

Short Report

FIRST REPORT OF *Apple stem pitting virus* INFECTION OF APPLE TREES IN IRAN

F. S. ABTAHI, M. SHAMS-BAKHSB and N. SAFAIE

Dept. of Plant Prot., College of Agric., Tarbiat Modares Univ., Tehran, Iran.

Abstract

During 2012-2013, a survey for the presence of *Apple stem pitting virus* (ASPV) in apple (*Malus domestica*) was conducted in Tehran, Isfahan, West Azerbaijan, Alborz, Ghazvin, Hamedan, Mazandaran, Markazi, and Lorestan provinces. Leaf Samples were taken from 1053 randomly selected apple trees and tested by DAS-ELISA for the presence of ASPV using polyclonal antisera (Bioreba, Switzerland). ASPV was found in 54 apple samples (5.12%). All of the positive samples came from Gala apple trees with mottled and malformed leaves (Fig. 1, see Farsi section). The highest incidence of ASPV was in the province of Alborz (13.8%), followed by Tehran (11.4%), Markazi (7.2%), Hamedan (7.1%), Lorestan (7%), Ghazvin (6.5%), and Mazandaran (4.8%). None of the samples from West Azerbaijan and Isfahan showed positive reaction. To confirm virus identification, total RNA was extracted from 54 leaf samples (Chang *et al.*, 1993) and subjected to RT-PCR using primers specific for a part of the ASPV (GenBank accession No. D21828) coat protein gene. ASPV sense (5'-ATGTCTGGAACCTCATGCTGCAA-3', position 8869-8895 nt) and ASPV antisense (5'-TTGGGATCAACTTTACTAAAAAGCATAA-3', position 9211-9238 nt) (Menzel *et al.*, 2002). A 370 bp DNA fragment was amplified from extracts of infected trees but not from those of healthy trees. To the best of our knowledge, this is the first report of ASPV in apple trees in Iran.

REFERENCES

- CHANG, S., PURYEAR, L. and CAIRNEY, J. 1993. A simple and efficient method for isolating RNA from pine trees. **Plant Mol. Biol. Rep.** 11(2):113-116.
- MENZEL, W., JELKMANN, W. and MAISS, E. 2002. Detection of four apple viruses by multiplex RT-PCR assays with co-amplification of plant mRNA as internal control. **J. Virol. Methods.** 99:81-92.