



RESEARCH ARTICLE :

Impact of fertigation and biofertigation on soil microbial activity under coffee plantation environment

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SUMMARY : In soil, billions of bacteria, fungi, algae, protozoa exist together with plant root systems searching for food and sources of energy, destroying and creating mineral and organic substances. Soil enzyme activity is considered as an index of biological fertility of the soil. Soil fertility depends not only on its chemical composition, but also on the qualitative and quantitative nature of micro-organisms inhabiting it. A field experiment on Impact of Fertigation and Biofertigation on soil microbial activity under Coffee Plantation Environment was conducted at Green Pearl Estate at Kottachedu, Yercaud, during 2007-2009. Totally eleven treatments including three levels of nitrogen, Phosphorous and potassium and liquid biofertilizers with combinations applied through fertigation. The experiment was laidout in a Randomized Block Design (RBD) with three replications. The results revealed that application of 75% RDF through fertigation along with liquid biofertilizers registered higher microbial activities in the soil viz., soil fungi population, soil bacteria population and soil actinomycetes population at all the stages of crop growth viz., vegetative stage, flowering stage, fruiting stage and at harvest stage during 2008 and 2009. Similarly, drip fertigation and biofertigation had significant influence on soil enzyme activities. application of 75% RDF through fertigation along with liquid biofertilizers registered significantly higher soil enzyme activities viz., dehydrogenase activity, acid phosphatase activity and urease activity at all the stages of crop growth viz., vegetative stage, flowering stage, fruiting stage and at harvest stage during 2008 and 2009.

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