

Título: ANTAGONISTIC ACTIVITY OF ACTINOBACTERIA AGAINST *Botrytis cinerea*

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Resumo:

The genus *Eucalyptus* stands worldwide for its economic importance in forestry timber production for different purposes. In seedlings of *Eucalyptus* sp., the major disease occurrence in nurseries is gray mold, caused by the fungus *Botrytis cinerea*. In Brazil, there are no agrochemicals registered for combating *B. cinerea* in *Eucalyptus*. Often producers use fungicides recommended for other types of crops. The use of chemicals to combat diseases caused by phytopathogenic fungi, besides its high cost and low efficiency, causes problems to the environment and to humans, causing serious damage to the natural soil biota and contribute, by selection, for the development of microbial resistance. One alternative to control this disease is the biological control by actinobacteria or by using its secondary metabolites. This group is widely distributed in nature, colonizing the most varied and extreme habitats. They are known for their potential biocontrol, capacity of producing extra-cellular enzymes and secondary metabolites with antibiotic potential. Some of these substances are lytic enzymes, which have the ability to inhibit fungal growth and can be used in the control of these organisms, in addition to biotechnology and enormous therapeutic potential. Therefore, we aimed to evaluate the *in vitro* antagonistic activity of actinobacteria against *Botrytis cinerea* isolated from *Eucalyptus* sp. The experiment was performed by inhibition tests, adapted Beux (2004). Experimental design was completely randomized, with twenty treatments of different isolates of actinobacteria in five repetitions each. The isolate AD G35 3A 40 (*Streptomyces globisporus* / Genbank: JKK155504) showed significant ($p < 0,05$) effect in inhibiting the mycelial growth in *Botrytis cinerea*, showing 89% inhibition seven days and 85% inhibition at 14 days, compared with the untreated control.

Keywords: Biological control, Actinobacteria, *Botrytis cinerea*, *Eucalyptus* sp.

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