

**NATURAL AND CONVENTIONAL FARMING OF CHILLI
(*Capsicum annum L.*) CULTIVATION WITH EMPHASIS
ON INTERCROPPED LEGUMES UNDER NATURAL
FARMING**

BY

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ABSTRACT

The experiment was set up on sandy regosol at Crop Farm, Eastern University Sri Lanka during the period of May – September 2015. Chilli (cultivar KA-2), Blackgram (*cv* MI-1) and Cowpea (*cv* waruni) were included in the experiment which was laid out in Randomized Complete Block Design with four replications to evaluate the production of chilli under natural and conventional farming with emphasis on intercropped legumes under natural farming. Treatments were 45-60 cm spacing of chilli and two rows of blackgram (30 cm × 15 cm) between the chilli rows and 45-60 cm spacing of chilli and two rows of cowpea (30 cm × 15 cm) between the chilli rows under natural farming system. Chilli, blackgram and cowpea under natural and conventional farming systems were also grown in pure stands. Plant height, number of branches, number of flowers, yield and fruit per plant were recorded at regular intervals or at harvest. In addition, land equivalent ratio (LER) as an index of intercropping advantages and economic net return and cost of cultivation were determined to assess the efficiency of intercropping in comparison to natural and conventional farming.

The result showed that there was no significant difference ($p > 0.05$) in blackgram and cowpea yield among the treatments. However, there was significant difference ($p > 0.05$) in the yield of chilli. In the economic point of view chilli intercropped with cowpea (T5) gave higher return (Rs.342,967.00 per ha) followed by chilli intercropped with blackgram T4 (Rs.335,578.00 per ha), sole chilli under natural farming system T1 (Rs.173,845.00 per ha) and the sole chilli under conventional farming system T6 (Rs.118,913.00 per ha). Land equivalent ratio was superior in all tested intercropping system compared to mono-cropping. Cost of cultivation was

high in chilli intercropped with cowpea T5 (Rs. 83,074.00 per ha), followed by chilli intercropped with blackgram T4 (Rs. 80,470.00 per ha), sole chilli under conventional farming system T6 (Rs. 67,538.00 per ha) and sole chilli under natural farming system T1 (Rs. 50,630.00 per ha).

In the present study, the production potential of chilli cultivation is more with intercropped legumes under natural farming system. The net return and rupee per invest is higher in sole chilli under natural farming system compared to sole chilli in conventional farming system. Intercropping could be recommended for farmers if they could invest money for their cultivation. On the other hand, small holding farmers could establish natural farming system.

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