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STUDY OF A NEW BIOCONTROL FUNGAL AGENT FOR AVOCADO WHITE ROOT ROT

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Abstract

Avocado white root rot is caused primarily by *Rosellinia necatrix* Prill. In this study, we buried bait twigs around avocado escape trees to recover non-pathogenic soil-borne fungi. First, we selected forty isolates: 19 were identified as *R. necatrix* and 21 as *Entoleuca* sp. The next step was to conduct pathogenicity tests on lupin and avocado plants, which showed that *R. necatrix* isolates were pathogenic in both types of plants, while *Entoleuca* sp. isolates were not. The optimal growth temperature *in vitro* for the *Entoleuca* sp. isolates was 30°C. *Dianthus caryophyllus* was found to be a host to this fungus, while *Olea europaea*, *Lupinus luteus*, *Asparagus officinalis* and *Fragaria ananassa* were not. Next, *Entoleuca* sp. was artificially inoculated into avocado plants and recovered from the roots up to two years later. In this way, we tested the biocontrol of the disease using *Entoleuca* sp. in avocado plants artificially inoculated with *R. necatrix*. Most of *Entoleuca* isolates (86%) controlled the disease, and we therefore concluded that they were effective biocontrol agents.

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