

MANIPULATION OF AGRONOMIC AND CULTURAL PRACTICES TO IMPROVE THE YIELD AND QUALITY OF EGGPLANT (*Solanum melongena* L.) SEEDS

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Eggplant covers the second largest extent among vegetables in Sri Lanka. Absence of quality seeds is a limiting factor to achieve potential yield of eggplant. There is no specific recommendation for vegetable seed production in Sri Lanka though seed crops need extra care and nutrition to produce good quality seeds. An experiment was conducted to determine effects of canopy management, fruit thinning, spacing and fertilizer on yield and quality of eggplant seeds at Horticultural Crop Research and Development Institute, Gannoruwa during *Maha* 2013/14. Eight treatment combinations of crop managed with 3 shoots and 7 fruits (T1, T2, T3, T4) and without canopy management and fruit thinning (T5, T6, T7, T8), 2 spacing of 60×60 cm (T1, T2, T5, T6) and 90×60 cm (T3, T4, T7, T8) and 2 fertilizer levels as, recommended fertilizer (T1, T3, T5, T7) and 1 ½ recommended fertilizer (T2, T4, T6, T8) were arranged in a three factor factorial Randomized Complete Block Design with three replications. Seed yield per plant and per fruit, germination percentage, seed vigour (seedling fresh weight, seedling shoot and root length) and thousand seed weight were measured using seeds extracted from fruits harvested at physiological maturity. The seed quality parameters were significantly higher ($p < 0.05$) in T2 where crop management, reduced spacing and increased fertilizer were applied. The highest germination percentage (94%), thousand seed weight (5.1 g), seedling shoot length (3.8 cm), root length (4.5 cm) and fresh weight (0.14 g/seedling) were recorded in T2 while significantly ($p < 0.05$) lower values were recorded in T5 without crop management, reduced spacing and recommended fertilizer. The results revealed that the combination of crop management, reduced spacing and increased fertilizer is desirable for quality seed production in eggplant than the recommended cultural and agronomic practices used under Sri Lankan conditions.

Keywords: Crop management, Eggplant, Fertilizer, Seed quality, Spacing