



RESEARCH ARTICLE :

Study of enzyme activities in intercropped maize with different nutrient application

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SUMMARY : The aim of this study was to investigate the effect of different levels of chemical fertilizers (CF) alone or in combination with farmyard manure (FYM), vermin compost and bio fertilizers on biological properties of the rhizosphere soil of maize, grown as intercrop with onion in sandy loam soils at AICRP on Integrated Farming Systems, Rajendranagar, Hyderabad. The enzyme activities viz., urease (51.88 and $50.06 \mu\text{g of NH}_4^{+}\text{-N g}^{-1}\text{ soil 2h}^{-1}$), dehydrogenase (78.43 and $78.75 \mu\text{g of TPF g}^{-1}\text{ soil day}^{-1}$) and acid (53.92 and $55.82 \mu\text{g p-nitrophenol g}^{-1}\text{ soil h}^{-1}$) and alkaline phosphatase (99.97 and $106.97 \mu\text{g p-nitrophenol g}^{-1}\text{ soil h}^{-1}$) were significantly higher in treatment T_3 (50 % RD of NPK + 50 % N through FYM). The enzyme activity of soils, which is governed by microbial population is also significantly higher in INM treatments. This study revealed that integrated application of optimum level of inorganic fertilizer, farmyard manure along with biofertilizers the biological properties of soil as well as the growth of maize under maize-onion intercropping system.

KEY WORDS:

Biofertilizers,
Dehydrogenase,
INM, Phosphatase,
Urease activity

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