

Effects of locally available soil amendments on nitrogen  
retention and performance of okra (*Abelmoschus  
esculentus*) grown in sandy regosols

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BY

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## ABSTARCT

A research was conducted, to study the nitrogen retention ability and yield of okra grown in sandy regols with respect to the addition of different nitrogen sources including organic manures such as poultry manure, farmyard manure and AmuthaKaraisal and Urea. Organic nitrogen sources were used solely and in combination with urea at the rate of 50% N from each organic nitrogen source and urea and all were applied in equal N basis at  $135 \text{ kg Nha}^{-1}$  compared with control (No fertilizer).  $\text{P}_2\text{O}_5$  and  $\text{K}_2\text{O}$  were applied by triple super phosphate and muriate of potash at the rate of 90 kg/ha. All the cultural practices were adopted according to the recommendation of Department of Agriculture, (1999).

Integration of organic manures with chemical fertilizers significantly increased Cation Exchange Capacity (CEC) and nitrogen retention of soil than sole chemical fertilizer and control treatment. In case of organic matter content, integration of FYM and poultry manure with chemical fertilizer performed better than other treatment. Impact of FYM on CEC and soil organic matter content was significantly superior to poultry manure. But the impact of poultry manure on availability of nitrogen at the time of planting was significantly higher to FYM. Nitrogen retention was higher in sole poultry manure treatment as nitrogen source and FYM integration for nitrogen.

Even though there were no significant differences observed between FYM and AmuthaKaraisal in case of nitrogen availability at the time of planting and at harvest, but yield, soil organic carbon content, soil moisture content and CEC

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