

Effect of micronutrient on growth and yield of garlic (*Allium sativum* L.) var. G-41

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ABSTRACT

A field experiment was conducted during *Rabi*, 2006-2007 at Horticulture Research station (pomology) sub campus, Marathwada Agriculture University, Parbhani(M.S.). The result of the experiment revealed that application of micronutrient at various levels with recommended dose of fertilizers enhanced the growth and yield attributes in garlic over control. The Highest growth attributes like plant height, number of leaves per plant, bolting per cent, neck thickness, diameter (polar, equatorial) and shape index were obtained under the treatment T₃ (Zinc 4 ppm) which was statistically at par with treatment T₆ (Boron 0.75 ppm). These treatments had significant difference over rest of the treatments including control. The treatment T₃ produced highest plant height (71.87 cm) and bulb yield (155.39 q ha⁻¹) which was statistically significant over rest of the treatments including control. The treatment next in order was the application of boron 0.75 ppm (T₆).

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Key words : Garlic, Micronutrient, Growth, Yield

INTRODUCTION

Garlic (*Allium sativum* L.) is one of the important bulb crop grown for its nutritive value, as a spice and in pharmaceutical throughout India. It is rich in proteins, phosphorus, potash, calcium, magnesium and amino acid allin. The micronutrient plays a vital role in enhancing crop productivity in addition to growth of plant. Application of micronutrient especially zinc, boron also increase yield of garlic. The micronutrients are those element that are essential for plant growth, but required in smaller amount. Keeping in view all above point, an investigation was conducted to evaluate the effect of micronutrient on growth and yield of garlic var. G-41.

MATERIALS AND METHODS

A field experiment was conducted during *Rabi*, 2006-07 at Horticulture Research Station (Pomology) sub campus, Maathwada Agriculture University, Parbhani. (M.S). The experiment was laid out in Randomized Block Design having 10 treatments of application of micronutrient Zinc, boron, molybdenum at different levels including control with 3 replications. The treatments consisted of T₁ (Zinc 2 ppm), T₂ (Zinc 3 ppm), T₃ (Zinc 4

ppm), T₄ (Boron 0.25 ppm), T₅ (Boron 0.50 ppm), T₆ (Boron 0.75 ppm), T₇ (Molybdenum 2.5 ppm), T₈ (Molybdenum 5.0 ppm), T₉ (Molybdenum 7.5 ppm), T₁₀ (Control). G-41 variety was used in experiment. After preparation of flat bed and application of FYM planting of cloves was done 17th October, 2006. The distance between plant to plant was 7.5 cm as well as row to row was kept at 15 cm. NPK was applied at the rate of 100:50:50 kg ha⁻¹ as per recommendation. A full dose of PK were applied at the time of planting, while urea was applied in two split doses *i.e.* half at the time of planting and remaining half dose nitrogen 30 days after planting. The various concentration of micronutrient applied after one month of planting of cloves. Five plants were randomly selected in each plot and tagged. Growth and yield contributing parameters were recorded from these plants.

RESULTS AND DISCUSSION

The findings of the present study as well as relevant discussion have been summarized under following heads:

Effect on growth attributes:

Table 1 revealed that application of micronutrient in

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