

Limiting the prevalence and distribution of the stem nematode, *Ditylenchus dipsaci*, in field pea

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SPG Contributions	Project Status	Duration/Timeline of Project (Year to Year)	Co-funders	Total Project Cost
\$60,000.00	Completed	May 2009 – May 2011	Alberta Crop Industry Development Fund, Alberta Pulse Growers Commission; Canada Research Chair Program in Soil Ecology	\$182,247.00

Project Description

To determine the frequency of occurrence and population levels of *D. dipsaci* in Saskatchewan, Alberta and Manitoba pea fields; to determine the geographical extent of *D. dipsaci* distribution in Saskatchewan and Alberta pea fields through screening of grain and soil; to determine the geographical occurrence of the pest in relation to management conditions and environmental factors; to confirm the species identification of the stem and bulb nematode in Saskatchewan and Alberta through morphological and molecular techniques; to determine the race of *D. dipsaci* in Saskatchewan and Alberta, and confirm if pea is the primary host of the pest.

Outcome

The results from this study indicate a very low frequency of occurrence of *D. dipsaci* in export yellow pea grain samples from Western Canada. There is no single region the nematode occurs in, rather, the nematode is distributed over the areas of pea production in Western Canada. There is no obvious rotation crop associated with the occurrence of the nematode. The nematode in yellow pea samples was confirmed to be in the *D. dipsaci* species group. The best available information indicates Canada Thistle is the source or one of the sources of the nematode in yellow pea export samples. The results failed to provide evidence of the nematode directly on pea.

Research Objective

OBJECTIVE 1

To determine the frequency of occurrence and population levels of *D. dipsaci* in Saskatchewan, Alberta and Manitoba pea fields.

OBJECTIVE 4

To confirm the species identification of the stem and bulb nematode in Saskatchewan and Alberta through morphological and molecular techniques.

OBJECTIVE 2

To determine the geographical extent of *D. dipsaci* distribution in Saskatchewan and Alberta pea fields through screening of grain and soil.

OBJECTIVE 5

To determine the race of *D. dipsaci* in Saskatchewan and Alberta, and confirm if pea is the primary host of the pest.

OBJECTIVE 3

To determine the geographical occurrence of the pest in relation to management conditions and environmental factors.