

PHENOTYPIC AND GENOTYPIC CHARACTERISTICS OF *Agrobacterium* ISOLATES FROM DIFFERENT HOSTS IN FARS AND KOHGILUYE AND BOYERAHMAD PROVINCES *

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Abstract

From 2008 to 2009 grapevine, rose and sugar beet samples with gall symptoms on crowns and roots were collected from different areas of Fars and Kohgiluyeh and Boyer-Ahmad provinces. The extracts from galls were cultured on NA, DIM Agar, 1A and RS media. After purification the isolates have been characterized using standard bacteriology tests, the *Agrobacterium* isolates were identified as *A. vitis* (from grapevine) and *A. tumefaciens* (from rose and sugar beet). Pathogenicity tests were done on bryophyllum, tomato and sunflower. Most isolates produced gall on at least one of these plants but some of the isolates did not. The isolates were able to amplify 224 and 730 bp DNA fragments with primers A/C' and VCF/VCR in PCR test, respectively. The isolates showed high diversity in rep-PCR and the isolates of Fars and Kohgiluyeh and Boyer-Ahmad were divided into two main groups. Group I was divided into two subgroups which included *A. vitis* isolates subgroup (isolates from grapevine) and *A. tumefaciens* isolates subgroup (isolated from other hosts). Group II included a small number of *A. tumefaciens* isolates. Maximum similarity (88%) was observed in *A. vitis* species. Clustering based on genotypic characteristics somewhat confirmed clustering based on phenotypic characteristics. The rep-PCR and phenotypic characteristics could differentiate *A. vitis* and *A. tumefaciens* species.

Keywords: Crown and root gall, *Agrobacterium*, rep-PCR.

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