

Research
Paper

Effect of organics and fermented organics on growth, yield and yield components of 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 growth, yield and yield components of sesame crop. The experiment has five main plot treatments, Beejamrut + Jeevamrut + mulching with organic pest management(NM₁), FYM (1/3) + Vermicompost (1/3) + Green manuring (1/3) equivalent to RDN + organic pest management(NM₂), FYM (1/3) + Vermicompost (1/3) + Green manuring (1/3) equivalent to RDN + FYM + organic pest management(NM₃), RDF + FYM + *Azospirillum* + *Trichoderma* with IPM(NM₄), RDF alone with chemical plant protection(NM₅), and three sub plot treatments, no spray of panchagavya(PS₁), one spray of panchagavya at 30 DAS(PS₂), two sprays of panchagavya at 30 DAS and flowering stage (PS₃). The results of investigation showed that highest crop growth, yield, and yield components could be realized by combined application of RDF + FYM + *Azospirillum* + *Trichoderma* with IPM. The efficiency of spray of panchagavya could be increased through two sprays of panchagavya at 30 DAS and flowering stage.

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INTRODUCTION

Sesame (*Sesamum indicum* L.) is an ancient oilseed crop of the world. It is recognized by various names like Gingely, Til, Simsim, Gergelim and Biniseed *etc.*, it has earned a poetic label "Queen of Oilseeds" because seeds have high quality poly-unsaturated stable fatty acids which offer resistance to rancidity. Moreover, its seed is a rich source of edible oil (48-55%) and protein (20-28%) (Taware *et al.*, 2006) consisting of both methionine and tryptophane, vitamin (niacine) and minerals (Ca and P). The expeller cake not only serves as good feed concentrate for livestock but also used as organic manure. In order to increase the productivity, adoption of improved nutrient management practices is one of the crucial factors. Now-a-days there is a huge demand for organic sesame in the global market.

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. 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.

The use of organics and fermented organics may improve nutrients status and biological activity. Keeping these facts in view, a field experiment was conducted to study the effect of organics and fermented organics on growth, yield and yield components of sesame.