

Effect of Graded Doses of Fertilizers on Biological and Chemical Properties of Coffee Soils Under North-East Monsoon Condition in Tamil Nadu, India

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SUMMARY

Microorganisms are considered fundamentally to be one of the health indicators of agricultural soils, the microbial process depending on seasons, cultural practices, and application of fertilizers and plant protection chemicals. Soil enzymes, microbial populations and basal respiration (microbial activity) are considered to be effective tools to monitor the quality of agricultural soils. A field experiment on the effect of graded doses of fertilizers on biological and chemical properties in coffee soil was taken up at Regional Coffee Research Station, Thandigudi, Tamilnadu, India during 2001-2002 seasons. The trial was conducted in arabica coffee selections Sln.3 (S.795) and Sln.9 (S.2790) planted during 1987, which were receiving graded doses of fertilizer since 1990 with mono shade. CO₂ released microbial activity, soil reaction, moisture, OC and available N from the experimental fields in various depths were estimated at periodic intervals. The microbial activity significantly decreased in the treatments receiving the highest doses of fertilizer (240:120:240 N, P₂O₅, K₂O kg ha⁻¹) and the activities are more in Sln.9 than Sln.3. The details of the study are discussed in the paper.