
RESEARCH PAPER

Influence of vermicompost on improved mulberry varieties of nutrient status of leaf maturity levels

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The performance of two mulberry varieties namely, M_5 and V_1 was studied under irrigated cultivation during harvests after the single application of vermicompost, @ 8 tonnes/ha without supplementation of any other organic manure and fertilizer so as to study the sustainability 'vermicomposting' in mulberry cultivation under tropical conditions. Six harvests taken after the first time application of vermicompost was followed by second time application 6 tones/ha and four harvests were taken. The leaf protein, sugar and leaf moisture contents of tender, medium, coarse and mulberry maturity levels of the five harvests along with leaf micro nutrient content (Fe, Zn, Cu, Mn and S) at different maturity levels of 1st and Vth harvests were computed in respect of varietal performance. The significantly parameters showed high in tender, medium and coarse leaf V_1 variety compared with M_5 variety. The results were statically analyzed and discussed.

Key words : Leaf quality, Micronutrients, Mulberry varieties, Vermicompost

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INTRODUCTION

The use of chemical fertilizer and farm yard manure in mulberry cultivation is very essential to get optimum leaf yield and quality. The use vermicompost has become one of the alternatives for different crops plants (Kulkarni *et al.*, 1996). It has been extensively used for last two decades for the growth and high yield in sericulture and agriculture crops. In recent years, FYM and chemical fertilizers have become more expensive and scarce materials, therefore, the use of vermicompost has become one of the alternatives for different crops plants (Kulkarni *et al.*, 1998). Vermicompost is of combined product activity of earth worm like, *Eudrilus eugeniae* and *Eisenia foetida* which play important role to produce more vemicasts and increase various soil microorganism (Kale *et al.*, 1994). This results into significant increase in mulberry production, proper utilization of raw material as organic manure (Rachappaji, 1996) can substantially bring down the expenditure of chemical fertilizer. Through vermicompt technology, there is rapid conversion of organic waste into vemicast, of that compost contains rich nutrients that are applied to mulberry garden to bring down the cost of

cultivation as to improve the soil health and mulberry leaf quality. Keeping this aspect in view in present study, an attempt has been made to improve the yield status of the mulberry plant. In view of the importance of soil organic matter contents and higher rates of its depletions especially in the tropics (Tissen *et al.*, 1994), studies on the sustainability of organics, managing with two improved varieties with different maturity levels were undertaken.

Cocoon crop performance of the silkworm (*Bombyx mori* L.) are influenced by the varietal differences and nutritional quality of mulberry (*Morus* spp.) leaf used as silkworm feed (Bongale and Chaluvachari, 1955; Krishnaswami *et al.*, 1970; Pain, 1961) and by the schedules of manure and fertilizer applications. Review of literature available on the varietal differences and agronomical inputs reveal the need for comprehensive studies concurrently involving chemo and bioassay.

Evaluation of mulberry varieties with varied status of maturity level leaf nutrient is extremely scanty (Purohit and Pava Kumar, 1996). Keeping in view the importance of soil organic matter contents and higher rates of its depletions especially in the tropics (Tissen *et al.*, 1994), studies on the sustainability of organic, managing with four improved varieties