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ISOLATION OF AVOCADO ROOT-COLONIZING BACTERIAL STRAINS FROM ROOTS OF AVOCADO SYMPTOMLESS TREES LOCATED IN ORCHARDS AFFECTED BY *ROSELLINIA NECATRIX*.

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In Andalusia, avocado cultivation is limited due to the wide distribution reached by soil fungi *Phytophthora cinnamomi*, a pathogen of great importance worldwide, and *Rosellinia necatrix*, of special relevance to Andalusia, in comparison to other producing countries. From the perspective of a modern, sustainable and environmentally friendly agriculture, one of the control strategies which can be applied is the use of microbial antagonists as biological control agents. In this sense, the antagonist must be ecologically adapted to establish and survive in the environment where it must exert its action competing and avoiding growth of the pathogen. Bacterial strains showing antagonism under in vitro conditions against *P.cinnamomi* and *R. necatrix*, have been isolated. Although they could be good candidates to be used in biological control of these diseases, the colonization pattern of the avocado root by these strains as well as its survival and physiological activity is unknown in most cases.

In this project, a collection of bacterial strains capable of establishing and surviving in avocado roots have been isolated. The root system of avocado plantlets obtained from in vitro germinated seedlings, which remained over 4-week in acclimatization under greenhouse conditions, was deep into a bacterial suspension previously extracted from symptomless avocado trees located in orchards of the Andalusia coast affected by *Rosellinia necatrix*. After ten days of growth, root tips were extracted macerated and aliquots of the macerate were distributed in King's B medium. After several days of incubation at 25°C, bacterial colonies developed were isolated according to their morphology. Isolated strains were firstly classified according to the pattern of fluorescence emission of the colonies as well as by the LOPAT and API tests. Currently, we are starting the identification of several Gram negative isolates, obtained through phylogenetic analysis based on the amplification and partial sequencing of 16S ribosomal DNA. Moreover, the localization of several of these isolates in the root of avocado plantlets will be studied by epifluorescence microscopy and the green fluorescence protein.