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Quality of western Canadian chick peas

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Ning Wang

Program Manager, Pulse Research

Contact: Ning Wang

Program Manager, Pulse Research

Tel : 204 983-2154

Email: ning.wang@grainscanada.gc.ca

Fax : 204-983-0724

Grain Research Laboratory

Canadian Grain Commission

1404-303 Main Street

Winnipeg MB R3C 3G8

www.grainscanada.gc.ca

Canada 

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Introduction

This report presents the quality data for the 2010 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 a good start to the 2010 growing season. However, cooler temperatures and excessive moisture present throughout the growing season delayed crop development and downgraded crop quality.

Above normal temperatures in the southern and western regions allowed an early start to planting. Late season rain and snowstorms helped replenish moisture in central and northern Alberta and in west central Saskatchewan. A series of storms in Saskatchewan and Manitoba during late May and early June delayed planting and caused flooding in previously planted fields. Overall planting progress stopped with approximately 80 per cent of the crops sown.

Cool, wet conditions persisted through July and August, especially in the southwestern Prairies. This pushed crop development three to four weeks behind normal, but reduced the stress on the crops. The Peace River region of Alberta and British Columbia experienced hot and dry conditions for most of the growing season.

Cool and wet conditions continued into September, which caused further crop development delays and quality degradation. A severe frost in Alberta and western Saskatchewan caused further damage to crops. Warm and 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 2010 was estimated at 128 thousand tonnes, which was up 68% from 2009 (76 thousand tonnes), but still down 26% from the 10-year average (174 thousand tonnes). The increased production in 2010 was a result of increased harvested area, while the yield dropped by 9%. Saskatchewan accounted for 100% of western Canadian chick pea production in 2010.

Table 1 – Production statistics for western Canadian chick peas¹

	Harvested area		Production		Yield		Mean production ²
Province	2010	2009	2010	2009	2010	2009	2000-2009
	thousand hectares		thousand tonnes		kg/ha		thousand tonnes
Chick peas							
Manitoba	-	-	-	-	-	-	-
Saskatchewan	77	30	128	57	1700	1890	160
Alberta ³	-	10	-	18	-	1810	16
Western Canada	77	40	128	76	1700	1870	174

¹ Statistics Canada, *Field Crop Reporting Series*, Vol. 89, No. 8.

² Statistics Canada, *Field Crop Reporting Series*, 2000-2009.

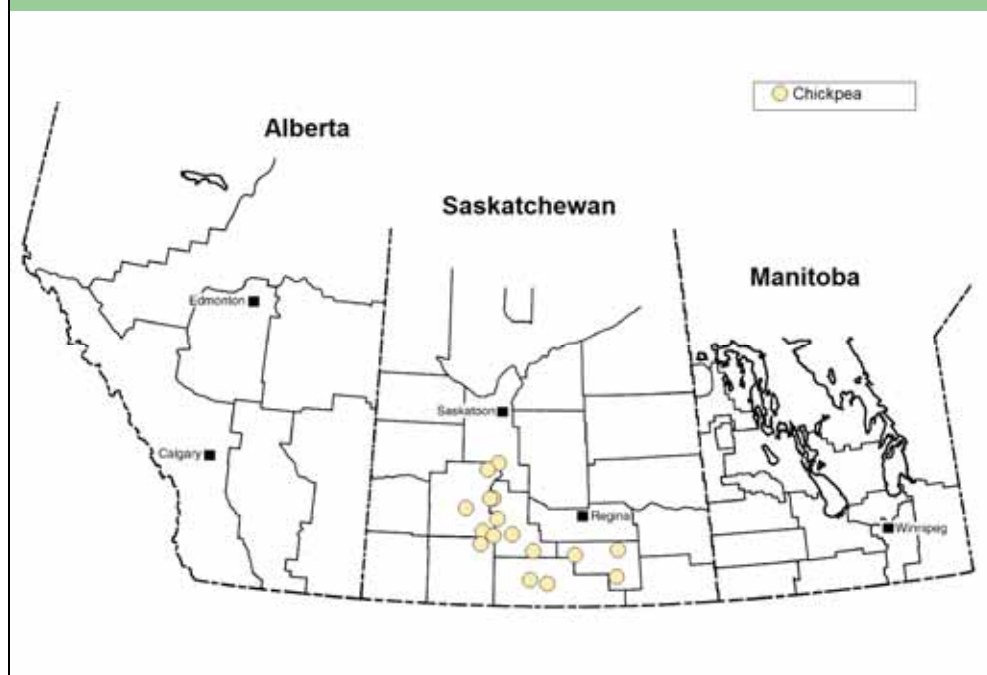
³ Includes the Peace River area of British Columbia.

Western Canadian chick peas _____ 2010

Harvest survey samples

Samples for the CGC harvest survey were collected from producers in Saskatchewan (Fig. 1). For the 2010 harvest survey, a total of 31 chick pea samples, consisting of 28 Kabuli samples and 3 Desi samples, were received at the CGC for analysis. All samples were graded and analyzed for protein and starch content. Due to the small number of Desi chick pea samples received, only results for Kabuli chick peas were included in the 2010 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 2010 harvest survey chick pea samples



Quality of 2010 western Canadian chick peas

Protein content ranged from 19.6% to 22.8% for 2010 western Canadian chick peas (Table 2). The average protein for 2010 was 20.8%, which was similar to 2009 (20.9%), but lower than the five-year average of 23.3% (Fig. 2).

Chick peas, Kabuli, Canada Western No. 1, from 2010 exhibited lower mean protein content (20.8%) than that from 2009 (21.5%), but had higher mean starch content (Table 3). Chick peas, Kabuli, Canada Western No. 1, from 2010 had higher average 100-seed weight than that in 2009 (40.2 g and 35.6 g, respectively), indicating a larger seed size for the 2010 crop. Water absorption values in 2010 for Chick peas, Kabuli, Canada Western No. 1, were similar to their 2009 counterparts (1.01 g H₂O/g seeds and 1.08 g H₂O/g seeds, respectively).

Table 2 – Mean protein content for 2010 western Canadian chick peas by grade¹

Grade	Protein content, %			
	2010		2009	
	mean	min.	max.	mean
Saskatchewan				
Chick peas, Kabuli, Canada Western No. 1	20.6	19.6	21.5	22.0
Chick peas, Kabuli, Canada Western No. 2	20.5	20.0	21.4	19.0
Chick peas, Kabuli, Canada Western No. 3	20.3	19.9	20.9	20.7
All grades	20.8	19.6	22.8	20.8
Alberta				
Chick peas, Kabuli, Canada Western No. 1	-	-	-	21.9
Chick peas, Kabuli, Canada Western No. 2	-	-	-	-
Chick peas, Kabuli, Canada Western No. 3	-	-	-	-
All grades	-	-	-	21.9
Western Canada				
Chick peas, Kabuli, Canada Western No. 1	20.6	19.6	21.5	22.0
Chick peas, Kabuli, Canada Western No. 2	20.5	20.0	21.4	19.0
Chick peas, Kabuli, Canada Western No. 3	20.3	19.9	20.9	20.7
All grades	20.8	19.6	22.8	21.4

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

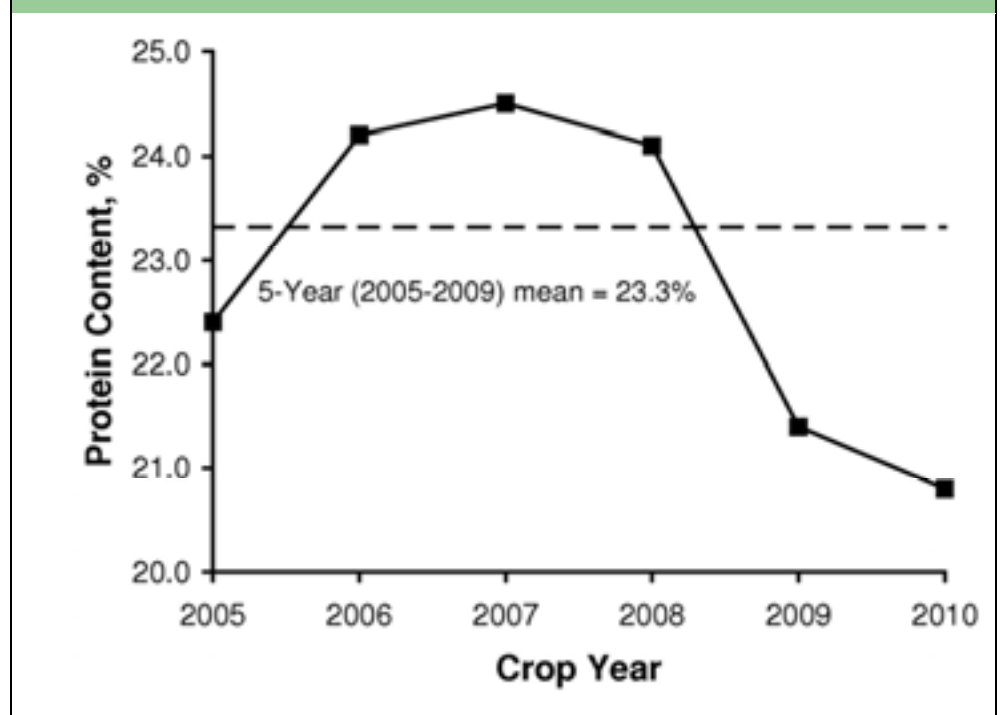


Table 3 – Quality data for 2010 western Canadian Kabuli chick peas

Quality parameter	Chick peas, Kabuli, Canada Western No. 1		Chick peas, Kabuli, Canada Western No. 2	
	2010	2009	2010	2009 ¹
Protein, % dry basis				
Number of samples	2	5	3	-
Mean	20.8	22.0	21.1	-
Standard deviation	1.2	0.7	0.9	-
Minimum	20.0	21.4	20.4	-
Maximum	21.6	23.2	22.1	-
Starch, % dry basis				
Number of samples	2	5	3	-
Mean	46.6	42.6	42.6	-
Standard deviation	1.9	2.1	3.4	-
Minimum	45.3	40.1	38.9	-
Maximum	48.0	45.2	45.7	-
100-seed weight, g/100 seeds				
Number of samples	2	5	3	-
Mean	40.2	35.6	30.0	-
Standard deviation	1.4	9.1	5.9	-
Minimum	39.2	24.9	26.2	-
Maximum	41.2	46.1	36.7	-
Water absorption, g H₂O/g seeds				
Number of samples	2	5	3	-
Mean	1.01	1.08	1.08	-
Standard deviation	0.02	0.04	0.05	-
Minimum	1.00	1.02	1.02	-
Maximum	1.02	1.11	1.11	-

¹ Results not available due to the small number of samples received.