Research Paper

An Asian Journal of Soil Science

Vol. 6 No. 2 (December, 2011) : 237-240

Received : June, 2011; Accepted : November, 2011

A farmer participatory approach to assess the impact of enriched vermicompost on the growth and yield of bhindi

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SUMMARY

The quantity of inorganic chemical fertilizers can be substituted with the organic sources preferably with compost enriched with various microbial inoculants. The sustained use of organics in crops also increases higher uptake of all nutrients when used along with inorganic fertilizers. The use of organic inputs in agriculture can pave way for a change to organic mode of agriculture thus sustaining soil health and reducing environmental poisoning. This not only protects the soil health but also take in to account the human health concerns, by evading chemical residues and toxicity in fruits and vegetables. Therefore, use of bio-products such as bio fertilizers, composts etc. will have a tremendous impact on the ecosystem thereby overcoming the deleterious effects of the chemical fertilizers. Besides by enriching the compost as mentioned in the present study, the nutritive value can be enhanced and the use of the same ensures soil health and sustainability.

Aparna, B. and Regeena, S. (2011). A farmer participatory approach to assess the impact of enriched vermicompost on the growth and yield of bhindi. *Asian J. Soil Sci.*, **6**(2): 237-240.

KEY WORDS : Vermicompost, Organi sources, Soil health, Bhindi

Modern agriculture depends heavily on chemical fertilizers and pesticides and the indiscriminate use of these chemicals has made the soil sick and problematic. The distortion in soil fertility and deteoriation in soil health are due to improper and indiscriminate use of chemical fertilizers alone without manures. To overcome these problems integrated nutrient management (INM) is an alternate strategy and a comprehensive and scientific nutrient management programme for realizing high productivity without diminishing soil fertility. This system involves the substitution of chemical fertilizers with vermicompost, coirpith, biofertilizers, enriched composts, green manures in appropriate amounts. Thus conversion and utilization of organic resources in a beneficial way is the prime objective of this system. It is assumed that substitution of chemical fertilizers to various crops with organic sources such as manures, microbial inoculants for supplying nutrients through a medium like vermicompost will drastically improve the yield, soil nutrient status, biological characters, reduces the cost of cultivation, increases profit both in terms of monetary and as well as quality without hampering the quality of soil.

Sustainable soil nutrient-enhancing strategies involve the wise use and management of inorganic and organic nutrient sources in ecologically sound production systems. The primary goal of integrated nutrient management (INM) is to combine old and new methods of nutrient management into ecologically sound and economically viable farming systems that utilize available organic and inorganic sources of nutrients in a judicious and efficient way. One such approach is the vermicomposting of such wastes which is a cost effective method. Not only cost effective, the nutritive value of the vermicompost is so remarkable that is promotes plant growth, increases the yield and the shelf life of vegetables. Hence, the present study was carried out to assess the impact of integrated plant nutrient system on the growth and yield of okra through farmer participation.

EXPERIMENTAL METHODS

An investigation was carried out in a typical laterite soils at 10 locations in the Chemgamandu Village of Kollam District during the year 2009-10 to study the effect of enriched vermicompost on the yield, uptake of major

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