2 nd INTERNATIONAL SYMPOSIUM

"Modelling the issues and challenges towards sustainable development"

8 th - 12 th July 2008

SABARAGAMUWA UNIVERSITY OF SRI LANKA

ABSTRACTS

ISSN: 1800 - 4407.

The Effect of Intercropping Brinjal (*Solanum melogena L.*) with Groundnut (*Arachis hypogaea L.*) on Weed Population

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An experiment was carried out to determine the effect of intercropping brinjal (base crop) with groundnut (intercrop) on weed population during *Maha 2007/2008* at the Agronomy farm of Eastern University, Sri Lanka. The experimental design was Randomized Complete Block Design (RCBD) with five treatments and three replications. Treatments were, pure brinjal stand (T_1), pure groundnut stand (T_2), single row of groundnut between the single row of brinjal (T_3), double rows of groundnut between the paired rows of brinjal (T_4), and single row of groundnut between the paired rows of brinjal (T_5). Recommended agronomic practices were followed. Weed population per m^2 was measured at regular intervals. *Boerhavia erecta and Hedyotis corymbosa* are the dominant weed species found in the research plots. Complete weeding was done after every counting of weeds. Yield of crops was recorded at the time of harvesting and all the measured data were subjected to statistical analysis.

Results revealed that intercropping significantly ($p<0.05$) reduced the weed population than monocropping (Brinjal) and the reduction was high in the T_4. The planting geometry also had significant ($p<0.05$) influence on weed population and yield. Intercropping brinjal with groundnut increases brinjal yield significantly ($p<0.05$) and high yield (19.97 t ha^{-1}) was obtained in T_4. Land Equivalent Ratio (LER) was greater than 1 in all intercropping systems and high LER (1.57) was obtained in T_4. Groundnut has the ability to fix atmospheric nitrogen and it conserves soil moisture. These might be the possible reasons for the high yield produced by the intercropped brinjal. Thus, double rows of groundnut between the paired rows of brinjal intercrop combination (T_4) could be the suitable planting geometry in terms of weed suppression and yield advantage.

Keywords: **Intercropping, Weed, LER, Monocropping**

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