

## SELECTION OF INORGANIC PHOSPHATE SOLUBILIZING BACTERIA PRESENT IN RHIZOSPHERE OF *Zea mays*, *Glycine max* AND *Jatropha curcas*

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Phosphorus is one of the elements required in large quantities by crops. Sources of phosphate fertilizers are becoming increasingly scarce. Some microorganisms present in the rhizosphere of plants has an important role in the solubilization of inorganic forms of P, enabling their availability for the plants. One alternative that has been suggested to reduce or even replace the use of phosphate fertilizer is the inoculation of inorganic phosphate solubilizing bacteria. The objective of this work was to select bacteria isolated from corn (*Zea mays*), soybean (*Glycine max*) and pinhão-mansão (*Jatropha curcas*) having the ability to solubilize inorganic P. For this purpose we used bacteria of collections of isolates obtained from corn (96 bacteria), soybean (96 bacteria) and pinhão-mansão (20 bacteria) rhizospheres during the development of other work. The bacteria were reactivated by growth in test tubes containing Nutrient Broth medium before being used in the test of inorganic phosphate solubilizing. To test the ability of each bacteria in solubilize inorganic phosphate, they were grown in Petri dishes containing solid medium with insoluble phosphate (10g glucose; 5g NH<sub>4</sub>Cl, 1g MgSO<sub>4</sub>.7H<sub>2</sub>O; 4g CaHPO<sub>4</sub>, 15g agar, 1L deionized water, pH 7.2). The Petri dishes were at 28°C during 72 hours. The formation of a clear area (translucent halo) around the colony indicate the solubilization of inorganic phosphate. We did not find potentially phosphate solubilizing bacteria among the isolates obtained from corn and pinhão-mansão rhizospheres. We found that three isolates from soybean rhizosphere (named B19, B20 and B23) have the ability to solubilize inorganic phosphate. These bacteria are being characterized for taxonomic classification and will be used in further studies of applied biofertilization.

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