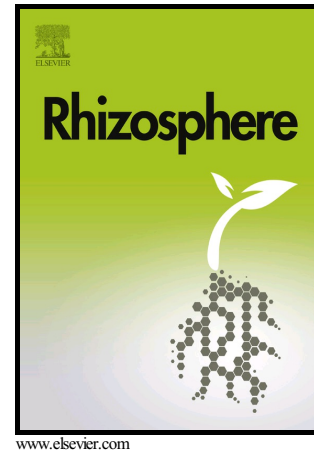


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# High yields in a low-P tolerant recombinant inbred line of common bean under field conditions

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## Abstract

Low phosphorus (P) availability is a primary factor that limits the production of common bean (*Phaseolus vulgaris* L.) in many parts of the world, especially when plant growth depends on N<sub>2</sub> fixation. In order to understand how common bean copes with this nutritional constraint, two recombinant inbred lines (RILs) of common bean namely RILs 115 and 147 were studied in the field conditions during three growing seasons from 2012 to 2014. At flowering stage, plants were harvested and analyzed for their nodulation, growth, P content and yield. Results showed that for RIL115, the nodulation (43%), shoot (28%) and root growth (32%) was higher than for RIL147 in a low-P availability soil whatever the growing season. In addition, RIL115 had better growth and efficiency in use of P for the rhizobial symbiosis (7.29 mg nodule dry weight mg<sup>-1</sup> nodule P) about

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