

## Identification of the causal agent of stone fruits die back and decline (Silver Leaf) in east of Mazandaran province

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### ABSTRACT

The disorder causes die back of the twigs, the leaves take silver color appearance and the tree declined. In the summer of 2014-2016 during visits to the eastern regions of the province, the trees affected by the disease and dying were determined from 8 to 10 %. Sampling was done from nectarine and peach trees with the symptoms and contamination with pathogens capable of causing such symptoms were examined. The samples were tested by RT-PCR using specific primers for European stone fruit yellows ('Candidatus Phytoplasma prunorum') and almond witches' broom ('Candidatus Phytoplasma phoenicium') Phytoplasmas, Prunus necrotic ringspot ilarvirus (PNRSV), Tomato ringspot nepovirus (ToRSV) and Plum pox potyvirus (PPV). Segments of necrotic tissue margin under the bark of each sample were plated onto NA and PDA media after surface disinfection. Study results did not show any contamination to the mentioned viral and Phytoplasmas agents. Bacterial colonies did not seen on the culture media. The fungal isolates were purified and identified as *Trametes versicolor*, based on the morphological characteristics. Pathogenicity test was done and proved by inoculation of 3-4mm cut pellets of PDA media containing fungal mycelia of the isolates on the peach and nectarines seedlings. Genomic DNA extraction was done from the fungal isolates and amplification was done with ITS1, ITS4 and LAC regions primers. The amplicons were sequenced and compared with the available sequences in GenBank (NCBI). BLAST analysis showed 95 to 100 % nucleotide similarity between the isolates and *Trametes versicolor*.

**Key words:** Decline, Silver leaf, Stone fruit trees, *Trametes versicolor*

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