

DEVELOPMENT OF AN EFFECTIVE GROWING MEDIUM FOR ORGANIC TOMATO IN DRY ZONE HOMEGARDENS OF SRI LANKA

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Tomato is a popular vegetable in the world. Commercial cultivation of tomato uses a higher amount of agrochemicals. Thus, there is an increasing trend of growing tomatoes in homegardens to ensure the safety of foods consumed. However, there is no specific organic growing medium recommended for tomatoes. Therefore, a pot experiment was carried out using a completely randomized design with five treatments and three replicates at *Madatugama, Kekirawa*, Sri Lanka (DL₁b) from December 2020 – March 2021. Thirty tomato plants were included in one replicate. Treatments were T₁ (top soil: sand: compost = 2:1: ¼), T₂ (top soil: sand: compost = 2:1: ½), T₃ (top soil: sand: compost = 2:1: ¾), T₄ (top soil: sand: compost = 2:1: 1) and T₅ (top soil: sand: compost = 2:1:1½). Numbers of branches were counted and inter nodal length, plant height, and plant leaf area were measured as vegetative growth parameters at the flower initiation stage. Numbers of flowers and fruits in the first flower cluster, number of days from transplanting to flowering, weight of fruits in the first fruit cluster, and total yield per plant were used as reproductive growth parameters. There were significant differences among treatments ($p < 0.05$) for all data recorded. T₂ and T₃ resulted higher leaf area, number of flowers, and yield; while, T₁ and T₅ resulted significantly lower plant height, leaf area, and yield. In conclusion, potting mixture T₂ (topsoil: sand: compost = 2:1: ½) and T₃ (topsoil: sand: compost = 2:1: ¾) was the most suitable media for tomato cultivation under homegarden conditions in the dry zone of Sri Lanka.

Keywords: Compost, Dry zone, Growth parameters, Homegarden, Potting mixture