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Molecular differentiation of Polish and Georgian strains of *Clavibacter michiganensis* subsp. *sepedonicus*

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Clavibacter michiganensis subsp. *sepedonicus* (Cms) causes a dangerous bacterial disease called ring rot of potato. This disease is of quarantine status in the European Union, as the cause of loss is its easiness to spread. It means, this disease is controlled by national regulations and there is zero tolerance for this pathogen in the potato crops. This bacterium generates a huge threat for seed material and breeding production and it hinders trading of potato in the EU and other countries. Lack of sufficiently sensitive methods of detection and identification it leads to poor elimination of this pathogen. Up to now, the routine detection techniques, such as immunofluorescence test (IF) and immunofluorescence assay (IFAS) by using poly and monoclonal antibodies are not sensitive enough. Therefore, still the rapid methods of detection and identification of Cms are searched. The information about diversity and structure of Cms populations are indispensable for the development of the most effective methods for detection and eradication of this pathogen. However, the present knowledge about the diversity of strains is very poor. The differentiation of Cms strains would help to define the quarantine risk and devise effective methods for control of ring rot. Analyses observed that the MP-PCR technique showed the genetic diversity among tested isolates of Cms bacteria both in Polish and Georgian. The MP-PCR technique showed the differences between the genomes of isolates Cms which were detected in a reproducible way, therefore this method is widely used in genotyping organisms.

Biography

Agnieszka Maciejewska is currently a PhD student and works at the Plant Breeding and Acclimatization Institute in Department of Plant Pathology. Her research is connected with quarantine pathogen *Clavibacter michiganensis* subsp. *sepedonicus* of potatoes. She was responsible for the biochemical and molecular characterization genetic variability population of *Clavibacter michiganensis* subsp. *Sepedonicus*.

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