Evaluation of Biofungicidal Activity of the Castor Oil Plant (Ricinus communis) Seed for the Control of Anthracnose (Colletotrichum gloeosporioides) in Avocado (Persea americana) in vitro

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Anthracnose is a disease caused by the Colletotrichum gloeosporioides fungus, which attacks various agricultural crops including avocado; this phytopathogen causes millionaire losses (approximately 6.7 million dollars in 2009) and its management is based on the use of synthetic fungicides. The objective of the project is to determine the inhibitory effectiveness of the Ricinus communis seed oil on the fungus C. gloeosporioides in avocado fruits under in vitro conditions. Eight isolates of the fungus were obtained from fruit tissues, which were tested for fungicidal sensitivity using four substances: two solutions of castor oil (1ml and 0.5 ml), one of 1ml of sterile distilled water and one solution of 0.02 g / l of the common fungicide [Benomyl 50 PM]. The substances were placed equidistantly on filter paper disks, in 10 Petri dishes. In the center of these, a 5 mm mycelium of the fungus was placed and then sealed and incubated at 25°C for eight days. The inhibition effectiveness of each treatment, with respect to the growth of the fungus, was evaluated. The most effective treatment, with 80% inhibition, was 0.5 ml of castor oil. The results suggest that the action of the oil of the castor oil plant controls, in the mycelium, growth of the fungus that causes the anthracnose, in avocado fruits under in vitro conditions.

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