



BACTERIAL BIOCONTROL POTENTIAL AGAINST *COLLETOTRICHUM GLOEOSPORIOIDES* IN POST-HARVEST GRAPES

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Ripe rot is a fungal disease that can cause economic losses to post-harvest grapes. The causal agent is *Colletotrichum gloeosporioides*, which is known to damage leaves, stems, and both pre and post-harvest fruit. This work aimed to evaluate the biocontrol potential of different isolates of *Bacillus* sp. against *C. gloeosporioides* (14A) through in vivo assays. Previously, a dual-culture antagonism assay was carried out and the isolates *Bacillus* sp. P121, *Bacillus velezensis* S26, and *Bacillus subtilis* F62 showed the ability to inhibit mycelial growth. Therefore, they were selected for the in vivo assay. For this, the grape berries went through asepsis with hypochlorite and distilled water and were placed in plastic boxes sealed with plastic bags. Wounds with a depth of 2 mm were made and each wound was inoculated with 10 μL of a conidia suspension (1×10^6 conidia mL^{-1}) and a bacterial suspension (1×10^8 UFC mL^{-1}) was sprayed. The test was submitted to five treatments: bacteria control, pathogen control, distilled water, curative (pathogen and four hours later bacteria), and preventive (bacteria and four hours later pathogen), with 24 grape berries per treatment. They were incubated at 25 °C, with a 16 h photoperiod for seven days. After the incubation, disease incidence and severity were assessed. The superficial area affected by the disease was visually measured using a scale from 0 to 100%. We observed that the preventive treatment with *B. velezensis* S26 showed less than 35% incidence of the pathogen followed by *B. subtilis* F62 with less than 45%, while the pathogen control showed 90% of incidence. Those treatments showed less than 1% of severity and differed from the pathogen control (8%). Further studies are required to determine the efficacy of these bacteria as efficient agents for the biocontrol of ripe rot in grapes.

Palavras-chave: Alternative control, *Bacillus*, Anthracnose

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