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Effect of different organic manures and inorganic fertilizers on quality on brinjal (*Solanum melongena* L.)

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ABSTRACT

In case of organic farming on brinjal, fruits are more valued for its quality. The most important quality attributes that may have to be suited in evaluating the quality of brinjal fruits are total soluble solids, total phenol content and cooking quality. Total phenols content of the fruits was altered by different sources of organic manures. It was found to be maximum in 150 per cent of FYM nitrogen supplied through vermicompost (32.00 and 32.6 mg g^{-1} at seventh and tenth harvest respectively), and also only NPK supplied plots. The same treatments have also coincided with more pest affected fruits. Further among organics, vermicompost applied plots (irrespective of levels) contained more phenols compared to other sources of organics and least was found in FYM applied plots. Here again it can be related that vermicompost applied were susceptible to pest attack and FYM plots were least affected as observed in the present study. Among the different treatments, the treatment T_{10} *i.e.*, recommended FYM 'N' substituted through vermicompost and greenmanure (50 % each) + recommended NPK registered highest total solids (6.13^0 Brix and 5.53^0 Brix at fifth and eighth harvests, respectively). Lower TSS (4.53^0 and 3.86^0 and Brix at fifth and eighth harvest, respectively) was registered in treatments with only NPK (T_{12}). Different organic sources had conspicuously increased the cooking quality of fruits. The treatment recommended FYM + NPK recorded minimum number of fruit pieces that loose their shape during cooking at first and second cooking (4.00 and 4.00 respectively). The same treatment recorded maximum score for flavour (9.31, 9.50) and taste (9.08, 8.83) at first and second time respectively. It is evident in the present experiment that the plots supplied with both organic manure and inorganic fertilizers have recorded good cooking quality. The acceptability tests revealed that number of pieces that lost their shape during cooking and flavour and taste of cooked fruits were more in the treatment which received recommended FYM + NPK.

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Key words : Vermicompost, FYM, NPK, TSS, Phenol content, Brinjal

INTRODUCTION

Brinjal (*Solanum melongena* L.) is one of the most common tropical fruit vegetable. It is a rich source of vitamins, minerals and organic acids. The nutritive value of brinjal is almost equal to tomato with an average nutritive value of 2.14. The fruit contains 1.4 g protein, 0.3 g fat, 0.3 g minerals, 1.3 g fiber, 4.0 g carbohydrates, 2.0 mg potassium, 47 mg phosphorus and 0.9 mg iron per 100 g of fruits. Unripe fruits are used for cooking, pickle making and dehydration. In India it is consumed as cooked vegetable. White brinjal is good for diabetic patients, brinjal fried in til oil, cures tooth ache and is a good remedy for liver complaints. It is also known to increase appetite. The value of any vegetable is in quality attributes. Organically produced vegetables are considered wholesome and valuable in therapeutic as well as from health point of view. Information on nutrient transformations under organic farming practices are very scanty. To make up this lacuna, the present study was under taken to find out the optimum dose and best combination of organic manures and inorganic fertilizers for obtaining good quality of brinjal.

MATERIALS AND METHODS

The field experiment was conducted at the Horticulture Research Station, University of Agricultural

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