

### Short Communication

## Influence Of FYM And Nutrients On Ridge And Sponge Gourd Yield Intercropped With Coconut Palm In South Andaman

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The Andaman and Nicobar Islands situated between 6° to 14° N latitude and 92° to 94° E longitude lies in the Bay of Bengal. The cultivable area in these islands is very less to support the food requirement of human population inhabiting it. Coconut plantation occupies 24746 hectares of land in Andaman and Nicobar Islands. Coconut is grown in 6693 hectares in Andaman district only and being either new or more than 20 years old plantation, the interspaces can be utilized for intercropping and mixed cropping. Vegetables, which are the integral part of our nutrition in scarce commodity and are highly priced in these islands. The horizontal expansion of area under cultivation is not possible considering the damage it could cause to the delicate ecosystem of these islands.

Coconut plantation (up to 8 years of planting and after 20 years of age) offer excellent scope for intercropping. Intercropping helps to meet the food requirement besides increasing the net returns per unit area Nair and Varghese, (1976). Only 28% of the land is occupied by the coconut palms Kushwaha *et al.* (1973) and the root activity was confined to a lateral distance of 2 meter from the trunk Anil Kumar (1995). According to Bavappa (1995), the light penetration in older palms spaced at 7-10 meter is 43% of the normal sunlight, which makes possibility of cultivating shade tolerant crops in the interspaces. In coconut plantations of Andamans, cucurbitaceous vegetables especially ridge gourd, sponge gourd and cucumber performed well and promising varieties of these vegetables have been identified. This study has been conducted with the objective of standardizing the manure and fertilizer requirement of ridge and sponge gourd cultured in interspaces of coconuts.

Field trials were conducted during May to August and September to December seasons of 2000 and 2001 at the Sipighat farm of Central Agricultural Research Institute, Port Blair in Randomized Block Design. The soil of the experimental site was clay loam, acidic in nature (pH 5.0), medium in organic content (0.66%) and low in available phosphorus (8.9 kg/ha) and potassium (94 kg/ha). The coconut palms (West Coast tall) in the experimental plots were 25 years old and were spaced at 7.5 x 7.5 m apart.

The fertilizer doses recommended for adult palm/year in this region is 500 g N, 320 g P<sub>2</sub>O<sub>5</sub> and 1200 g K<sub>2</sub>O and it is being applied as pre and post monsoon doses. Ridge and sponge gourd can be grown round the year in these islands with 50-60 days to first harvest Shridhar and Sharma (1993). The annual rainfall received during 2000 and 2001 was 2750 and 2746 mm, respectively and the high rainfall period extending over 7 months from May to November. The area occupied by one coconut palm is 28.2m<sup>2</sup> and hence the net area available for intercropping is 5206m<sup>2</sup> in one hectare of coconut plantation. The number of treatments were five viz., T<sub>1</sub>: Control; T<sub>2</sub>: Recommended dose of 30:40:30 kg/ha of NPK, T<sub>3</sub>: 50 % higher doses of nutrients recommended; T<sub>4</sub>: FYM alone @ 25 t/ha and T<sub>5</sub>: 50% of the recommended dose + 50 % of FYM and were replicated four times. The plants were spaced at 150 x 60 cm apart. Pusa Nasdar of ridge gourd (*Luffa acutangula* Roxb.) and a local variety of sponge gourd (*Luffa cylindrica* Roem.) were used as planting material for the respective trials. The data on yield of vegetables were recorded and analysed statistically. The benefit cost ratio of each treatment was calculated and so also the average net yield per palm per year during the pre-experimental and experimental periods.

#### Ridge gourd :

The maximum yield for the May-August crop was recorded by the treatments T<sub>5</sub> (50% of the recommended dose + 50 % of FYM) for the two years (10.7 t/ha and 10.3 t/ha for the first and second year, respectively) and was on par with all other treatments except for control (Table 1). The benefit cost ratio was however the highest for treatment T<sub>5</sub> (3.55 and 3.44, respectively for the years 2000 and 2001). The September-December crop also exhibited a similar trend (table 1). The maximum yield of 11.8 t/ha and 11.3 t/ha, respectively for the first and second year was recorded when 50% of the recommended dose of NPK+ 50 % of FYM was applied. The same treatment also recorded the highest benefit cost ratio of 3.91 and 3.76 for the first and second year, respectively (Table 1).

#### Sponge gourd :

For the may-August crop (Table 2) the maximum yield of sponge gourd was recorded by T<sub>5</sub> (50% of the recommended dose of NPK+ 50 % of FYM) for both the

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