

Short Report

SEROLOGICAL AND MOLECULAR DETECTION OF INSV and INTRODUCTION OF SOME INSV ORNAMENTAL HOST PLANTS FROM FIVE PROVINCES IN IRAN

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Abstract

Impatiens necrotic spot virus (INSV) infects ornamental plants worldwide. It has been reported from almost every ornamental greenhouse in Tehran province. INSV symptoms include necrotic leaf spot, chlorosis and stunting. Heavy losses have been reported from INSV in plants such as *Zinnia elegans*, *Ficus benjamina*, *Viola* spp., *Saintpaulia ioantha*, *Althea* spp., *Cheiranthus cheiri*, *PelargoniumXhortorum*, *Dahlia* spp. and *Gazania* spp., reducing quality and quantity of infected plants. In this research a total number of 581 ornamental samples of 58 different plant species with symptoms similar to those of INSV infection were collected in Lahijan, Tonkabone, Mahallat, Varamin and Dezful. The results indicated an average of 20.13% virus incidence in the collected samples in 4 provinces. INSV infection was recorded to be 28% in Mahallat, 24.5% in Tehran, 22.1% in Mazandaran and 16.4% in Guilan. No record of INSV infection was obtained from Khuzistan (Dezful) ornamental samples. Of the total of 58 ornamental species tested 33 species were recorded positive for INSV. Most ELISA positive samples were rechecked by RT-PCR using a set of specific primers directed to the N-gene and designed to amplify 777 bp product as shown by agarose gel electrophoresis. The results of serological and molecular tests showed infection of the following plants: *Alestreomeria* spp. (Markazi), *Erica* spp. (Mazandaran and Guilan), *Spathiphyllum* spp. (Mazandaran and Guilan), *Zinnia elegans* (Tehran), *Anthurium* spp. (Guilan and Mazandaran), *Ficus benjamina* (Markazi and Mazandaran), *Viola* spp. (Tehran), *Saintpaulia ioantha* (Markazi and Tehran), *Scindapsus aureus* (Guilan), *Pilea cadieri* (Markazi), *Zingiber* spp. (Mazandaran), *Impatiens* spp. (Tehran and Mazandaran), *Althea* spp. (Mazandaran, Guilan and Markazi), *Chrysanthemum* spp. (Guilan and Mazandaran), *Dracaena fragrance* (Guilan), *Diffenbachia amoena* (Mazandaran), *Rosa* spp. (Mazandaran, Guilan, Markazi and Tehran), *Salvia splendens* (Mazandaran and Markazi), *Cycas* spp. (Mazandaran), *Cissus* spp. (Mazandaran), *Syngonium podophyllum* (Mazandaran), *Cheiranthus cheiri* (Markazi), *PelargoniumXhortorum* (Tehran and Markazi), *Ficus elastica* (Markazi), *Philodendron* spp. (Markazi and Mazandaran), *Bougainvillea* spp. (Tehran), *Codiaeum variegatum* (Tehran), *Dahlia* spp. (Markazi and Tehran), *Gazania* spp. (Markazi and Tehran), *Gladiolus* spp. (Tehran), *Zinnia elegans* (Markazi and Tehran), *Dianthus* spp. (Markazi and Tehran) and *Calendula* spp. (Markazi and Tehran) are as INSV ornamental hosts from Iran. Because of difficulties with direct RNA extraction from leaf tissues, *Ficus benjamina*, *Saintpaulia ioantha*, *Gladiolus* spp., *Cycas* spp., *Cissus* spp., *Ficus elastica*, *Rosa* spp., *Bougainvillea* spp. and *Dianthus* spp. were not rechecked by RT-PCR in this study.