



Czech University of Life Sciences Prague

**Faculty of Agrobiography,
Food and Natural Resources**

Study programme: **Agricult.and Forestry Phytopath.and Plant Protect.**

Department of: **Plant Protection**

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Topic: Protection of strawberries against Phytophthora cactorum

Hypotheses:

There are the effective methods to protect strawberry against *P. cactorum*, which will enable plant protection to be integrated and streamlined.

Summary:

Aims of thesis: An adaptation of molecular diagnostic techniques for practical use. Testing of pathogen sensitivity to the fungicides available in the Czech Republic and in other countries of EU. Characterization of pathogen populations on molecular and biological levels. Testing the resistance level of strawberry varieties to *P. cactorum*.

P. cactorum is one of the most important pathogens of strawberry which is able to kill the plants. The methods of its rapid and accurate detection and determination at the level of nucleic acids will be optimized. Using these methods, it will be possible to detect *P. cactorum* in plant or soil samples. In addition, conventional plant protection methods as well as, the effectiveness of fungicides against *P. cactorum* in vitro and in vivo will be tested. For testing, both conventional and new alternative fungicides will be used. The collection of isolates of *P. cactorum* will be expanded by targeted isolation of the pathogen from fields. These isolates will be characterized both at the biological level and by the sequencing of the selected genes. Last but not least, these isolates will be used to find most resistant varieties of strawberry in the range of varieties grown in the EU. Tests will be performed according to the standard scheme.

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