

## POSTER PRESENTATION

### NOTE ON THE INTER-CROPPING OF MULBERRY IN COCONUT PLANTATION

N. R. SHANTHAMALLAIAH, T. N. VENKATESHA GOWDA, R. KRISHNA  
MANOHAR, B. SHIVAYOGISHWARA, AND P. BALAKRISHNA,  
All India Co-ordinated Coconut and Arecanut Improvement Project,  
Agricultural Research Station, Arsikere, Karnataka.

Reprinted from: PLACROSYM-V : 1982 : pp. 465-467  
Proceedings of the Fifth Annual Symposium on Plantation Crops,  
held at CPCRI, Kasaragod in Dec. 15-18, 1982.  
Sharada Press, Mangalore-574 005  
November, 1984

# NOTE ON THE INTER-CROPPING OF MULBERRY IN COCONUT PLANTATION

N. R. SHANTHAMALLAIAH, T. N. VENKATESHA GOWDA, R. KRISHNA MANOHAR, B. SHIVAYOGISHWARA, AND P. BALAKRISHNA,  
All India Co-ordinated Coconut and Arecanut Improvement Project,  
Agricultural Research Station, Arsikere, Karnataka.

## ABSTRACT

An observational trial to study the feasibility of growing mulberry crop in coconut plantation was laid out for three years from 1978. The results indicate that growing mulberry as a mixed crop in coconut has no adverse effect on the growth and productivity of the coconut crop. Silk worm rearing and cocoon production using the leaves of mulberry, grown as a mixed crop in an area of 0.4 hectare, increased the net return from Rs. 4811/- (coconut alone) to Rs. 16,182/- (coconut + mulberry). The employment opportunities were also more than doubled compared to monocropping practice.

## INTRODUCTION

Growth habit of the coconut palm and the pattern of its utilization of soil nutrients, and solar energy permits other crops to grow in compatible combinations (Kushwaha *et al.*, 1973; Nelliath *et al.*, 1974; Nair and Balakrishnan, 1976). The wider spacing of 9×9m generally adopted in maidan tract of Karnataka unlike the 7.5×7.5m spacing in coastal areas, increases further the available interspace for other crops. Therefore, growing of mulberry as an inter-crop with coconut was explored in a trial under the All India Co-ordinated Coconut and Arecanut Improvement Project at the Agricultural Research Station, Arsikere.

## MATERIAL AND METHODS

Two plots consisting of 8 palms (650m<sup>2</sup>) were selected, one for control and the other for raising intercrop. Mulberry crop was planted leaving a space of 2 meters around the base of the palm. Recommended package of practices were followed as for pure crops (Krishnaswamy, 1978; Anon., 1979). Rearing trials were carried

out using mulberry leaves harvested from plants grown as intercrop under coconut shade, and also those obtained from plants grown in open area.

## RESULTS AND DISCUSSION

The observations are presented in Tables 1 and 2. The results showed that mulberry as an intercrop in coconut gardens has no

**Table 1.** Economics of intercropping mulberry in coconut gardens

Treatment	Economics of cultivation/ha/year					
	Yield of coconut (No.)	Cocoon yield* (Kg)	Gross income (Rs.)	Cost of Cultivation (Rs.)	Net return (Rs.)	Man-days
Coconut + mulberry	5125	375*	18818	3981	16182	265
Coconut alone	4925	—	6881	2070	4811	127

\*100 layings, 4 crops a year.

**Table 2.** Effect of coconut shade on the rearing qualities of mulberry leaves (mean of rearing 50 silkworms)

Character	Leaves from mulberry inter-crop	Leaves from mulberry pure stand
Weight of leaves fed (kg)	1840.00	1759.00
Weight of worms (g) (before spinning)	200.00	203.00
Length of cocoon (cm)	3.52	3.30
Girth of cocoon (cm)	6.40	6.43
Weight of cocoon (g)	1.41	1.56

adverse effect on the main crop. The cocoons produced from larvae fed with leaves from plants grown under shade and open area showed very little difference in their silk yield properties. The net return obtained in 1981 from a hectare was Rs. 26,248 by growing mulberry crop with coconut, with an employment potential of 273 man-days as compared to Rs. 7800 in the monoculture with an employment potential of 128 man-days. The present trial opens up the possibility of growing mulberry as an inter-crop in the wider spaced coconut gardens in the maidan tract of Karnataka.

## REFERENCES

- ANONYMOUS 1979. *Mulberry cultivation and Silkworm rearing*. The Regional Rural Communication Centre of the Asian Institute for Rural Development, Bangalore.
- KRISHNASWAMY, S. 1978. *Mulberry cultivation in South India*. Department of Sericulture, Government of Karnataka, Bangalore.
- KUSHWAHA, B. L., NELLIAT, E.V., MARKOSE, V.T. AND SUNNY A. F. 1973. Rooting pattern of coconut in sandyloam soil. *Indian J. Agron.*, **18**: 71-74.
- NAIR P.K.R. AND BALAKRISHNAN, T. K. 1976. Pattern of light interception by canopies in a coconut-cocoa crop combination. *Indian J. agric. Sci.*, **46**: 453-462.
- NELLIAT, E. V., BAVAPPA, K.V.A. AND NAIR, P.K.R. 1974. Multi-storeyed cropping—a new dimension in multiple cropping for coconut plantation. *World Crops*, **26**: 262-266.