

EFFECT OF DIFFERENT SOURCE OF NUTRIENTS FOR GREENHOUSE TOMATO

(*Lycopersicon esculentum* Mill.)

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Protected culture is now becoming an eye catching commercial venture in Sri Lanka. One of the main constrains that hinders successful cultivation of greenhouse tomato (*L. esculentum*), is the high cost of Albert's fertilizer which is widely used locally. The share of fertilizers in the crop budget is very high, costing Rupees 20 per 1kg of fruit production. Therefore, use of locally available cheaper alternatives is an option to overcome this high cost of fertilizers. Effect of different nutrient combinations was tested in grow-bag culture for greenhouse tomatoes (Volcano- F1 hybrid). Treatments were T₁ (Albert's Fertilizer Mixture), T₂ (50% Albert's Fertilizer Mixture + 50 % Inorganic Fertilizer, Urea + TSP + MOP), T₃ (Inorganic Fertilizer, Urea + TSP + MOP), T₄ (Urea + MOP), T₅ (Compost) and T₆ (Phospho-Compost). Plant growth, fruit quality and yield parameters were measured and nutrient uptake (N, P, and K) was determined by plant analysis. Finally cost-effectiveness of different nutrient combinations was computed. Better nutrient uptake, contributing to faster plant growth was observed in Phospho-Compost (T₆) at late vegetative growth stage (3WAP), while similar plant growth was observed in T₆ (Phospho-Compost), T₃ (Inorganic), T₂ (50% Albert's Fertilizer + inorganic) and T₁ (Albert's Fertilizer) at flowering (5WAP) and early fruit development stages (12WAP). However higher yield and better quality fruits were observed in Phospho-Compost (T₆) and Inorganic fertilizer (T₃). Finally 1kg per grow bag with Phospho-Compost (T₆) was found to be the most economical alternative source of fertilizer for Albert's fertilizer. However, Compost (T₅) and Urea + MOP (T₄)

were found inferior to all the other treatments with respect to growth and yield of greenhouse tomatoes.

Key words: Greenhouse, Tomato, Source of nutrients