

## EFFECT OF INOCULATION OF AM AND AZOTOBACTER ON N, P, K STATUS OF POST HARVEST SOIL AND UPTAKE BY MAIZE (*ZEA MAYS* L.)

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**Abstract:** A field experiment was undertaken to find out the effect of inoculation of AM and Azotobacter on N, P, K status on post harvest soil and uptake by maize (*Zea mays* L.) at BAU experimental Farm, Ranchi during rabi season 2015-16 on sandy clay loam soil. The experiment was laid out in a Factorial RBD with three levels of inoculants i.e. Arbuscular Mycorrhiza, Azotobacter and AM + Azotobacter were applied along with four levels of plant nutrients i.e. 0, 50, 75 and 100% recommended dose of fertilizer with combination of 12 treatments: 50% NPK + AM, 50% NPK + Azotobacter, 50% NPK + AM + Azotobacter, 75% NPK + AM, 75% NPK + Azotobacter, 75% NPK + AM + Azotobacter, 100% NPK + AM, 100% NPK + Azotobacter, 100% NPK + AM + Azotobacter, AM alone, Azotobacter alone and AM + Azotobacter, replicated thrice. The initial soil properties was EC (0.149 dSm<sup>-1</sup>), acidic soil (pH 5.4), low in organic carbon (3.3 g kg<sup>-1</sup>), available nitrogen (189 kg ha<sup>-1</sup>), medium in available phosphorus (20 kg ha<sup>-1</sup>) and available potassium (130 kg ha<sup>-1</sup>). The results revealed that the application of 100% NPK + AM + Azotobacter significantly increase the available nitrogen (214.7 kg ha<sup>-1</sup>) and phosphorus (27.9 kg ha<sup>-1</sup>) in post harvest soil and also increased availability of potassium (153.7 kg ha<sup>-1</sup>) in soil but not significantly. It also significantly increased total uptake of nitrogen (92.53 kg ha<sup>-1</sup>) and phosphorus (19.50 kg ha<sup>-1</sup>) except potassium (83.36 kg ha<sup>-1</sup>).

**Keywords:** AM, Azotobacter, Maize, NPK Uptake etc.

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