

THE EFFECT OF BUILDING HEIGHT ON THE GROWTH AND YIELD OF TOMATO (*Lycopersicum esculentum* L.) IN ROOFTOP GARDEN

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Executive Summary

As rooftop gardening is very important for food security and environmental restoration. But if it is not economically feasible on the high rise building than rooftop gardening will not increase and sustain. Feasibility depends on productivity. To know the productivity on different height of buildings roof, an experiment was conducted at the Agroforestry research field and the rooftop of different buildings of Sher-e-Bangla Agricultural University, Dhaka during the period from September, 2021 to March, 2022. The experiment was laid out in a Completely Randomized Design with four replications containing four pots in each replication. The treatments of this experiment were T_1 = Control (Ground level, 0.0 m), T_2 = Rooftop of three storied building (11.28 m), T_3 = Rooftop of six storied building (21.34 m), T_4 = Rooftop of ten storied building 34.75 m). Different height of buildings rooftop showed significant effects on the growth, temperature, moisture of pot soil, yield contributing characters and yield of tomato. The treatment T_1 showed significantly higher plant height, plant stem diameter, branch number per plant, leaf number per plant, flower cluster number per plant, moisture content of pot soil, fruit number per plant, fruit length, fruit diameter, individual fruit weight and yield per plant than all other treatments but T_4 showed significantly lowest results in all the above mentioned characters. T_1 showed significantly lowest result in case of temperature but T_4 showed highest result. There was no significant effect on chlorophyll content of tomato leaves. All the growth, yield contributing characters, moisture content of pot soil and yield except chlorophyll showed a gradually decreasing results with the increasing of buildings rooftop height. The sequence of growth, yield contributing characters, moisture content of pot soil and yield except chlorophyll content of leaves were $T_1 > T_2 > T_3 > T_4$ but in case of temperature, the sequence was $T_4 > T_3 > T_2 > T_1$.

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