

Title: ANTAGONIST POTENCY OF THE AMAZONIC SOIL BACTERIA AGAINST COLLETOTRICHUM ACUTATUM AND BOTRITYS CINEREA PHYTOPATOGENS.

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Abstract:

Botrytis cinerea is the causal agent of the gray mold in many species plants. This phytopathogen have wide range of hosts, especially in greenery and fruit (e.g. tomato plants, apple trees, pear tree, plum tree, peach trees, strawberry plants). *Colletotrichum acutatum* is the causal agent of premature drop of citrus fruits and antracnose in economically relevant hosts, like almond, avocado, peach trees, citrus and mango. In general manner, synthetic fungicides are efficient, however, there is problems, like the low efficiency to long-term, resistance developing in plant pathogens, beyond the negative effects on human health and the environment. Alternatively, we can use of the own antimicrobial activity of other microorganisms. In order to assess the competitive capacity and the antagonist potential of bacterial strains, many research has been realized *in vitro*. In this scope, we evaluate the antagonistic potential of soil bacteria against *B. cinerea* and *C. acutatum*. The strains were extracted from soil samples from Mutumparaná river basin, Amazônica region, Porto Velho municipality, Rondônia state. The strains were classified according to their morphological features (e.g. color and texture). The culture medium used was nutrient agar. To assess the antagonistic capacity these strains, We performed the tests, in triplicate, with pairing *in vitro* in BDA. We considered positive those isolated capable of reducing at least 50% of the pathogen's growth compared to the control. We obtained 18 isolates of bacteria, seven of which showed competition signals with *B. cinerea* pathogen, but no single was capable of inhibit the pathogen more of 50%. Only one strains was capable of inhibit *C. acutatum*. To develop one agent to biological control as commercial product requires many step, and first ones is the isolation and screening. Our results represent the first step of this process, and demonstrated the potential of Amazonian soil isolates that need to be studied more thoroughly for application in biological control of plant pathogens.

Key Words: antagonist activity, control biologic, *Colletotrichum acutatum* and *Botrytis cinerea*.

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