

Agronomic evaluation of brinjal (*Solanum melongena* L.) and groundnut (*Arachis hypogaea* L.) intercropping system

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A field experiment was conducted to study the biological yield of brinjal (*Solanum melongena* L.) intercropped with groundnut (*Arachis hypogaea* L.). Treatments were arranged in a Randomized Complete Block Design (RCBD) with five treatments and three replications. Treatments were brinjal monocropping (90 cm × 60 cm) (T1), groundnut monocropping (45 cm × 30 cm) (T2), brinjal (90 cm × 60 cm) with groundnut (90 cm × 30 cm) in alternative rows (T3), 60/150 cm paired row planting of brinjal with two rows of groundnut (T4) and 75/120 cm paired row planting of brinjal with single row of groundnut (T5). Brinjal variety *Paluhamam purple* and groundnut variety *Indi* were used for this experiment. Agronomic parameters such as brinjal plant height, numbers of leaves and branches, fresh and dry weights of plant and pod weight per plant were measured, whereas in groundnut, numbers of nodules per plant, fresh and dry weights of plant were recorded at regular intervals. Additionally, harvest index was calculated in each treatment. The study revealed that there were no significant differences in brinjal plant height, numbers of leaves and branches, dry weight of root, fresh and dry weights of pods per plant and fresh and dry weights of leaf, stem and root of groundnut. In contrast, significant differences were obtained in fresh and dry weights of leaf and stem of brinjal and number of root nodules of groundnut. Harvest index of brinjal was high (0.62) in T4. Among the intercropping treatments, T4 performed well in all parameters compared with other treatments. In this study, 60/150 cm paired row planting of brinjal with two rows of groundnut (T4) would be the most suitable planting system to obtain high biological yield.

Key words: Biomass, Brinjal, Groundnut, Intercropping, Harvest index.

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