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Investigation of potato viral diseases in Georgian region Akhalkalaki

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To avoid virus infection of seed potatoes apical meristem method is used all over the world which allows receiving virus free plants. The main problem in seed potato industry is viral contamination. Potato virus symptoms are not always revealed immediately, it depends on such factors as growth conditions, season, time of plant infection, existence of virus vectors, etc. There are number of viruses which affect the plant productivity, they can cause significant decrease in yield. In spite of diverse climatic conditions, potato is high spreading culture in mountain regions of Georgia. The main goal of the research was to study the potato viral diseases distribution in Georgia. Survey for the detection of viral agents was conducted from potato varieties; Agria, Impla, Nevsky, Marfona located in Alkalaki region. Potato cultivars were tested for 6 types of viruses: PVA, PVS, PLRV, PVY, PVM, PVX by means of Double Antibody Sandwich-Enzyme Linked Immunosorbent Assay (DAS-ELISA) using monoclonal and polyclonal antibody. The result showed that PVY and PLRV virus presence respectively: 27.8% and 18.6% in collected samples was relatively high comparing to others. PVM virus distribution was minority (2.45%) and existence of PVX, PVA and PVS was not revealed. In the same samples were found double infection particularly 8.3% of patterns were containing PVY/PLRV combination. Therefore, based on the result of our study it can be concluded that the only way to avoid reduced harvest yields is regular potato seed production sampling and testing of all stage (lab, greenhouse & open field).

Biography

Iveta Megrelishvili has completed his PhD from Ivane Javakishvili Tbilisi State University, Georgia. She is the main research scientist of Georgian Technical University, Biotechnology Center and Head of Virology Lab, Scientific-Research Center of Agriculture. He has published more than 12 papers in reputed journals and has great experiences in plant biotechnology sphere.

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