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*Research Paper*

# Effect of foliar spray of bio-enzymes on yield of brinjal (*Solanum melongena* L) cv. VAISHALI

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## ABSTRACT

A field experiment was conducted during *Rabi*, 2002-2003 at Department of Horticulture, Marathwada Agriculture University, Parbhani (M.S). The result of the experiment revealed that spray of bio-enzymes enhanced the yield attributes in brinjal over control. Almost all bio-enzymes tried supercropzyme 2 ml $l^{-1}$of water significantly superior over all bio-enzymes and control. The Highest yield attributes like weight of fruit (g), length of fruit, breadth of fruit, volume of fruit, per cent fruit set, number of fruit per plant, yield per plant and yield per hector were obtained under the treatment $T_5$ (Supercropzyme 2 ml $l^{-1}$) which was statistically at par with treatment $T_6$ (Supercropzyme 3 ml/l). These treatments had significant difference over rest of the treatments including control. Foliar spraying of supercropzyme 2 ml/l produceed yield per hectare (43.81 t) which was statistically significant over rest of the treatments including control. The treatment next in order was the foliar spraying supercropzyme 3 ml/l of water.

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**Key words :** Brijnal, Bio-enzyme, Foliar spray, Yield

Brinjal (*Solanum melongena* L.) is one of the most important vegetable crop which is highly productive and easy to cultivate. It is solanaceous vegetable, which is originated in India and has been cultivated from long time. Being second major vegetable of India, area under cultivation is 4.96 lakhs hectare with production of 78.81 lakh tons (Chadha, 2001). The bio-enzymes are an extract of vegetable origin contains different concentration of growth regulators along with micro-nutrients. Bio-enzymes influence various stages of vegetative growth and reproductive growth. A minute dose is sufficient to bring about marked change in morphology, physiology and histology of plant. Application of bio-enzymes is found very effective in brinjal which increase vegetative growth, fruit per plant, yield and quality (Jadhav, 2000). Keeping all these points in mind an investigation was conducted to evaluated the effect of foliar spray of bio-enzymes on yield of brinjal var. Vaishali.

## MATERIALS AND METHODS

A field experiment was conducted during *Rabi*, 2002-2003 at Department of Horticulture, Marathwada Agriculture University, Parbhani. (M.S.). The experiment was laid out in Randomized Block Design having 10 treatments of foliar spray of bio-enzymes including control with 3 replications, The treatments consisted of $T_1$(1 ml/l Multizyme spray), $T_2$(2 ml/l Multizyme spray), $T_3$(3 ml/l Multizyme spray), $T_4$(1 ml/l Supercropzyme spay), $T_5$(2 ml/l Supercropzyme spray), $T_6$(3 ml/l Supercropzyme spray), $T_7$(1 ml/l Shaktizyme spray), $T_8$(2 ml/l Shaktizyme spray), $T_9$(3 ml/l Shaktizyme spray), $T_{10}$(Control water spray), Variety Vaishali was used in experiment. The randomization of treatment was done with the help of random number table (Fisher, 1950) in 30 plots. The seeds were sown on two raised beds treated with thrium 4 g per bed after germination. Seeding were sprayed twice with 15ml roger plus 25 g copper fungicide in 10 litre of water to protect form insect and diseases. Seeds were sown in shallow furrows prepared at 10-12 cm apart by dropping the seeds at 5-7 cm apart and at 1.5-2 cm depth. Five weeks old seedlings of cabbage were transplanted on 24th August, 2002 when average height of seedlings was about 10 cm. The distance between plant to plant as well as row to row was kept at 60 cm. NPK was applied at the rate of 100:50:50 kg $ha^{-1}$ as per recommendation. Full dose of PK were applied at the time of transplanting, while urea was applied in two split doses *i.e.* half at the time of transplanting and remaining half dose 30 days