



## Taking the pulse of Canada's pea, lentil, dry bean and chickpea industry

Commercial production of pulse crops in Canada is big business. You might say it amounts to a lot more than a hill of beans.

More than 10,000 farms reported growing pulse crops in 2009 with a farm cash receipt of \$1.7 billion. Canada is a leading exporter of pulse crops with approximately 75 per cent of the production exported annually.

Canada represents 40 per cent of the global pulse trade, and the trade balance of pulse crops increased from \$863 million in 2000 to \$2 billion in 2009.

Pulse crop production has also contributed to the growth of the pulse processing industry and to the expansion of employment opportunities in rural communities.

The term "pulse," as used by the Food and Agricultural Organization (FAO), is reserved for crops harvested solely for the dry seed. This excludes green beans and green peas, which are considered vegetable crops. Pulse crops are grain legumes including field pea, lentil, chickpea, and dry bean. The plants produce pods that hold between one to six dry seeds. The seeds are edible and highly nutritious with high levels of protein, complex carbohydrates, fibre, vitamins, and minerals. These pulse crops are important to Canada with 2.67 million seeded hectares (6.6 million seeded acres) in 2009.

**Pulse Research:** A large part of the success of the pulse sector today was built on research of Agriculture and Agri-Food Canada scientists who have been at the forefront of pulse crop research for over a century. The pulse program began in the early 1900s with the development of field pea cultivars at the Central Experiment Farm in Ottawa, Ontario. Cultivars Arthur, Chancellor and Early Blue were developed as early as 1915 for use in soup and animal feed.

Research on lentil, chickpea and other pulse crops followed in the late 1970s. Today a team of 57 AAFC researchers is focused on developing high-quality, disease-resistant cultivars with improved seed quality to retain existing export markets, provide crop diversification and help expand opportunities for Canadian pulse crops.

AAFC researchers and their collaborators in six provinces have made significant contributions to pulse crop research and innovation in Canada:

- **Genetic Enhancement and Breeding:** Pulse breeding research occurs at Lacombe and Lethbridge (Alberta); Morden (Manitoba); and Guelph and Harrow (Ontario).

- **Crop Management (Pathology, Agronomy and Environment):** Pulse crops play an important role in crop rotation by enriching the soil with atmospheric nitrogen that has been fixed in their root nodules. Crop management research is conducted in the Prairie provinces.
- **Nutrition, Health and Novel Uses:** Research is focused on two areas: 1) investigation of the beneficial effects of pulse seed components on human health, and 2) the functional application of pulse seed fractions in food and non-food uses at research centres in Summerland (British Columbia), Saskatoon (Saskatchewan), Guelph and London (Ontario), and St. Hyacinthe (Québec).
- **Research Collaboration:** The Pulse Research Network (PURENet) and the Pulse Science Cluster are two examples of pulse researchers working together for the benefit of pulse growers and the industry.



Field pea, lentil and chickpea are primarily grown in the Prairie provinces (Alberta, Saskatchewan and Manitoba). Dry bean is grown in five provinces including Ontario, Québec, and the Prairies.

More information on the pulse industry is available at these AAFC websites: Pulses and Special Crops: <http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1174420265572&lang=eng>

and Overview of the Canadian Pulse Industry: <http://www.ats.agr.gc.ca/can/4753-eng.htm>

#### Additional Readings:

1. Ali-Khan, S.T. and Slinkard, A.E. 1995. Field Pea. In A.E. Slinkard and D.R. Knott (eds.) Harvest of Gold: The history of field crop breeding in Canada. University Extension Press, University of Saskatchewan, SK. Pages 181-190.
2. Park, S.J. and Buzzell, R.I. 1995. Common Bean. In A.E. Slinkard and D.R. Knott (eds.) Harvest of Gold: The history of field crop breeding in Canada. University Extension Press, University of Saskatchewan, SK. Pages 197-212.

For more information including a complete list of the research scientists in the pulse crop program, please contact:

**Dr. Parthiba Balasubramanian**  
 Dry Bean Genetics and Breeding  
 Tel.: (403) 317-2275  
 E-mail: [parthiba.balasubramanian@agr.gc.ca](mailto:parthiba.balasubramanian@agr.gc.ca)

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