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Detection of Bois Noir Infection using Triplex real-time PCR TaqMan Assay in Grapevine varieties in the East Part of Georgia

In recent years in Georgia the number of introduced grapevine varieties increased, therefore it has led to an increase in cases of spreading of quarantine diseases in vineyards. Management of infection diseases is based on preventive measures that include control of vectors and the use of certified planting material. Certification schemes depend on reliable and sensitive laboratory methods for the detection of causative agents of quarantine diseases.

Different grapevine varieties such as:"Tempranillo", "Alicante", "Mercy", "Kistauruli sagvine"," Black Magic", "Bastard","Crimson sidles","Merlo","Albane Italia","Baga","Grenache" were surveyed for the phytoplasma associated with Bois Noir (BN) using triplex real-time PCR TaqMan assay in mother stock and collection vineyards in the east part of Georgia. Two set of primers and probes pair (I and II) were utilized to detect BN in the same grapevine samples.

The results revealed that out of 145 samples 9.65% samples showed amplification plots using primers and probes set I and 2.75% using set II respectively. Base on the results obtained from both set of primers and probes among the tested grapevine varieties from mother stock and collection vineyards BN infection rate in case of "Tempranillo", "Alicante"," Crimson sidles" and "Bastard" was relatively higher then in other cultivars which might be due to the less resistance of these cultivars against Bois Noir in comparison with those tested cultivars that have been expressed relatively low infection rate. BN concentration in propagation material and prevalence of vectors in vineyards with high rate of infection also has to be considered as a reason of relatively high distribution for BN.

Biography

Tinatin Elbakidze is a chief specialist at the laboratory of molecular biology at the Plant Pest Diagnostics Department SLA; Tbilisi, Georgia. She received PhD in Immunology and applied microbiology from Iv.Javakhishvili Tbilisi State University in 2015. She has been studying application of bacteriophages against the highly pathogenic bacteria during 8 years at the G.Eliava Institute of BMV. Nowadays her research area is to study the plant viruses also sequencing of the rabies virus with the contribution of CDC. She has been awarded by Post-Graduate Program on Aquaculture (Israel) and has participated as a Pl and researcher in different international research projects in the frames of DTRA, CRDF, CDC, EU FP7 PIRSES, SRNSF, STCU grants. She had work experience at the University of Maryland (USA), Hellenic center of Marine Research and Agricultural University of Athens (Greece), Trinity college Dublin (Ireland).

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