HIP-BB1.1 'The chemical communication between potato and cyst nematodes'
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Potato production is threatened by potato cyst nematodes (PCN).
Eggs of the nematodes can survive in the soil and will hatch in the presence of a hatching stimulant secreted by the roots of potato plants. In this project, we aim to develop a new strategy to improve yield stability of potato by using knowledge about the signaling relation between the host plant and the cyst nematodes.

Highlights:
In the first year, we have selected and collected potato varieties and germplasm for evaluation of genetic variation in Hatching Stimulant (HS) production. Furthermore, we are in the process of setting up experimental procedures that allow us to measure HS production, and identify conditions that may influence HS production in the field. Work on effects of HS on PCN gene expression has been initiated as well.

Bottlenecks:
No significant bottlenecks have been encountered.

Planning:
We will proceed as planned, with evaluation of genetic variation of HS production and identification of conditions that may influence HS production in the field. Once the data on genetic variation is collected, we will perform genetic analysis of the phenotypic response of the plants. Furthermore, we will identify candidate genes in the biosynthetic pathways of HS that may underly genetic variation for HS production. Furthermore, we will focus on the effects of HS on the PCN through gene expression analysis, and focus on identification of the HS receptor which may be developed into a screening tool.

Products:
No products have been developed at this time.