

Elite Canola Varieties

Clubroot resistant and high-protein
canola development



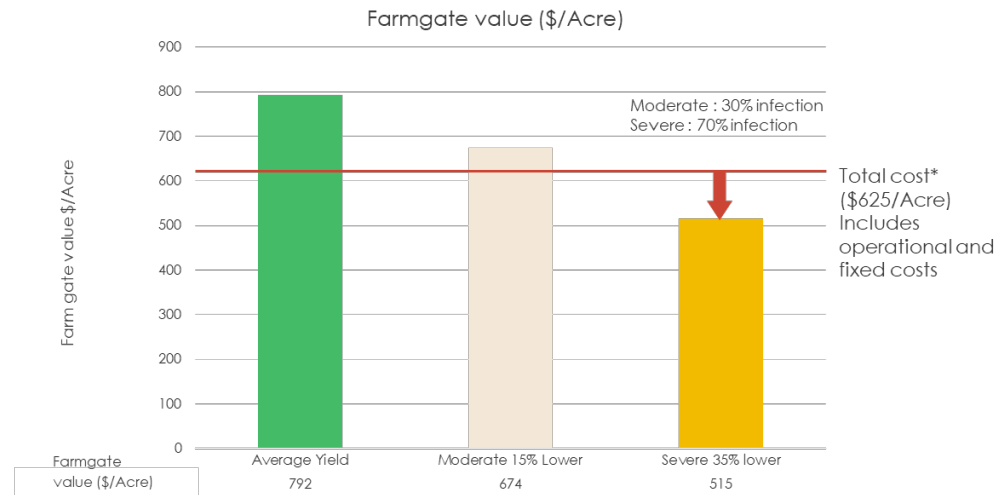
JUNE 2024

Clubroot Resistant Canola

Clubroot is a soil-borne disease that is now steadily spreading in Canadian Prairies

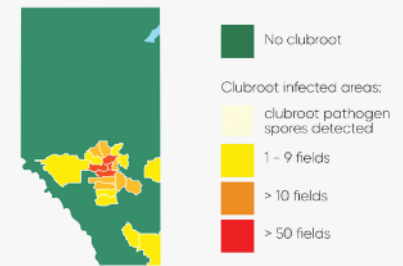
Breeding Canola for Clubroot Resistance:

- Canola plants showing very high resistance against both strains of clubroot were identified
- Pre-breeding program using AI Breeding technology (genomics) to introgress these sources of resistance into elite canola varieties has been initiated
- [Yield losses recently assessed for up to 62%](#)

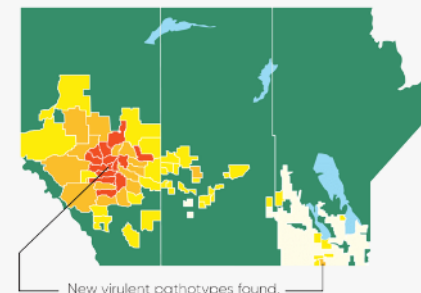


A growing threat in Western Canada.

Clubroot affected areas in 2011



Clubroot affected areas in 2018-2019



High Protein Content Canola

Breeding Canola for high protein content:

- ☼ Canola varieties with both high protein content and a regular/higher level of oil content in seeds were identified
- ☼ R&D program has been initiated to develop DNA-markers corresponding with this trait
- ☼ High-Protein Content trait will be later introgressed into elite canola lines, while maintaining other important traits

Project goals

- ✓ Increased protein % in seeds
- ✓ Decreased fibers content

CANOLA VARIETIES	EXISTING	IMPROVED
Oil	45%	= 45%
Protein	24%	↑ 32%
Carbohydrates + Other	31%	↓ 23%