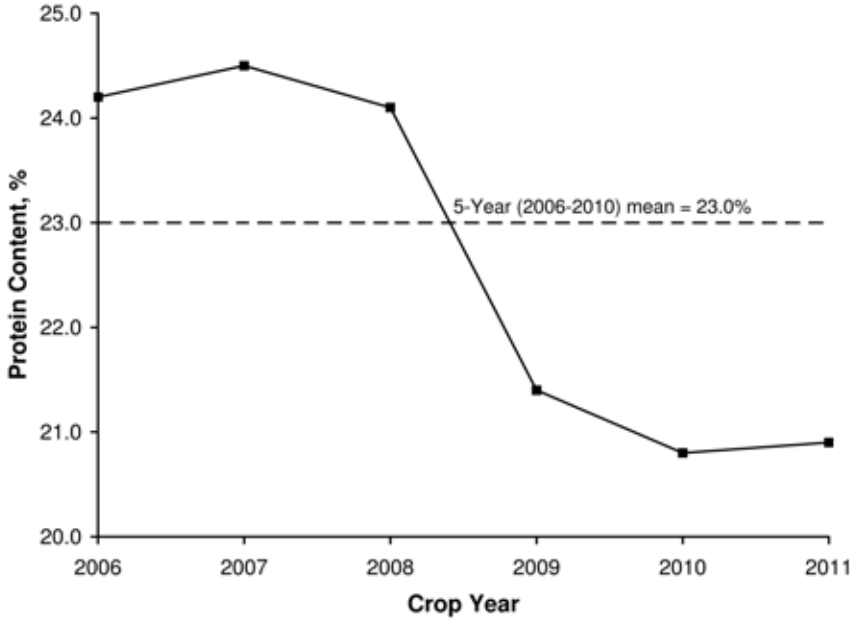


Table 3 – Quality data for 2011 western Canadian Kabuli chick peas

	Chick peas, Kabuli, Canada Western No. 1		Chick peas, Kabuli, Canada Western No. 2	
Quality parameter	2011	2010	2011	2010
Protein, % dry basis				
Number of samples	2	2	-[1]	3
Mean	20.0	20.6	-	21.1
Standard deviation	0.7	1.2	-	0.9
Minimum	19.0	20.0	-	20.4
Maximum	20.9	21.6	-	22.1
Starch, % dry basis				
Number of samples	2	2	-	3
Mean	50.6	46.6	-	42.6
Standard deviation	2.9	1.9	-	3.4
Minimum	48.6	45.3	-	38.9
Maximum	52.7	48.0	-	45.7
Ash, % dry basis				
Number of samples	2	-	-	-
Mean	2.6	-	-	-
Standard deviation	0.2	-	-	-
Minimum	2.4	-	-	-
Maximum	2.7	-	-	-
100-seed weight, g/100 seeds				
Number of samples	2	2	-	3
Mean	38.1	40.2	-	30.0
Standard deviation	1.4	1.4	-	5.9
Minimum	37.1	39.2	-	26.2
Maximum	39.1	41.2	-	36.7
Water absorption, g H_2O/g seeds				
Number of samples	2	2	-	3
Mean	1.03	1.01	-	1.08
Standard deviation	-0.02	0.02	-	0.05
Minimum	1.01	1.00	-	1.02
Maximum	1.04	1.02	-	1.11

[1] No data available.