Potato Research

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Alberta's Potato Industry

Alberta potato production is almost exclusively contract production. In 2015, potato acreage was 53,235. Alberta enjoys the highest average potato yield per acre of all the Canadian potato producing provinces. Alberta ranks third in number of acres planted, and are often second in overall production because of excellent yields.

Potato is a value-added industry in Alberta. There are three major fry processing plants in southern Alberta, two potato chip plants, a dehydration facility, and a number of packers. Alberta seed potato growers export seed to other parts of Canada as well as to Mexico and the United States. The overall value of the potato industry in Alberta has been estimated at more than $900 million. Alberta's potato industry is stable and is positioned for growth.

Potato Research Program

The objectives of the program are to foster increased production efficiency and competitiveness in Alberta's potato industry. Approximately 80% of the trials in 2016 were conducted in small plots at CDCS, with the remainder conducted off-site at the Alberta Irrigation Technology Centre in Lethbridge and in commercial fields near Rolling Hills. It is easier to control experimental parameters in small plot trials, but the funders requested that one trial be located at the Lethbridge site to ensure pivot irrigation and commercial field scouting.

2016 Projects AT CDCS:

Demo (single rows of varieties from all research trials this year):

The purpose of the demo is to allow clients to evaluate potato varieties in-season without negatively impacting yield data from the replicated trial.

Potato Variety Evaluation - Alberta
(Part of a National Initiative by Canadian Horticultural Council 2014-2017; sponsored by Agriculture and Agri-Food Canada (AAFC) Growing Forward, PGA and many industry stakeholders):

This trial evaluates potato varieties from breeding programs in Canada and around the world. This cooperative trial leverages industry funding to ensure that regional evaluation of AAFC germplasm continues in Alberta. There are over 90 industry entries and 36 AAFC clones. Potatoes in the trail include French fry, chipping, fresh market red, white, russet, yellow and novelty varieties. An agronomic component is built in to the trial to provide information on

nitrogen response, spacing and time of harvest of new varieties.



Crystal Green on Russet Burbank 2016 (sponsored by Ostara):
This trial assesses a blend ratio of a slow-release phosphorous and magnesium product (Crystal Green) for an agronomic and/or economic advantage to potato producers compared to using MAP alone. This work is being conducted with an in-field evaluation in a commercial potato field with a private agronomist, Scott Gillespie.

Off-Site:

Nitrogen Management for Improved Yield, Quality, and Profitability of Potato (Part of a National Initiative by Canadian Horticultural Council 2014-2017 sponsored by AAFC Growing Forward and PGA):
The purpose of this research is to determine, for a given quantity of N, which product and application timing gives the greatest nitrogen use efficiency and return on investment for producers. In particular, we want to compare urea and polymer coated urea, top-dressing and fertigation as they pertain to processing potato production. In the final year of the trial, variety responses and optimum rates may be explored. This work is being conducted in conjunction with Dr. Mario Tenuta of the University of Manitoba.

Recently Completed Project

Improving Greenhouse Mini-tuber Production (Three-year trial sponsored by ACIDF, Ag & Food Council, PGA and several industry stakeholders; Completed):
This trial evaluated a commercial aeroponic production system for seed potato production. A prototype system is in use in the Netherlands. The PIP200 system was installed in one of the research bays in the Greenhouse Research and Production Complex and many varieties of seed potato have been grown in the four rounds of evaluation. Seed produced in 2013 (spring and fall crops) was planted adjacent to conventional nuclear potato seed for field evaluation. An additional round of evaluation in 2014 was facilitated by a local seed grower and allowed us to evaluate the system with a single variety planted. This project represented the first commercial evaluation of aeroponic seed potato production in Canada. Reducing costs of producing nuclear seed potatoes may allow us to pursue additional export markets and will lower costs per unit of production by increasing yield.

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