

## Effect of *Bacillus* inoculants on maize productivity<sup>(1)</sup>

**Victor Alef Rodrigues<sup>(2)</sup>, Vitória Palhares Ribeiro<sup>(3)</sup>, Fernanda de Cássia Batista<sup>(4)</sup>, Felipe Campos Silva<sup>(2)</sup>, Daniel Bini<sup>(3)</sup>, Christiane Abreu de Oliveira Paiva<sup>(5)</sup>, André Thomazini<sup>(6)</sup>**

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**Abstract** - Phosphate-solubilizing *Bacillus* has been standing out in Brazilian agriculture. This study aimed to evaluate the influence of different phosphate-solubilizing *Bacillus* on the productivity of maize grown in floodplain soil at Embrapa Milho e Sorgo, Sete Lagoas, MG. The trial was conducted in a completely randomized design, with three replicates and eight treatments: T1- seeds without inoculation, T2- *Bacillus subtilis* B1733, T3- *B. subtilis* B1719, T4- *B. megaterium* B1734, T5- commercial product BiomaPhos® (*B. subtilis* BRM2084 and *B. megaterium* BRM119), T6- *B. subtilis* B1716, T7- *B. thuringiensis* B116, T8- *B. safensis* B2106. All treatments had phosphate fertilizer at 50 kg ha<sup>-1</sup> P<sub>2</sub>O<sub>5</sub>, representing a half dose indicated for the maize crops. The maize hybrid used was RB9006 PRO2 (KWS Co.), and each treatment's average productivity was evaluated. The data were subjected to the ANOVA and Scott-Knott tests at 5% probability. The treatment T1 showed the lowest productivity, and the treatments T2, T3, and T4, although they did not differ statistically, were superior to T1, while the treatments T5, T6, T7, and T8 showed the highest productivity. The inoculation with strains B1716, B116, and B2106 resulted in maize productivity statistically equivalent to treatment with BiomaPhos® (25 sc/ha<sup>-1</sup>), with values of approximately 24, 26, and 23 sc ha<sup>-1</sup>, respectively. It is worth highlighting that in the treatment T8, the productivity of approximately 2.81 sc ha<sup>-1</sup> was greater than that of the commercial product. According to the results obtained, we conclude that using P solubilizers *Bacillus* spp., significantly *B. safensis* B2106 may increase the maize crops productivity even with a dose 50% lower than the dose conventionally indicated for the crop

**Index terms:** *Zea mays* L., bio-solubilization, phosphorus.