

Preferred: Poster

***Pseudomonas putida* UW4 producing ACC deaminase is a potential biocontrol agent for pine wilt disease**

Preferred Session: Management of plant nematodes/ other

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Pine wilt disease, caused by the nematode *Bursaphelenchus xylophilus*, is responsible for devastation of pine forests worldwide. Until now, there are no effective ways of dealing with this serious threat. The use of ACC deaminase-producing plant growth promoting bacteria has been shown to be a useful strategy to reduce the damage due to biotic and abiotic stresses. *Pinus pinaster* seedlings inoculated with the ACC deaminase-producing bacterium *Pseudomonas putida* UW4 strain showed an increased root and shoot development and reduction of *B. xylophilus* induced symptoms. In contrast, *P. putida* UW4 ACC deaminase mutant was unable to promote pine seedling growth or to decrease *B. xylophilus* induced symptoms. This is the first report of the use of ACC deaminase-producing bacteria as a potential biological control agent for tree diseases, thus, suggesting that the inoculation of pine seedlings grown in a tree nursery might constitute a novel strategy to obtain *B. xylophilus* resistant pine trees.