Bioprospecting of culturable actinobacteria from soil and rhizosphere as potential inhibitors of *Sclerotinia sclerotiorum* H.A. Vargas-Hoyos[1,2]; J.B. Chiaramonte[1,2]; S.N. Santos[1]; S.C.N. Queiroz[1]; I.S. Melo[1]; [1]Laboratório de Microbiologia ambiental/Embrapa Meio Ambiente, CEP 13820-000, Jaguariúna, SP. [2]USP/ESALQ, CEP 13418-900, Piracicaba, SP. harold.vargas@usp.br

White mold, caused by *S. sclerotiorum,* is one important disease of soybean crops (*Glicyne Max*. (L)Merrill.) with considerable yield losses. Absence of effective control and resistance of the fungus to commercial fungicides make this phytopathogen a serious problem in tropical regions. *Streptomyces* species turn out to be potential candidates for agricultural applications due to their biotechnological features. The goal of this research was bioprospecting *Streptomyces* sp. for biocontrol of white mold. In order to evaluate the antifungal activity, six pre-selected isolates: *S. rishiriensis* (3AS4), *S. albolungus* (3BS4), *S. champavatti* (CanV2 39), *S. violascens* (CanV2 06f) and *S. covourensis* (1AS2a, 1AS2c) were used. They were grown for 2 weeks at 28 ºC at 135 rpm and crude extracts were obtained with Ethyl acetate (EtOAc) and Dichloromethane (DCM). Minimum inhibitory concentration (MIC) and spent media were performed against *S. sclerotiorum*. Biocontrol was evaluated under greenhouse conditions with inoculated nonsterile soil. The best MIC was determined as 0,165 $mg \cdot mL^{-1}$ for 1AS2a DCM extract. 3BS4 showed the highest mycelial inhibition growth (85,94%). Isolates 3AS4, 3BS4, 1AS2a and 1AS2c were capable of controlling white mold symptoms under greenhouse conditions. Regarding plant growth promotion, 1AS2a displayed the highest shoot:root ratio. These results suggest actinobacteria can be used as a potent biological control agent against white mold.

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Key words: Actinobacteria, *Sclerotinia sclerotiorum*, Biocontrol.