

INOCULATION OF *AZOSPIRILLUM BRASILIENSE* ON *PINUS TAEDA* L. SEEDS GERMINATION

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Associative bacteria, such as *Azospirillum brasiliense*, contribute significantly to promoting plant growth and development through specific physiological processes, as plant hormones synthesis. Associated with hydrogen peroxide (H₂O₂), used to break seed dormancy, these bacteria can contribute positively to the germination performance of seeds. Thus, this study aimed to evaluate the effect of peroxide hydrogen and *Azospirillum brasiliense* on seed germination of *Pinus taeda* L. The study was realized on Plant Tissue Culture and Transformation Laboratory of Forestry Embrapa, Colombo, Brazil. The seeds were treated with: T1 - distilled water (48h), T2 – H₂O₂ (60 minutes), T3 - H₂O₂ (60 minutes) and inoculated with *A. brasiliense* strain 2083, T4 - H₂O₂ (60 minutes) and inoculated with *A. brasiliense* strain 2084, T5 - H₂O₂ (60 minutes) and inoculated with *A. brasiliense* strain 2083 and 2084. Germination was conducted in plastic boxes kept in incubation room (23 ± 2 °C; photoperiod 16h). Germinated seeds were evaluated daily, and after 45 days was calculated the percentage of germinated and non-germinated seeds, incomplete germination (undeveloped root protrusion), germination speed index (GSI) and average germination time. The treatments with *Azospirillum brasiliense* and H₂O₂ did not differ statistically, reaching 92% of germinated seeds (T2), 88% (T3 and T5) and 80% (T4), while the control treatment resulted in 13% of germinated seeds. In addition, the same treatments reached higher GSI, with longer roots and higher height compared to the control treatment. Finally, there was a reduction in the average germination time: T1 - 33.4 days, T2 - 12.1 days, T3 and T4 - 11.76 days, T5 - 11.43 days. The results obtained under the conditions of the present study led to the conclusion that the application of *A. brasiliense* and peroxide hydrogen benefited *Pinus taeda* L. seed germination, decreased the average germination time and increased the germination speed index.

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