

Organic Farming Studies in Greengram

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ABSTRACT

Investigations entitled “Studies on organic farming in maize- sunflower- greengram cropping system were carried out for two consecutive years (2003-04 and 2004-2005) at S V Agricultural College farm (ANGRAU), Tirupati. In these investigations, greengram was raised as residual crop during summer in both the years of experimentation. Six different sources of nitrogen *viz* farm yard manure ,vermicompost , neem leaf, poultry manure, pig manure and fertilizer to supply recommended dose of nitrogen on equal nitrogen basis and one treatment of no manuring through any source were applied to first two crops in the cropping system. Various parameters of greengram were influenced differently by varied manurial practices tried. However, during both the years of investigation, all the growth and yield attributes, yield (seed as well as haulm), harvest index, gross returns, net returns and benefit-cost ratio of green gram were at their best with the residual effect of poultry manure either with or without the use of *panchagavya*.

Nitrogen uptake by greengram and protein content of seed was significantly higher with the residual effect of various organic sources either with or without the use of *panchagavya* than with fertilizer either with or without the use of *panchagavya*. The highest phosphorus uptake of greengram was recorded with the residual effect of poultry manure either with or without the spray of *panchagavya*, while the potassium uptake was the highest with vermicompost either with or without the spray of *panchagavya*. The uptake of phosphorus and potassium by greengram crop was significantly higher with the residual effect of various organic sources either with or without the use of *panchagavya* than with fertilizer either with or without the use of *panchagavya*. Gross returns, net returns and benefit-cost ratio of greengram were significantly lesser with the residual effect of fertilizer than with any of the organic sources tried. All the growth and yield attributes, yield, nutrient uptake, harvest index, protein content of the seed and economic returns of greengram were at their lowest with the residual effect of non-manuring through any source to either maize or sunflower, which were statistically similar to those with foliar application of *panchagavya* alone to the preceding two crops

Key words : Green gram, Neem leaf manure, Organic farming, Panchagavya, Poultry manure, Residual fertility, Vermicompost.