

Efficacy of multimicronutrients on growth, yield and quality of brinjal (*Solanum melongena* L.) cv. GUJARAT OBLONG BRINJAL-1

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ABSTRACT

A field experiment was carried out at the Horticultural Research-cum-Demonstration Farm, B. A. College of Agriculture, Anand Agricultural University, Anand during the year 2007-08 on "Efficacy of multimicronutrients on growth, yield and quality of brinjal (*Solanum melongena* L.) var. GUJARAT OBLONG BRINJAL-1. There were ten treatment combinations comprised of T₁ [NPK (Recommended dose)], T₂ [NPK + FYM (15 t/ha)], T₃ [NPK + FYM + ZnSO₄ (0.5% FS)], T₄ [NPK + FYM + FeSO₄ (0.5% FS)], T₅ [NPK + FYM + ZnSO₄ (0.5% FS) + FeSO₄ (0.5% FS)], T₆ [NPK + FYM + Local formulation Grade-I (FS)], T₇ [NPK + FYM + Local formulation Grade-II (FS)], T₈ [NPK + FYM + Local formulation Grade-III (FS)], T₉ [NPK + FYM + Local formulation Grade-IV (FS)] and T₁₀ [NPK + FYM + Local formulation Grade-V (SA)] were tried in RBD with three replications. The maximum plant height (89.33 cm) was observed in T₅ [NPK + FYM + ZnSO₄ (0.5% FS) + FeSO₄ (0.5% FS)]. While, maximum plant spread (0.70 sq.m) and numbers of branches per plant (12.33) were observed in T₁₀ [NPK + FYM + Local formulation Grade-V (SA)]. Significantly maximum number of fruits per plant (25.00) and total yield per hectare (554.30 q) were recorded in the same treatment. Maximum ascorbic acid (10.13 mg/100g pulp) was registered in T₅ [NPK + FYM + ZnSO₄ (0.5% FS) + FeSO₄ (0.5% FS)].

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Vegetable farming is one of the most important source of farm income and creates impact on the agricultural development and economy of the country. Brinjal or Eggplant (*Solanum melongena* L.) is an important vegetable crop belongs to the family *Solanaceae*. Brinjal is cultivated in India as one of the leading vegetables and it is the second major vegetable crop next to potato. The fruit borne singly or in clusters on branch. The supply of micronutrient along with recommended dose of NPK and organic manures in adequate amounts and in proper proportion is one of the important factors which control the growth and development of brinjal. Nutrition plays an important role in growth, yield and quality of brinjal. Micronutrients like Zn, Fe and different multimicronutrients grade like Grade-I, Grade-II, Grade-III, Grade-IV and Grade-V etc. are used in brinjal crop for better growth, yield and quality of fruits. Keeping this in view, the present investigation was carried out.

MATERIALS AND METHODS

The experiment was laid out in Randomized Block Design (RBD) with 10 treatments comprising of T₁ [NPK (Recommended dose)], T₂ [NPK + FYM (15 t/ha)], T₃ [NPK + FYM + ZnSO₄ (0.5% FS)], T₄ [NPK + FYM + FeSO₄ (0.5% FS)], T₅ [NPK + FYM + ZnSO₄ (0.5% FS) + FeSO₄ (0.5% FS)], T₆ [NPK + FYM + Local

formulation Grade-I (FS)], T₇ [NPK + FYM + Local formulation Grade-II (FS)], T₈ [NPK + FYM + Local formulation Grade-III (FS)], T₉ [NPK + FYM + Local formulation Grade-IV (FS)] and T₁₀ [NPK + FYM + Local formulation Grade-V (SA)] were tried. All treatments were replicated thrice.

Brinjal (*Solanum melongena* L.) is usually propagated through seedling. Four weeks old healthy and uniform seedlings of Brinjal var. 'Gujarat Oblong Brinjal -1' were selected and transplanted in the experimental plots at a spacing of 90 × 60 cm. The recommended cultural practices were followed during the experimentation. Foliar spraying was carried out at 30, 60, 90, days after transplanting. ZnSO₄, FeSO₄, Grade-I, Grade-II, Grade-III and Grade-IV were applied as a foliar spray. For foliar spraying, solution was prepared in water @ 1 ml/lit of water. Finally spraying was carried out with standard knapsack sprayer uniformly, whereas Grade- V was applied as a soil application @ 20 kg/ha. The data on plant growth, yield and quality were recorded and statistically analyzed.

RESULTS AND DISCUSSION

The results obtained from the present investigation have been presented in the following sub heads: