

Virus Detection of Dwarfing Rootstock and Scion in Major Commercial Apple Cultivars

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국내 유통 주요 사과 품종 왜성대목 및 접수의 바이러스 검정

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Apple (*Malus domestica*) is one of the most economically important fruits in Korea. But virus infection has decreased sustainable production of apple and caused the serious problems such as yield loss and poor fruit quality. Virus or viroid infection including Apple chlorotic leaf spot virus (ACLSV), Apple stem pitting virus (ASPV), Apple stem grooving virus (ASGV), Apple mosaic virus (ApMV) and Apple scar skin viroid (ASSVd) has been also reported in Korea, furthermore, its damages and economic losses have increased constantly. In our research, we tried to survey virus infection for commercial nursery trees of major apple cultivars, especially dwarfing rootstocks ‘M.9’ and ‘M.26’ as well as scions. Trees were collected from 11 locations which have produced a great amount of apple nursery stocks in Korea. Infection degree was investigated in apple cultivars, ‘Hongro’ and ‘Fuji’ using RT-PCR method. In the scion of cultivar ‘Hongro’, infection ratio of ACLSV, ASPV and ASGV were 100%, 81.8% and 100% respectively. In the rootstock of cultivar ‘Hongro’, infection ratio of ACLSV, ASPV, ASGV and ApMV were 90.9%, 81.8%, 100% and 9.1% respectively. In the scion of cultivar ‘Fuji’, infection ratio of ACLSV, ASPV and ASGV were 81.8%, 90.9% and 100% respectively. In the rootstock of cultivar ‘Fuji’, infection ratio of ACLSV, ASPV, ASGV and ApMV were 81.8%, 90.9%, 100% and 9.1% respectively. Infection of ASSVd was not detected in both cultivars. From our results, it was found that most of apple rootstocks and scions had multiple infections by apple viruses which have caused economic damage in fruit production.

Key words: Apple, Nursery trees, Virus infection

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