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Efferent of soil microbiological properties, yield attributes and yield of Rainfed maize (*Zea mays* L.) influenced by different organic methods application

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A field experiment was conducted during kharif 2010 under rainfed condition on red sandy loam soil to study the effect of farmyard manure and bio-digester liquid manure on soil microbial activity and yield of rain fed maize (*Zea mays* L.) at Agricultural Research Station, University of Agricultural Sciences (Bangalore), Bhavikere, Tarikere taluk. The experiment was laid out in randomize complete block design (RCBD) with three replications. There were totally 13 treatments in combination compassion of different levels farmyard manure (7.5, 10 and 12.5 t ha^{-1}) and bio-digester liquid manure equivalent (75, 100, 125 and 150 kg N ha^{-1}) compared with control (FYM 7.5 t ha^{-1} + RDF: 100:50:25 kg NPK ha^{-1}). Application of 12.5 t ha^{-1} FYM + bio-digester liquid manure equivalent at 150 kg N ha^{-1} recorded significantly higher microbial population in soil after the crop harvest (50.5×106 CFU g^{-1}, 26.0×104 CFU g^{-1}, 23.8×103 CFU g^{-1} of total bacteria, fungi and actinomycetes, respectively), grain weight per cob (105.2 g), number of seeds per cob (421.0), number of rows per cob (15.1 g), cob girth (15.6 cm) and cob length (17.0 cm), grain yield (56.2 q ha^{-1}) and straw yield (108.9 q ha^{-1}) compared with remaining treatments and recorded lower microbial population with application of FYM at 7.5 t ha^{-1} + bio-digester liquid manure equivalent to 75 kg N ha^{-1} (32.3×106 CFU g^{-1}, 13.8×104 CFU g^{-1}, 9.5×103 CFU g^{-1}, of total bacteria, fungi and actinomycetes, respectively), attributes grain weight per cob (87.8 g), number of seeds per cob (390.3), number of rows per cob (9.8 g), cob length (9.2 cm), grain yield (42.2 q ha^{-1}) and straw yield (85.4 q ha^{-1}).

Biography

Tojyanaik Basavaraj Naik is working as Associate Professor of Agronomy at University of Agricultural and Horticultural Sciences, Shivamogga. He has been working as Senior Farm Superintendent at Bhavikere Research Station, involved in seed production, teaching and guiding PG students in various field of crop production under University of Agricultural and Horticultural Sciences, Shivamogga. He has conducted nearly about 15 research experiments on crop production of different fertilizer levels and health management, nutrient studies, and soil and tillage conservation methods. During four years of extension services, many technologies has been transformed through field demonstrations, on farm technology and on farm testing research trails in the farmers' field and research stations. He has also worked as station superintendent for the period of nine years for identifying tools for effective farm management tools. During eleven years of his services, he has attended national and international conferences and published 20 research papers, 10 research abstracts, eight research notes and five technical bulletins and one book chapters in national and international journals.

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