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Effect of foliar application of micronutrients in tomato (*Lycopersicon esculentum* Mill.) cv. GUJARAT TOMATO-2

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ABSTRACT : The present investigation was undertaken with the main objective to study the effect of foliar application of micronutrients in tomato (Lycopersicon esculentum Mill.) cv. GUJARAT TOMATO-2 at ASPEE, ARDF, Tansa farm during Rabi season 2012-2013. The experiment consisted of eight treatments viz., T, [RD NPK through chemical fertilizers N: P₂O₅: K₂O₅ kg ha⁻¹ (75 : 37.5 : 62.5)], T, $(T_1 + 100 \text{ ppm B}; i.e. \text{ boric acid } 0.571 \text{ g} \text{ l}^{-1}), T_3 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ l}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ l}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ l}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ l}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ l}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ g} \text{ l}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ g} \text{ l}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ g} \text{ l}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ g} \text{ l}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ g} \text{ l}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ g} \text{ l}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ g} \text{ g} \text{ s}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ g} \text{ s}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ g} \text{ s}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ g} \text{ s}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ g} \text{ s}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ g} \text{ s}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ g} \text{ s}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ g} \text{ s}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ g} \text{ s}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ s}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ s}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ s}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246 \text{ g} \text{ s}^{-1}), T_4 (T_1 + 100 \text{ ppm Zn}; i.e. \text{ zinc sulphate } 0.246$ 100 ppm Cu; *i.e.* copper sulphate 0.420 g l^{-1}), T₅ (T₁+100 ppm Fe; *i.e.* ferrous sulphate 0.515 g l^{-1}), T₆ $(T_1 + 100 \text{ ppm Mn}; i.e. \text{ manganese sulphate } 0.320 \text{ g} \text{ } \hat{I}^{-1})$, and $T_7 (T_1 + \text{mixture of all micronutrients})$ and $T_s (T_1 + multiplex 4 ml l^{-1})$ by mixing with simple water were imposed. The foliar application was made by using equipment knapsack sprayer in the evening hours. The thrice times foliar spray were made at 10 days interval starting from 40 days after transplanting seedling. The data clearly showed that the yield obtained with treatment T_{τ} had significantly maximum plant height (131.73 cm), number of branches plant⁻¹ (5.81), fresh weight of plants (25.65 t ha⁻¹), dry matter yield of plants (7670.03 kg ha⁻¹), maximum days to last picking (166.68), number of fruits plant⁻¹ (34.26), fruit length (5.52 cm), fruit diameter (4.64 cm), fruit volume (67.53 cm³), single fruit weight (49.20 g), fruit weight plant⁻¹ (1.68 kg), number of locules fruit⁻¹ (3.03), pericarp thickness (6.23 mm), fruit yield ha⁻¹ (46.78 t) and marketable fruit yield ha⁻¹ (45.62 t). This treatment had maximum net return (1, 66,757 Rs./ ha) and B:C Ratio 2.72 : 1 out all other treatments than over control.

KEY WORDS : Micronutrient, Tomato, GT-2

RESEARCH PAPER

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