

**TLP-185. Actinomycetes isolated from soil's Brazilian ecosystems: potential agents of biological control of *Sclerotinia sclerotiorum* in soybean (*Glycine max* L. Merrill)**

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**Introduction.** *Sclerotinia sclerotiorum* (LIB) De bary causes a major soybean disease. The actinomycetes are well-known for having several antagonistic mechanisms useful in biological control. The Brazilian ecosystems have micro-organisms with wide application in biotechnology. This study aimed to evaluate some isolates of actinomycetes from Brazilian mangrove in the search of new compounds to be used in the white mold control.

**Materials and methods.** A total of 202 actinomycetes isolates were inoculated in agar yeast extract (gy) and incubated for 3 days at 28°C. Subsequently, a mycelial disc of strain *S. sclerotiorum* (CMAA 1105) was inoculated in the center of the petri dish. The compatibility test of actinomycetes and beneficial bacteria from rhizosphere of soybeans was conducted. All isolates were evaluated for the hydrolytic enzymes production by growth on minimal medium, clear halos around the colonies indicated positivity.

**Results.** Thirty-three actinomycetes showed biological activity *in vitro* against *S. sclerotiorum*. Three of those showed up to 25%, 21 of them between 25 and 50%, and nine isolates showed activity above 50%. The compatibility test, in almost all cases, showed that *Bradyrhizobium japonicum*, *Rhizobium* sp. and *Pseudomonas* sp. Are able to grow with actinomycetes. Twenty-two of them showed chitinolytic activity, six isolates showed large halo formation of hydrolysis in medium containing cellulase.

**Conclusions.** Actinomycetes evaluated showed good ability to control *S. sclerotiorum in vitro* CMAA 1105. The beneficial bacteria to grow soybeans managed to grow along with most actinomycetes evaluated, which could be a great option for joint inoculation as a biological control of this disease. Furthermore, it was observed that some isolates had the ability to produce chitinolytic and / or cellulolytic enzymes.