



Effect of soil and foliar application of organic nutrients on NPK uptake, herbage yield and inflorescence yield of sweet basil (*Ocimum basilicum* L.)

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ABSTRACT

An investigation was carried out to find out the effect of organic nutrients on yield and NPK uptake of sweet basil at the Department of Horticulture, Faculty of Agriculture, Annamalai University, Annamalai Nagar, during 2007-2009. Based on the findings of the present study it can be concluded that combined application of FYM @ 25 t ha⁻¹ + *Azospirillum* + Phosphobacteria + Panchagavya 3 per cent as foliar spray has improved the fresh herb yield as well as essential oil content of sweet basil.

Patel, K.D., Barad, A.V., Savaliya, J.J. and Butani, A.M. (2011). Generation mean analysis for fruit yield and its attributing traits in okra (*Abelmoschus esculentus* (L) Moench), *Asian J. Hort.*, 6 (1) : 195-198.

Key words : Sweet basil, Flowering, Herbage yield, FYM, Vermicompost and Panchagavya

Ocimum basilicum L. belonging to family Lamiaceae is annual herbaceous shrub popularly known as Indian Basil or sweet basil. The essential oil obtained by hydro-distillation from shoot bio-mass has high commercial value that is used in cosmetic products as flavouring agents, in food industry, in fragrances and aroma therapy and traditional rituals and medicines (Rameshkumar *et al.*, 2008). Organic farming helps to improve the physical, chemical and biological properties of the soil and maintains the ecological balance as well as productivity of life supporting systems for the future generation. Hence, the present study was carried out to find out the effect of organic nutrients on NPK uptake, herbage yield and inflorescence yield of sweet basil.

MATERIALS AND METHODS

The experiment was conducted as pot study in completely randomized block design with 14 treatments in three replications during 2007-2009 at orchard, Department of Horticulture, Faculty of Agriculture, Annamalai University. The soil type was clay loam, pH of the soil was 7.5, EC of 0.67 dsm⁻¹ and available N was 210.5 kg ha⁻¹, P was 10.3 kg ha⁻¹ and k was 249.4 kg ha⁻¹

¹. Treatments consisted of two organic manures, Farm yard manure and vermicompost at two different levels and bio-fertilizers (*Azospirillum* and Phosphobacteria) along with Panchagavya 3 per cent and neem cake 20 per cent as foliar spray. The following are the treatments T₁-FYM @ 12.5 t ha⁻¹+*Azospirillum* and Phosphobacteria @ 2 kg ha⁻¹, T₂ – FYM @ 25 t ha⁻¹+ *Azospirillum* and Phosphobacteria @ 2 kg ha⁻¹, T₃ – Vermicompost @ 2.5 t ha⁻¹+*Azospirillum* and Phosphobacteria @ 2kg ha⁻¹, T₄ – Vermicompost @ 5 t ha⁻¹+ *Azospirillum* and Phosphobacteria @ 2 kg ha⁻¹, T₅ – T₁ + Panchagavya @ 3% foliar spray, T₆ – T₂ + Panchagavya @ 3% foliar spray, T₇ – T₃ + Panchagavya @ 3% foliar spray, T₈ – T₄ + Panchagavya @ 3% foliar spray, T₉ – T₁ + Neemcake extract @ 20% foliar spray, T₁₀ – T₂ + Neemcake extract @ 20% foliar spray, T₁₁ – T₃ + Neemcake extract @ 20% foliar spray, T₁₂ – T₄ + Neemcake extract @ 20% foliar spray, T₁₃ – Recommended dose of inorganic fertilizer (120: 100: 100 kg ha⁻¹), T₁₄–Control. Nitrogen content in the plant sample on dry weight basis was estimated with a di-acid extract by micro Kjeldhal method (Humpries, 1956) and expressed in percentage, phosphorus content in the plant sample on dry weight basis was estimated with a triple