

Biological control of parsnip canker

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Background

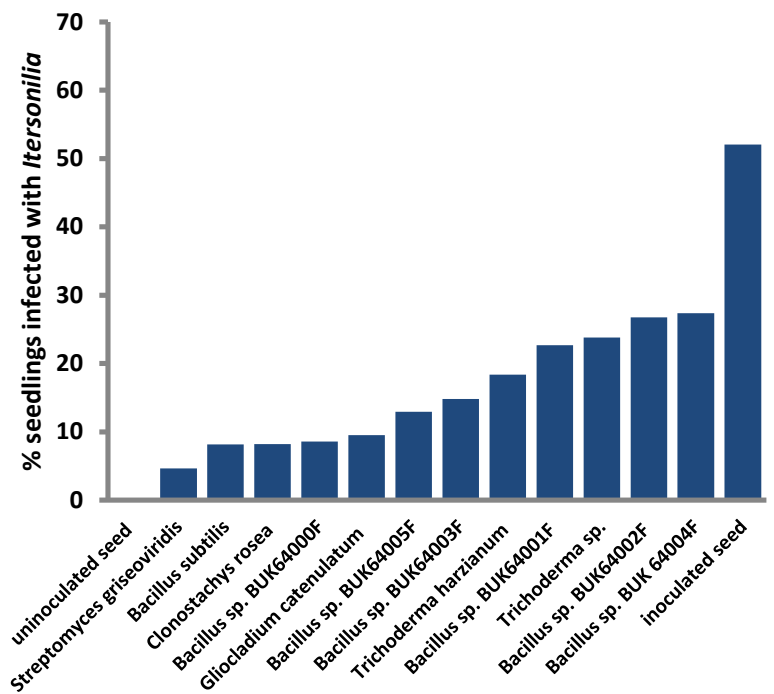
- One of the causes of parsnip root canker is the fungus *Itersonilia pastinacae*.
- The pathogen is seed borne, but there are no approved fungicides for seed treatment.
- This research aimed to identify microbial biological control agents (BCAs) which are effective in controlling the disease when applied to seed
- The work is part of a TSB project evaluating novel biological seed treatment technologies to improve vegetable seed health.



Symptoms of parsnip canker caused by *Itersonilia*

Testing biological control agents

- A test was developed to quantify the transmission of *I. pastinacae* to parsnip seedlings from artificially inoculated seed.
- Seed was treated with experimental and commercial BCAs (including different strains of the same species) to determine their ability to reduce disease.
- All BCAs reduced *Itersonilia* transmission and *Bacillus* species gave good disease control. Some of these will now be tested in the field.
- The project is also evaluating the same BCA treatments for control of onion neck rot caused by *Botrytis allii*.



Effect of BCAs on parsnip seedling infection by *I. pastinacae*



Itersonilia symptoms on a parsnip seedling

This project is funded by the Technology Strategy Board and is a collaboration between the following partners:

- Rae Cook (Elsoms)
- Jeremy Pearce / Robert Storer (BASF)
- Steve Roberts (Plant Health Solutions)
- Tim Lacey (Vegetable Consultancy Services)

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