EFFECT OF PAIRED ROW PLANTING OF RADISH (*Raphanus sativus* L.) INTERCROPPED WITH VEGETABLE AMARANTHUS (*Amaranthus tricolor* L.) IN SANDY REGOSOL

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ABSTRACT

This study was carried out at the Agronomy farm, Eastern University, Sri Lanka to evaluate the effect of paired row planting of radish (*Raphanus sativus* L.) intercropped with vegetable amaranthus (*Amaranthus tricolor* L.) in sandy regosol. It was designed in Randomized Complete Block Design with six treatment and four replicates. Treatments were 20/50 cm paired row planting of radish with three or four rows of vegetable amaranthus in between paired rows of radish and 25/40 cm paired row planting of radish with two or three rows of vegetable amaranthus in between paired rows of radish. Base crop and intercrop were also grown in pure stands. In radish planted as base crop, tuberous root (edible portion of root) diameter, length of tuberous root and total root, fresh and dry weight of leaf and tuberous root and other parameters were recorded at regular intervals or at harvest while in vegetable amaranthus, leaf number, root length, shoot height and leaf area index were measured. In addition, land equivalent ratio (LER) as an index of intercropping advantage and economic net income was determined to assess the efficiency of paired row system in comparison to monocropping.

The results showed that there was no significant difference (P>0.05) in radish yield among the treatments, however, the yield of radish (39.26 tons/ha) in the monocroping was slightly higher as compared to that in intercropping. Land equivalent ratio was superior in all tested intercropping system compared to monocropping. In economic point of view, 20/50 cm paired row planting of radish with four rows of vegetable amaranthus in between paired rows of radish gave higher returns, however radish yield was low (34.81 tons/ha) as compared to that in intercropping. In 20/50 cm paired row planting of radish with three rows of amaranthus in between paired rows of radish, base

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