

## Strategies for effective and durable management of Phytophthora and root rot complexes of soybean

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SPG Contributions	Project Status	Duration/Timeline of Project (Year to Year)	Co-funders	Total Project Cost
\$75,506.00	Active	April 2018 – March 2023	Canadian Field Crop Research Alliance	\$686,084.00

### Project Description

To survey on the occurrence of Fusarium, Rhizoctonia and Pythium fungal spp. and the soybean cyst nematode in Western and Eastern Canada; to monitor the spread of sudden death syndrome (SDS) in Ontario and establish a nursery to screen for tolerance; to utilize advanced PCR analysis of root rot pathogens (e.g., droplet digital PCR), which enable highly precise quantification of target DNA; to identify new/emerging root rot pathogens (e.g., Fusarium proliferatum) and determine the impact of F. proliferatum on soybean yield.

### Outcome

#### Research Objective

##### OBJECTIVE 1

To survey on the occurrence of Fusarium, Rhizoctonia and Pythium fungal spp. and the soybean cyst nematode in Western and Eastern Canada.

##### OBJECTIVE 4

To identify new/emerging root rot pathogens (e.g., Fusarium proliferatum) and determine the impact of F. proliferatum on soybean yield.

##### OBJECTIVE 2

To monitor the spread of sudden death syndrome (SDS) in Ontario and establish a nursery to screen for tolerance.

##### OBJECTIVE 3

To utilize advanced PCR analysis of root rot pathogens (e.g., droplet digital PCR), which enable highly precise quantification of target DNA.