

P-84 (100)**FIELD EVALUATION OF IRANIAN APPLE GERMPLASM TO FRUIT BROWN ROT**

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Development of resistant cultivars is one of the most important objectives of breeding programs in order to introduce new varieties. Multidisciplinary evaluation of Iranian apple germplasm at Horticulture Research Station in Kamalshahr-Karaj, planted in 2004, is still ongoing to provide background information of local genotypes that are valuable for future breeding programs. *Monilinia* spp. is the causal agent of brown rot of apple fruit. Although it is minor in apple orchards compared with stone fruits, it was detected in apple germplasm repository in 2015. With the aim of screening of local genotypes, they were periodically inspected for relative susceptibility against *Monilinia* spp. throughout two growing seasons in 2015 to 2016. The pathogen was isolated from decayed mature fruits and identified as *Monilinia* spp. The incidence of fungus was observed in 16.60% of all genotypes. Many of cultivars show no symptoms or only slight attack of the fungus (less than 5%) was recorded, while high incidence of brown rot was observed in "T-A" and "T-R" genotypes. The commercial cultivars 'Gala', 'Red Delicious', 'Golden Delicious', and 'Fuji' that are available as control in collection showed different levels of susceptibility. This survey and other related studies under natural conditions indicate a remarkable genetic diversity among Iranian cultivars for disease resistance that could be useful for implementation of apple breeding programs.

Keywords: Apple, germplasm, local genotypes, brown rot, resistance