



RESEARCH FACTS

RESEARCH & TECHNOLOGY DEVELOPMENT FOR THE CANADIAN BEEF INDUSTRY

IN PROGRESS



New sainfoin varieties

Project Title:

Novel sainfoin cultivars for enhancing production efficiencies of pasture and beef cattle and building capacity in forage breeding

Researchers:

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Project Code:

FRG.02.17

Completed:

*In Progress.
Results
expected in
March 2022.*

Background:

Grasslands are less productive than they could be because bloat fears discourage some producers from seeding alfalfa. Sainfoin is a non-bloating legume. It has lower protein levels than alfalfa, but contains condensed tannins that appear to reduce protein breakdown in the rumen and improve protein digestion and absorption in the intestine. Consequently, gains on sainfoin pasture can be as efficient and rapid as on alfalfa pasture. Sainfoin is resistant to the alfalfa weevil, and grows earlier in the spring and later in the fall than alfalfa. Researchers at AAFC Lethbridge have been selecting sainfoin for improved yield, regrowth and survival in alfalfa stands, and have found that sainfoin's survival depends partly on the alfalfa variety it is grown with, as well as where it is grown.

Objectives:

To gain insight into grass, sainfoin interactions and develop new sainfoin germplasm for grass/sainfoin mixed stands. Researchers will also determine nutritional quality of new sainfoin and grass/sainfoin stands and develop integrated crop management practice to optimize growth and longevity of grass/sainfoin pastures.

What They Will Do:

Five sainfoin populations will be seeded (within, between or across rows) with orchard, meadow and hybrid brome in Lethbridge, Saskatoon and Carman. Plants will be counted four weeks after seeding, and yield and grass:sainfoin proportions will be measured twice per year for four years.

Forage quality will be monitored in years 2-4, with laboratory and animal digestibility trials using samples collected at times relevant to grazing and silaging.

The sainfoin plants that flourish the best in grass stands will be identified in years 3 & 4, cloned and screened for disease resistance, seed production and forage quality, and other economically and agronomically relevant traits.

Implications:

This project will generate novel bloat-free sainfoin cultivars that improve the efficiencies of pasture and beef cattle production in Canada.

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