



Effect of organics and fermented organics on yield, soil available N, P₂O₅, K₂O Kg/Ha and microbial count in sesame

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ABSTRACT

A field experiment was carried out during *Kharif* 2007 at the Agricultural Research Station, Hanumanamatti (Ranebennur), University of Agricultural Sciences, Dharwad to find out the influence of organics and fermented organics on yield, available soil N, P, K and microbial counts in sesame crop. The experiment has five main plot treatments and three sub plot treatments combinations comprising of organics (*viz.*, compost, vermicompost, GLM) and fermented organics (*viz.*, beejamrut, jeevamrut, panchagavya). Yield were significantly higher in RDF + FYM + *Azospirillum* + *Trichoderma* with IPM (296.5kg/ha) over other treatments. Available soil N, P, K and microbial counts (*viz.*, bacteria, fungi and actinomycetes) were significantly higher in treatments supplemented with organic manures in combination of either FYM (1/3) + vermicompost (1/3) + green manuring (1/3) equivalent to RDN + FYM + organic pest management and FYM (1/3) + vermicompost (1/3) + green manuring (1/3) equivalent to RDN + organic pest management over RDF alone with chemical plant protection. Among the microbial population decreased trend of bacterial and fungal population was noticed from 30 to 50 DAS, however, actinomycetes population was increased. Similarly yield, available soil N, P, K and microbial counts were significantly higher with two sprays of panchagavya at 30 DAS and flowering stage and one spray of panchagavya at 30 DAS over no spray of panchagavya. These enhanced available soil N, P, K and microbial counts helped in enhancing the sesame crop yield.

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INTRODUCTION

The excessive use of agro-chemicals for the last 50 years though helped in achieving commendable progress earlier, the least attention to ecological agricultural principles resulted in soil degradation, ground water pollution and environmental pollution leading to ecological imbalances. It has affected the harmony which existed among soil, plant, bio-life, animals and human beings. In this context, a keen awareness has to be created on the adoption of organic farming as a remedy to maneuver the ill effects from chemical farming. Organic manure in agriculture adds much needed organic and mineral matter to the soil. In this context, it is worth noting that nutrient management through organics play a major role in

maintaining soil health due to build up of soil organic matter, beneficial microbes and enzymes, besides improving soil physical and chemical properties. To achieve sustainable soil fertility and crop productivity, the role of organic manures and other nutrient management practices like use of fermented organic nutrients *viz.*, Panchagavya, Jeevamrut, Beejamrut, Sasyamrut, Vermiwash etc., are becoming popular among farmers. These fermented liquid organic fertilizers contain in addition to nutrients, numerable microorganism and growth promoting substances which help in improving plant growth, metabolic activity and resistance to pest and diseases. Soil harbors a dynamic microbial population, which play a very important role in soil fertility not only

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