

Study on the occurrence of Tomato Ringspot Virus (ToRSV) and Prunus Necrotic Ringspot Virus (PNRSV) in some floricultures of Tehran, Alborz, Mazandaran and Markazi Provinces

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Received: 5 Nov., 2018

Accepted: 11 May, 2019

ABSTRACT

During the growing seasons of the years 2013-2014, Alborz, Mazandaran, Markazi and Tehran provinces were surveyed to assess the distribution of PNRSV and ToRSV in rose plants, field bindweed and common sow thistle weeds grown nearby the sampled roses. A total numbers of 600 symptomatic and asymptomatic rose leaves and 50 weeds were sampled. Using with the DAS-ELISA serological test, samples were tested. Results indicated that roses are infected to PNRSV with the infection rates of 39.24%, 30.7%, 44.8% and 38.1% and to ToRSV with the infection rates of 38%, 25.6%, 32.3% and 28.3% through in Tehran, Alburz, Mazandaran and Markazi respectively. It was also revealed that PNRSV and ToRSV was respectively 26% and 18% incidence in weeds. Infected samples were mechanically inoculated on herbaceous propagative and indicator plants using with the potassium phosphate buffer pH 7.1 containing the antioxidant materials. To confirm the presence of viral infections in diseased roses and indicator plants, infected plants were analyzed by RT-PCR, using PNRSV-specific primers to amplify a related portion of the PNRSV and ToRSV genomes. Those infected samples have positively reacted with the both specific primers and desired DNA fragments with the size of about 210bp for the coat protein of PNRSV and 500bp for the polymerase of ToRSV were amplified for them. By this research and for the first time, presence of PNRSV and ToRSV in rose plant and herbaceous weeds was assessed.

Keywords: Distribution, *RT-PCR* .*DAS-ELISA* .*TAS-ELISA*. rose plant. host range

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