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# Quality of western Canadian chick peas

## 2012

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## Introduction

This report presents the quality data for the 2012 harvest survey for western Canadian chick peas. Western Canadian producers submitted samples to the Canadian Grain Commission's (CGC) Grain Research Laboratory (GRL) for data analysis.

## Growing and harvesting conditions

The Prairie provinces experienced sufficient rainfall early in the growing season, followed by hot and dry conditions over the summer months. Favorable weather in fall resulted in good quality and yield.

Adequate soil moisture and favourable weather conditions aided seeding in the Prairie provinces. Some frost affected Manitoba in late May, but seeding of chick peas was still 95% complete by mid June. By the end of May, pulse crops were observed to be at normal stages of development and in good to excellent condition.

Hot and dry weather in July and August advanced crops quickly. Some heat stress on the crops was noted, but approximately 90% of crops were still in good to excellent condition in early August.

Harvest began at the end of August for chick peas and slowed in September because of frost in some parts of Manitoba. Harvest was completed by mid October because of the return to warm and dry conditions.

## Production review

Production of chick peas (Table 1) for 2012 was estimated at 158 thousand tonnes, which was up 74% from 2011 (91 thousand tonnes), and 42% from the 10-year average (111 thousand tonnes). The increased production in 2012 was a result of a larger harvested area in Saskatchewan. Saskatchewan and Alberta accounted for 89% and 11%, respectively, of western Canadian chick pea production in 2012.

**Table 1 – Production statistics for western Canadian chick peas<sup>1</sup>**

	Harvested area		Production		Yield		Mean production <sup>2</sup>
Province	2012	2011	2012	2011	2012	2011	2002-2011
	thousand hectares		thousand tonnes		kg/ha		thousand tonnes
Chick peas							
Manitoba	-	-	-	-	-	-	-
Saskatchewan	71	42	141	75	2000	1800	98
Alberta <sup>3</sup>	8	8	16	16	2000	2000	12
Western Canada	79	50	158	91	2000	1800	111

<sup>1</sup> Statistics Canada, *Field Crop Reporting Series*, Vol. 91, No. 8.

<sup>2</sup> Statistics Canada, *Field Crop Reporting Series*, 2002-2011.

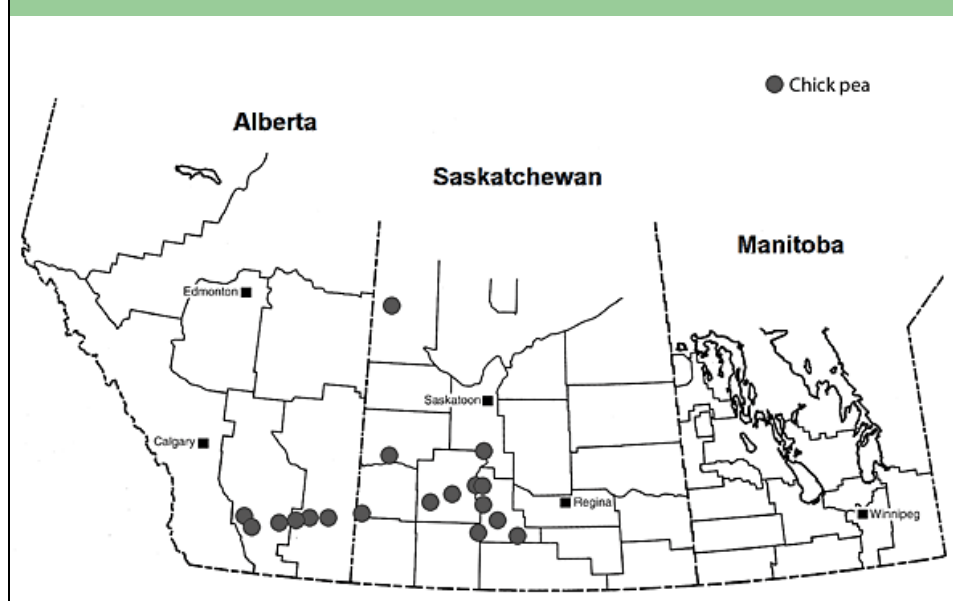
<sup>3</sup> Includes the Peace River area of British Columbia.

# Western Canadian chick peas \_\_\_\_\_ 2012

## Harvest survey samples

Samples for the CGC harvest survey were collected from producers in Saskatchewan (Fig. 1). For the 2012 harvest survey, a total of 27 Kabuli chick pea samples were received at the CGC for analysis. All samples were graded and analyzed for protein content. Only those samples receiving a grade of Chick peas, Kabuli, No. 1 Canada Western or Chick peas, 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 chick pea samples received, only results for Kabuli chick peas were included in the 2012 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 2012 harvest survey chick pea samples**



## Quality of 2012 western Canadian chick peas

Protein content ranged from 20.7% to 25.6% for 2012 western Canadian chick peas (Table 2). The mean protein content for 2012 was 22.6%, which was similar to the five-year average of 22.3% (Fig. 2).

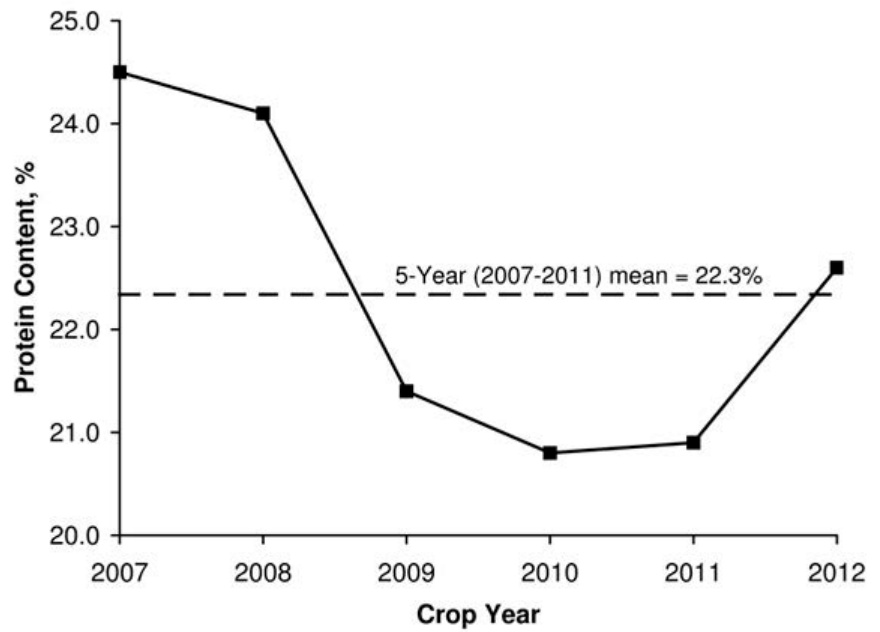
Chick peas from 2012 (Table 3) had higher mean protein and lower starch content (22.2% and 43.5% respectively) than for 2011 (19.3% and 50.6% respectively). Mean ash content was higher for 2012 (2.9%) than 2011 (2.6%). Mean 100-seed weight for 2012 (34.2 g) was lower than 2011 (38.1 g), indicating a larger seed size for 2011. Water absorption values were similar for 2012 and 2011.

**Table 2 – Mean protein content for 2012 western Canadian chick peas by grade<sup>1</sup>**

Grade	Protein content, %			
	2012	2011		
	mean	min.	max.	mean
<b>Saskatchewan</b>				
Chick peas, Kabuli, Canada Western No. 1	22.0	20.7	23.4	20.9
Chick peas, Kabuli, Canada Western No. 2	-	-	-	-
Chick peas, Kabuli, Canada Western No. 3	22.2	21.3	23.0	20.9
<b>All grades</b>	<b>22.0</b>	<b>20.7</b>	<b>23.4</b>	<b>21.2</b>
<b>Alberta</b>				
Chick peas, Kabuli, Canada Western No. 1	23.2	21.5	25.6	19.0
Chick peas, Kabuli, Canada Western No. 2	23.3	21.7	25.0	-
Chick peas, Kabuli, Canada Western No. 3	-	-	-	-
<b>All grades</b>	<b>23.2</b>	<b>21.5</b>	<b>25.6</b>	<b>19.0</b>
<b>Western Canada</b>				
Chick peas, Kabuli, Canada Western No. 1	22.5	20.7	25.6	20.0
Chick peas, Kabuli, Canada Western No. 2	23.3	21.7	25.0	-
Chick peas, Kabuli, Canada Western No. 3	22.2	21.3	23.0	20.9
<b>All grades</b>	<b>22.6</b>	<b>20.7</b>	<b>25.6</b>	<b>20.9</b>

<sup>1</sup> 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**



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**Table 3 – Quality data for 2012 western Canadian Kabuli chick pea composites<sup>1</sup>**

Quality parameter	2012	2011
<b>Chemical composition</b>		
Protein content, % dry basis	22.2	19.3
Starch content, % dry basis	43.5	50.6
Ash content, % dry basis	2.9	2.6
<b>Physical characteristic</b>		
100-seed weight, g/100 seeds	34.2	38.1
Water absorption, g H <sub>2</sub> O/g seeds	1.04	1.03

<sup>1</sup> Chick peas, Kabuli, Canada Western No.1 and No. 2 combined.