

## **Vermicompost induced growth and yield performance of capsicum (*Capsicum annuum* L.) at sustainable rooftop farming system**

### **ABSTRACT**

Rooftop farming is gaining rapid popularity in urban areas, especially since the beginning of the global COVID-19 pandemic. For housebound people rooftop farming is not only a way of potentially management of their time but also the execution of creativity. For rooftop farming vermicompost (VC) can be the most sustainable media for growing high value fruits and vegetables crops. In this regard, an experiment was carried out as a rooftop farming system at Charfassion upzila in the Bhola district of Bangladesh to observe the growth and yield performance of capsicum (*Capsicum annuum*) grown in different combinations of vermicompost in the winter season (2020-2021). Different agronomic and yield parameters were measured at the intervals of 30, 60, and 90 days and at the final harvest of 120 days after sowing. Among the measured parameters a mixed type of performance was achieved from varied doses of vermicompost applications and inorganic fertilizer treatment. Among the measured valuable parameters; the highest fruit length (8.85 cm), fruit diameter (10.3 cm), no. of fruits (9.51 plant<sup>-1</sup>), total wt. of fresh fruits (405.32 g/plant), fresh fruits yield (11.26 t ha<sup>-1</sup>), no. of branches (30.0 plant<sup>-1</sup>), stem girth (6.3 cm), root fresh wt. (8.80 g/plant), stem fresh wt. (23.35 g/plant), petiole fresh wt. (6.09 g/plant), total fresh biomass (65.54 g/plant), dry wt. of fruits (76.91 g/plant), dry wt. of total fruits: biomass ratio (7.35) and benefit-cost ratio (12.40), respectively, were observed in T5 (20t VC ha<sup>-1</sup>). So, from the overall findings of this study T5 with 20t VC application ha<sup>-1</sup> is recommended to achieve better growth and yield of capsicum through the sustainable way of rooftop and urban farming systems and to improve soil fertility status.