

The Evaluation of efficiency of biocontrol strains of *Erwinia herbicola* and *Pseudomonas fluorescens* against pear fire blight disease

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Fire blight caused by the bacterium *Erwinia amylovora*, is a serious disease of pome fruits in many parts of the world. *E. amylovora* causes extensive necrosis. Indeed, *E. amylovora* can invade the whole tree solely by internal progression through the host tissues, thus, a single infection can potentially kill a tree. This disease is especially destructive to pear, apple and quince trees. Recently in the northwestern provinces of Iran (Azarbaijan, Zanjan, Qazvin and Tehran), fire blight is devastating over thousands ha of pear, quince and apple orchards. The purposes of this study were to isolate potential biocontrol agents of pear blight disease. Strains of *E. herbicola*, and *P. fluorescens* were isolated from infected pear trees in Sohailieh orchards, Karaj.

The efficiency of these strains to produce antibiotics against

E. amylovora were evaluated on them in *in-vitro* and *in-vivo* conditions. The results of this study indicate that strains Eh202 and Pf103 have ability to produce antibiotics against *E. amylovora* at *in-vitro* condition, also in immature pear fruit assay, and in pear seedlings inoculation assay. The incidence of fire blight on blossoms of pear trees was reduced by about 60% with application of bacterial suspension in field.