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Effect of planting geometry on yield of brinjal (*Solanum melongena* L.) intercropped with groundnut (*Archis hypogaea* L.)

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Increased population with limited land resources is imperative to increase agricultural production per unit land area by suitable agronomic practices. Maintaining optimum plant population and intercropping systems are two important factors for consideration to achieve this goal. By appropriate planting geometry, the plant population of base crop can be kept without causing reduction in yield and also there is an additional land area to cultivate an intercrop. Therefore, this study was carried out at the Agronomy farm, Eastern University, Sri Lanka to evaluate the effect of planting geometry on yield of brinjal (*Solanum melongena* L.) intercropped with groundnut (*Archis hypogea* L.). This experiment was designed in a Randomized Complete Block Design with five treatments and three replicates. Base crop (T1) and intercrop (T2) were grown in pure stands and other treatments were brinjal single row with groundnut single row (alternate planting of brinjal and groundnut) (T3) and brinjal paired row with two rows (T4) or one row (T5) of groundnut. Yield components such as 50% flowering, number of pods, weight of pod, length of pod, girth of pod and pod yield were taken at regular intervals. In addition, land equivalent ratio (LER) as an index of intercropping advantage was determined to assess the efficiency of intercropping comparison to monocropping. The results showed that 50% flowering, number of pods, weight of pod, length of pod and girth of pod were not affected by planting pattern. There was no significant difference ($P>0.05$) in brinjal yield among the treatments, however, the brinjal yield in T4 was recorded 8.99 kg per plot (4.5 m^2) and high as compared to other treatments. Land equivalent ratio was superior in all tested intercropping system than monocropping. In intercropping treatments, crop gave higher yield with compared to monocrop brinjal. Brinjal paired row with two rows of groundnut (T4) is most suitable planting geometry to obtain higher yield in brinjal-groundnut intercropping.

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