EFFECTS OF DIFFERENT SALINITY LEVELS ON GROWTH AND YIELD OF TOMATO VARIETIES IN BANGLADESH

Khairul Kabir*

Executive Summary

Salinity causes large areas of Bangladesh's southern region remain uncultivated and it's increasing rapidly. The study was conducted to observe the effects of salinity on tomato in a pot experiment at the Horticulture Farm in Sher-e-Bangla Agricultural University, during the winter season (2017-2018). The experiment comprised of four salinity levels *viz.*, S_1= 0 dS m^{-1}; S_2= 4 dS m^{-1}; S_3= 8 dS m^{-1} and S_4= 12 dS m^{-1} combined with five varieties of tomato *viz.*, V_1= BARI Tomato 2; V_2= BARI Tomato 11; V_3= BARI Tomato 14; V_4= BARI Tomato 15 and V_5= BARI Tomato 17. Results showed that S_1 gave the highest result in all studied parameters except total soluble solids (1.84%) that was increased with salinity. On the other hand, the lowest results regarding all of the parameters studied except total soluble solids (3.09 %) were found from S_4. Growth and yield of tomato varied with the varieties, V_2 showed the best result in terms of plant height, number of flower $plant^{-1}$, number of fruits $plant^{-1}$ and total soluble solids. Number of leaf $plant^{-1}$, leaf chlorophyll content and number of branches $plant^{-1}$ was found the highest from V_1. Leaf area $plant^{-1}$ was the highest at V_3 and V_4, respectively. The highest fruit length and diameter also recorded from V_3. Individual fruit weight was maximum at V_5. The maximum fruit yield $plant^{-1}$ was found at V_3 and the minimum from V_2. Plant height, number of flower $plant^{-1}$ and number of fruits $plant^{-1}$ were found the highest from S_1V_2. The maximum leaf chlorophyll content, fruit diameter and individual fruit weight was given by S_1V_5. The highest and lowest fruit yield $plant^{-1}$ was obtained from S_1V_3 and S_4V_2 combinations, respectively. The maximum total soluble solids (4.83%) were also obtained from S_4V_2 combination.

*Assistant Professor, Dept. of Horticulture, Sher-e-Bangla Agricultural University, Dhaka-1207