

# IN VITRO ANTAGONISM OF FUNGAL ENDOPHYTES ON THE PITCH CANKER PATHOGEN

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*Fusarium circinatum* is the fungus causing Pitch Canker Disease of pine. Since its official detection in Spain in the year 2004 the pathogen has been found causing damages in nurseries as well as in pine plantations. Until now an effective method to control the disease does not exist, and the use of chemicals in the forest is day by day more restricted. On the other hand, fungal endophytes, those living within plant tissues without causing any damage to the host, has been used as biological controllers of some plant diseases. The aim of this work was to find endophytes showing antagonist effect against the pathogen to be used as biological control agents of the Pitch Canker Disease. A total of 155 isolates were selected to be tested after a preliminary assay in which the antagonism against *F. circinatum* of more than five hundred fungi from different pine species was checked. Those isolates selected were plated against two strains of the pathogen, each one belonging to one of the existing mating types. Several methods were carried out to quantify the effect of those endophytes over the growth of the colony of *F. circinatum* in vitro. The most effective isolates were selected to be tested in future in vivo assays.

**Keywords:** *Fusarium circinatum*, biological control, *Pinus radiata*, dual culture.