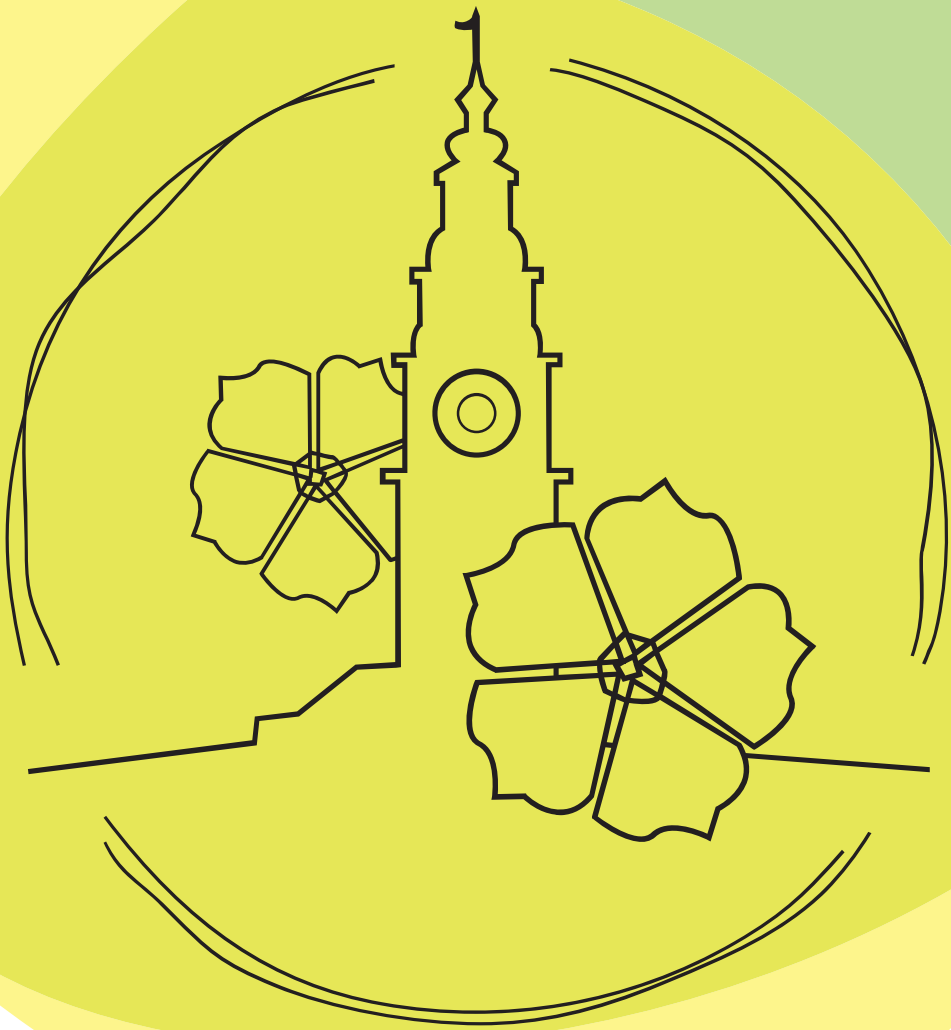

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ABSTRACT VOLUME

4. Bacterial & fungal diseases

4.P01. Detection and identification of different strains of *Ralstonia solanacearum* using selected molecular primers in PCR and Real-Time PCR tests

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Ralstonia solanacearum, molecular diagnostic, potato, phylotypes

Ralstonia solanacearum (Rs) (Smith) Yabuuchi et al. the causal agent of potato brown rot is one of the most important quarantine potato pathogens. Due to the pathogenicity ot the bacteria pose a serious phytosanitary threat to the EPPO region. Of the four phylotypes of the *Ralstonia* species listed in EPPO diagnostic protocol No. PM 7/21, each consisting of many different phylogenetic and pathogenic variants, one of the most virulent genotypes is phylotype IIB 1 (formerly known as race 3 biovar 2). This phylotype is particularly dangerous because it has a relatively low growth temperature (approx. 27°C) and often causes latent (asymptomatic) infections. It also adapts to colder climatic conditions. Therefore, it is very important to develop a sensitive and specific method for the detection of these bacteria, in particular for the potato starting material. The aim of the research was to develop conditions allowing for specific and sensitive molecular diagnostics of the *Ralstonia* species tested. As a result of the conducted research, the conditions were developed and the PCR and Real-Time PCR primers were selected, enabling the achievement of the high sensitivity and specificity threshold for the DNA of the tested *R. solanacearum strains.*