

Efeito da colonização da raiz por *Bacillus thuringiensis* na nodulação da soja⁽¹⁾

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Resumo — *Bacillus thuringiensis* (*Bt*) is a microorganism widely utilized in Brazilian agriculture. This study aimed to evaluate the colonization capacity of soybean plant root nodules by *Bt* and its contribution to plant nodulation. The experiment was carried out in a greenhouse, with three replicates of the following treatments: T1: control without *Bt* inoculation; T2: *Bt* B116; T3: *Bt* 775E; T4: *Bt* 1091C; T5: *Bt* P4U4A. The microorganisms cultivated in Luria Bertani liquid medium plus salts (MgSO₄, MnSO₄, FeSO₄, ZnSO₄) were standardized at 4x10⁹ mL⁻¹ and inoculated in the seeds when planting. Each pot received three soybean seeds, and a commercial inoculant containing the strain of *Bradyrhizobium japonicum*. The substrate was prepared with a mixture of vermiculite and sand in a 1:1 ratio, which was sterilized and deposited in five-liter pots. After forty days of cultivation, the plants were collected and subjected to evaluation. The nodulation was recorded, collected, and macerated. The endophytic microorganisms from the nodules were isolated, and their respective DNA was extracted and sequenced. The DNA of the inoculated microorganism was compared with the DNA of microorganisms rescued from the interior of the nodule. The data of nodule counting were subjected to analysis of variance, and when significance was detected, the Scott Knott test at 5% was performed. The study found that the strains B116, 775E, and P4U4A effectively colonize the root nodules of the soybean plants, resulting in a significant increase in nodulation compared to the control not inoculated with *Bt*. These results demonstrate the potential of *Bt* strains for internally colonizing the nodules and increasing soybean nodulation when co-inoculated with *Bradyrhizobium*, thereby providing a reliable basis for further research and application in agricultural practices.

Termos para indexação: endophytics, sustainability, simbiose, nodulation, *Bacillus*.