SYNERGISTIC EFFECT OF *RHIZOBIUM* AND AM FUNGI INTERACTION ON PHOTOSYNTHESIS, ROOT PHOSPHATASE ACTIVITY AND GRAIN QUALITY IN URD BEAN (*VIGNA MUNGO* (L.) HEPPER) UNDER RAINFED FIELD CONDITIONS

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Abstract : Two varieties of urd bean (PU-35, T-9) inoculated with *Rhizobium* and vesicular arbuscular mycorrhiza fungi (applied through layering technique) were raised under field conditions. The synergistic effect was noticed with the combined treatment over any of the bacteria or AM fungi, in terms of chlorophyll content, photosynthetic rate and root phosphatase activity. The interaction enhanced the dry matter production, grain yield and quality also. The carbohydrate, fat and protein content also increased in the *Rhizobium* inoculated seeds; however, it was higher when *Rhizobium* and mycorrhiza fungi were combined together. *Rhizobium* inoculation enhanced the nitrogen content in grain and straw where as *Rhizobium* + AM treated plants had enhanced phosphatase activity and nitrogen content.

Keywords : AM fungi, Photosynthetic rate, *Rhizobium*, Root Phosphatase activity and grain quality, Urd bean

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