First report on the occurrence of grapevine leafroll-associated virus 7 in Morocco

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Grapevine is one of the most economically important fruit crops in Morocco. Grapevine leafroll disease, caused by six distinct grapevine leafroll-associated viruses (GLRaVs), is one of the most widespread and economically damaging viral diseases of grapevines. Symptoms include downward rolling and interveinal reddening or yellowing of leaves in dark and white fruit-bearing cultivars, respectively, resulting in reduced yield, delayed ripening and reduced accumulation of sugar (Weber et al. 1993). In 2014, a field survey was carried out in order to assess the sanitary status of vineyards in Benslimane region of Morocco. A total of 325 samples from different cultivars was collected and tested for the presence of grapevine leafroll-associated virus 7 (GLRaV-7) from the genus *Velarivirus*, using a commercial available ELISA kit (AgriTest, Italy). Results showed that six samples of cv. Cabernet-Sauvignon from the same vineyard were positive to GLRaV-7. Total RNA extracts were obtained from phloem scrapings of the infected samples using RNeasy Plant Mini Kit (Qiagen, Germany) and tested by reverse transcription (RT)-PCR with primers F1 (5'-TATA TCCCAACGGAGATGGC-3') and R1 (5'-ATGT TCCTCCACCAAATCG-3') (Engel et al. 2008) specific to the heat shock protein 70 homologue (*HSP-70* gene) of

GLRaV-7. The six samples produced a single band of the expected size of 502 bp, thus confirming the ELISA results. PCR products were purified using a DNA extraction kit (Fermentas, Lithuania) and sequenced in both directions. The obtained sequences were identical (100% identity), thus, only one was deposited in GenBank under accession number MH156794. Nucleotide blast analysis indicated 91 to 97% sequence identity with various GLRaV-7 isolates whose sequences are available in the NCBI database. To our knowledge, this is the first report on the occurrence of GLRaV-7 in Moroccan grapevines. Further investigations are needed to study the distribution and the potential effect of this virus in grapevines grown in Morocco.

References

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