New Disease Reports

# *Prunus necrotic ringspot virus* in apricot (*Prunus armeniaca*) and peach (*P. persica*) newly reported in Saudi Arabia

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Cultivated areas with fruit trees in Saudi Arabia are estimated at 233,513 ha, with an annual production of more than 1.6 million tonnes of fruits. *Prunus necrotic ringspot virus* (PNRSV), an important pathogen, had been reported in nearby countries, Jordan, Lebanon and Syria (Myrta *et al*., 2003). In recent years, apricots (*Prunus armeniaca*)and peaches (*P. persica*)in Al Juof, Saudi Arabia, had been found showing chlorotic rings, necrotic spots, and a shothole appearance (Fig. 1). To assess viruses of stone fruit trees as possible causal agents, field surveys were carried out in the spring of 2009. A total of 76 leaf samples (29 apricot and 47 peach trees) were collected for analysis of PNRSV. Double antibody sandwich enzyme-linked immunosorbent assay (DAS-ELISA) was performed using the commercially available PNRSV test kits (Bioreba, Switzerland). Results showed that 34 out of 76 leaf samples (11 apricot and 23 peach) were infected with PNRSV. Total RNA, from the same samples used in the ELISA test, was extracted using the Plant RNeasy Mini Kit (Qiagen, USA) in accordance with appropriate instructions (Jarošová & Kundu, 2010). RT-PCR was performed using PNRSV specific primers PNRSVv (5' GAACCTCCTTCCGATTTAG '3) and PNRSVr (5'GCTTCCCTAACGGGGCATCCAC'3) as described by Sánchez-Navarro *et al*. (2005). RT-PCR, run on all samples, resulted in the amplification of a 346 bp fragment, indicating the presence of PNRSV in apricots and peaches in Saudi Arabia. One amplicon was sequenced and deposited in GenBank (Accession No. HM584814).The sequence had 99% identity when compared with PNRSV isolate from *P. mahaleb* (PV-0096) and 98% identity with PNRSV from China (FJ610344) (Guo *et al*., 1995). Further investigations are needed for other commercial orchards and nurseries to assess the incidence of PNRSV in Saudi Arabia. This is the first report of PNRSV in Saudi Arabia.

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## References

Guo D, Maiss E, Adam G, Casper R, 1995. Prunus necrotic ringspot ilarvirus: nucleotide sequence of RNA3 and the relationship to other ilarviruses based on coat protein comparison. *Journal of General Virology* **76**, 1073-1079. [doi:10.1099/0022-1317-76-5-1073]

Jarošová J, Kundu JK, 2010. Simultaneous detection of stone fruit tree viruses by one-step multiplex RT-PCR. *Scientia Horticulturae* **125**, 68-72. [doi:10.1016/j.scienta.2010.02.011]

Myrta A, Di Terlizzi B, Savino V, Martelli GP, 2003. Virus disease affecting the Mediterranean stone fruit industry: a decade of surveys. In: Myrta A, Di Terlizzi B, Savino V, eds. *Virus and virus like disease of stone fruits, with particular reference to the Mediterranean region*. Options Méditerranéennes Serie B: Studies and Research No 45, 15-23.

Sánchez-Navarro JA, Aparicio F, Herranz MC, Minafra A, Myrta A, Pallás V, 2005. Simultaneous detection and identification of eight stone fruit trees viruses by one-step RT-PCR. European Journal of Plant Pathology **111**, 77-84. [doi:10.1007/s10658-004-1422-y]

Figure 1

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