

Food Science 2021: Detection of Bois Noir Infection using Triplex real-time PCR TaqMan Assay in Grapevine varieties in the East Part of Georgia- Tinatin Elbakidze - LEPL State Laboratory of Agriculture, 0159, Tbilisi, Georgia

Tinatin Elbakidze

LEPL State Laboratory of Agriculture, 0159, Tbilisi, Georgia

E-mail: tinatin.elbakidze@sla.gov.ge

Abstract

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.

This work is partly presented at 33rd International Conference on Food Science and Technology, October 25-26, 2021