

# EFFECT OF DIFFERENT PLANTING METHODS ON PLANT GROWTH, GRAIN YIELD AND SEED QUALITY OF VARIETIES OF FINGER MILLET (*ELEUSINE CORACANA*)

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**Abstract:** Finger millet is a climate resilient rainfed crop; its production remains low due to the varietal selection and poor establishment methods. A field experiment was conducted during the Yala season of 2023 at Agriculture Research Station, Thirunelvely to investigate the effects of different planting methods on plant growth, grain yield and seed quality parameters of different varieties of finger millet (*Eleusine coracana* L.). The experiment was laid out in a split plot design with nine treatment combinations namely broadcasting, line sowing and transplanting with three varieties such as Rawana, Oshadha, and Local and replicated three times. Significant differences between means were evaluated by Duncan's multiple range test. Results on transplanting methods significantly ( $P < 0.05$ ) influenced the growth and yield of finger millet. The highest number of tillers (3 nos) per hill was observed in transplanting method followed by line sowing (2 nos) and lastly broadcasting (1 nos). The highest number of ears was produced in transplanting method (4) and the lowest (2) in the broadcasting and line sowing. Transplanting scoring the highest (4) and broadcasting and line sowing the lowest (2). Regarding grain yield, the highest yield was in Rawana variety ( $3.87 \text{ t ha}^{-1}$ ) whilst Oshadha and Local showed the yield of  $3.07 \text{ t ha}^{-1}$  and  $1.9 \text{ t ha}^{-1}$ , respectively. The highest yield of  $3.71 \text{ t ha}^{-1}$  was observed in transplanting method and line sowing and broadcasting showed  $2.74 \text{ t ha}^{-1}$  and  $2.39 \text{ t ha}^{-1}$ , respectively. It can be concluded that cultivating Rawana variety under transplanting method was more appropriate to obtain a higher ear number, tiller number and grain yield in finger millet. Which will help to enhance the economy and health status of low-income farmers.

**Keywords:** Finger millet; Grain yield; Plant growth; Planting methods; Seed quality; Varieties