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sciforum-144890: Biocompatibility between biopolymers and *Trichoderma virens*

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The use of biopolymers as seed coating is an innovative, pre-germinative method of controlled seed hydration, combined with the inoculation of biological agents that act as biocontrollers or growth promoters, helping to improve germination, initial plant growth, and overcome different types of biotic or abiotic stress. Therefore, the objective of this work was to evaluate the compatibility between *Trichoderma virens* and biopolymers at different concentrations. The following biopolymers were used: Maltodextrin (M), Sodium Alginate (AlNa), Guar Gum (GG), and Arabig Gum (AG) in four different concentrations. The native *Trichoderma virens* fungus used as a biostimulant belongs to the fungal collection of the Plant Pathology Department of the Faculty of Agricultural Sciences of the National University of the Northeast (FCA-UNNE). Two methodologies were used in petri culture: Screening with PDA (potato dextrose agar) discs and spore viability counting for the different biopolymers and concentrations (treatments). Regarding the screening technique, the biopolymers with the lowest incidence on mycelial growth were M and AlNa, while those with the highest statistical impact were AG and GG. In the spore viability assay, the treatment that statistically yielded the highest number of viable spores was 1% guar gum, followed by 0.75% GG and 2% AlNa. In conclusion, these preliminary results on the compatibility between biopolymers and *T. virens* lay the groundwork for their inclusion as a coating in the seed. The assay indicates that GG was the most effective biopolymer for spore viability, while AG and GG significantly favored mycelial growth of *T. virens*. These differences could be attributed to the different nutritional requirements of the fungus during its growth and germination phases, underscoring the importance of selecting compatible biopolymers for each phase.



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