

## Comparative study of quality attributes of spinach grown on vermicompost and artificial fertilizer

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Received: 01.10.2011; Revised: 28.01.2012; Accepted: 30.03.2012

■ **ABSTRACT** : In the present study, a leafy vegetable was grown using vermicompost and artificial fertilizer, in the Department of Home Science garden and was studied for its sensory characteristics. Recipe was formulated and evaluated. Three trials ( $T_1, T_2$  and  $T_3$ ) were conducted for testing of various sensory characteristics such as appearance, colour, texture, taste, flavour and acceptability. For this purpose, six human panelists were coded as  $J_1, J_2, J_3, J_4, J_5$  and  $J_6$ . Recipes were served fresh. Based on the mean values, results were tabulated and analyzed statistically by applying 't' test. It was observed that vermicompost variety significantly scored maximum than artificial fertilizer. It showed highly significant difference in both the varieties when compared on organoleptic characteristics. Thus, it was concluded that vermicompost variety was highly appreciated and more superior in all the sensory characters over artificial fertilizer which was statistically proved. Thus, by using organic manure for farming, we can save our ecosystem and health by consuming these vegetables.

■ **KEY WORDS** :  $J_1$ – $J_6$  (Judges), Vermicompost, Artificial fertilizers, Sensory characteristics, Ecosystem

■ **HOW TO CITE THIS PAPER** : Dupare, Archana and Nimbar, Seema (2012). Comparative study of quality attributes of spinach grown on vermicompost and artificial fertilizer. *Asian J. Home Sci.*, 7 (1) : 42-47.

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India is an Agro-based country and about 80 per cent of its population depends directly or indirectly on agriculture as their occupation. In early days, agriculture practice was done without any manures or fertilizers since the early man did not have knowledge about it. When cow dung and other wastes were used in addition to water more and better yield was obtained. Thus, agricultural practice got a new way of technology. This type of farming is known as organic or substantial farming. The growth in the agriculture production has to be enhanced to feed the growing population. This is possible only when the soil is in good health. One of the primary factors that influences the soil is the status of organic matter in the soil. In our country, since centuries, organic manures were the primary sources of plant nutrients for crop growth and development. Recycling of organic waste and application of bulky organic manures were the most popular agronomic measures adopted to sustain soil health (Sehgal and Chauhan, 2000).

To satisfy the ever increasing demand of food production to feed the increasing population, Indian Agriculture Research, since 1960, focused its attention on increased productivity, high yielding varieties, fertilizers and pesticides along with irrigation. The chemical fertilizers played significant role in providing large quantities of nutrients needed for intensive crop production which brought about manifold increase in agricultural production in the initial days. But its repeated use has led to degradation of soil health, pollution of ground water, salinity, and soil biodiversity went down (Jackson, 1967).

Due to the above reasons, organic farming is being practiced now-a-days, which involves the use of humus, cow dung, compost, vermicompost, that improves and maintains soil fertility.

Compost is a dark brown crumbly material that is produced when a collection of plant and animal material is decomposed into fine organic matter and humus. For the formation of compost, dead and decaying organic material is