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## Characterization of phosphate-solubilizing rhizobia from Vicia faba in Morocco

Maghraoui T.<sup>1,2</sup>, L. Benidire<sup>1</sup>, M. Lahrouni<sup>1</sup>, K. Oufdou<sup>1</sup>, O. Domergue<sup>2</sup>, C. Le Roux<sup>2</sup>, S. Wahbi<sup>2,3</sup>, R. Duponnois<sup>2</sup>, M. Hafidi<sup>3</sup>, A. Galiana<sup>2</sup>, H. Sanguin<sup>2</sup>, Pt de Lajudie<sup>2</sup>

<sup>1</sup>Lab. Biol. Biotechnol. Microorganisms, Cadi Ayyad University, Marrakech, Morocco <sup>2</sup>IRD, CIRAD, LSTM, Campus de Baillarguet TA A82/J 34398 Montpellier, France <sup>3</sup>Lab. Ecol. Environ. (CNRST, URAC32), Cadi Ayyad University, Marrakech, Morocco

E-mail: tasnimemaghraoui@gmail.com

Low soil phosphorus availability is a major constraint for crops especially when they are depending on symbiotic nitrogen fixation. Some rhizobial strains were reported to solubilize both organic and inorganic complex phosphates. Here we screened rhizobial strains isolated from nodules of faba bean (*V. faba* L.) cultivated in the low-P Marrakech-Haouz region (Morocco) for their ability to solubilize complex mineral P. Among 80 rhizobial isolates, 20 formed halo around colonies on TCP agar, indicating their ability to solubilize mineral P. Contrasting effects were registered concerning nodulation rate, plant growth and phosphorus uptake of two Moroccan faba bean varieties (Aguadulce and Defes) after inoculation with 8 of these strains in greenhouse conditions, depending on the symbiotic combinations. Molecular characterization of the rhizobial strains was performed by PCR amplification and sequencing of 16S rRNA coding gene, recA and nodD genes. The majority of the rhizobial strains were identified as *Rhizobium leguminosarum*, but several strains were affiliated to *Ensifer meliloti*. Strains were also screened for pqqC gene, a gene encoding a Pyrroloquinoline quinone synthase involved in the phosphate-solubilization in some bacteria. pqq C-like sequence could be amplified from 9 rhizobial strains.

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