

EFFECT OF COMBINATIONS OF ZINC AND BORON WITH FRUIT THINNING ON THE QUALITY SEED PRODUCTION OF TOMATO

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Executive Summary

Tomato is one of the most popular, important and nutritious vegetable grown in Bangladesh. The food value of tomato is very high because of higher contents of vitamins (A, B, C), minerals and carotene. In Bangladesh, majority of the growers do not get high quality fruit and higher seed yield because of their ignorance about proper thinning practices and micronutrients application. The seeds of tomato are mainly collected by the farmers or traders from the leftover of tomato crop, which cannot fetch better price. So, quality seed is obligatory in this situation to maximize tomato production. Thus, the main objective of the present investigation was to study the effect of combinations of zinc and boron with fruit thinning on the quality seed production of tomato. The experiment was conducted at the Horticulture Farm of Sher-e-Bangla Agricultural University, Dhaka during the period from September 2017 to May 2018. Factor A consisted of four different combinations of zinc and boron *viz.* $T_0 = Zn_0 \text{ kg} B_0 \text{ kg/ha}$, $T_1 = Zn_2 \text{ kg} B_{1.5} \text{ kg/ha}$, $T_2 = Zn_4 \text{ kg} B_2 \text{ kg/ha}$, $T_3 = Zn_6 B_{2.5} \text{ kg/ha}$ and Factor B consisted of four levels of fruit thinning *viz.* $P_0 =$ control (without fruit thinning), $P_1 = 10$ fruits were retained per plant, $P_2 = 20$ fruits were retained per plant and $P_3 = 30$ fruits were retained per plant. The experiment was laid out in a Randomized Complete Block Design with 3 replications and there were altogether 48 plots. Application of micronutrients with fruit thinning significantly influenced the growth and seed yield of tomato. The highest seed yield (297.82 kg/ha) was found from T_3 and the lowest yield (260.69 kg/ha) was obtained from T_0 . Due to the fruit thinning, the highest seed yield (337.41 kg/ha) was obtained from P_3 and lowest yield (190.69 kg/ha) was recorded from P_1 . Among the treatment combinations, the highest yield (360.39 kg/ha) was found from T_3P_3 and lowest yield (180.39 kg/ha) was found from T_0P_1 . So, application of $Zn_6 \text{ kg} B_{2.5} \text{ kg/ha}$ along with 30 fruits were retained per plant was the best for yield of tomato seed and good quality seed of tomato can be obtained.

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