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Isolation of *Cms* specific bacteriophages

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Bacterial ring rot is a highly infectious disease of potato caused by *Clavibacter michiganensis* subsp. *sepedonicus* (*Cms*). Crop losses caused with ring rot range from 11 to 44% in different countries and significantly increases during potato storage. In EU member states *Cms* is under strict statutory control. Management of ring rot of potato is especially difficult in storage places, where the pathogen, being in a latent form, may infect almost all tubers. Some disinfectants or fumigants are recommended on seed potatoes and during storage. Achieving sustainable agriculture necessitate the search for safer, more specific and environment-friendly control methods. The aim of the project is to identify the spread of potato ring rot in Georgia, isolate the pathogen and its specific bacteriophages for their biological control. Field studies in 5 potato production regions did not reveal ring rot disease; though there were some tubers in potato storage houses carrying *Cms*, which was confirmed by molecular detection method. Several pure *Cms* isolates were recovered from these samples and confirmed by specific PCR they are *Cms*; their cells shapes, colony morphology and biochemical tests have been studied. Collected soil and diseased potato samples were checked on *Cms* Georgian and Polish isolates on phage content. Four bacteriophages were obtained. Phagosensitivity of the isolates to phages have been studied. Phages #8 and 13 lyse almost all Georgian and Polish *Cms* isolates.

Biography

Tinatin Sadunishvili has completed her PhD from Durmishidze Institute of Biochemistry and Biotechnology, Agricultural University of Georgia (AUG) and Postdoctoral research at Institute of Enzymology and Etvos Lorand University, Budapest. She is the Professor and Head of Laboratory of Plant Biochemistry and Biotechnology at Durmishidze Institute of Biochemistry and Biotechnology, AUG. She has been elected as a Member of GNAS in 2015. She has published more than 60 papers in reputed journals and has been serving as an Editorial Board Member of journals: *Bulletin of the Georgian NAS, Annals of Agrarian Sciences* and *Microbiology and Biotechnology* (Tbilisi).

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