SERICULTURE IN COCONUT GARDEN

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Coconut growers in India are predominantly small and marginal farmers whose time, land and resources are underutilised, especially if coconut is grown as a sole crop. Coconut is perhaps one of the least labour oriented long living plantation crop with an economic life span of 50 to 60 years which utilises only 30-50% of the land, sunlight and moisture from the coconut garden. The long juvenile (pre-bearing) stage of coconut extending to a period of 4 to 10 years depending on variety, agroclimatic condition and management practices, the under utilisation of family labour , etc. compels a farmer to grow intercrops in coconut garden to obtain some returns during the pre-bearing stage of the palm and to augment the income later and also to be in employment throughout the year. Sericulture is an agro based cottage industry ideally suited to the small and marginal coconut farmers in which mulberry is grown as a perennial intercrop in coconut garden.

Sericulture is a labour intensive, agro based cottage industry, the end product of which is silk. It comprises of three distinct activities viz. (i) cultivation of mulberry (ii) rearing of silk worms and (iii) reeling of cocoons. Mulberry is found as an ideal perennial intercrop for the non-traditional areas for coconut viz. Madhya Pradesh. Presently it is grown at the Demonstration-cum-Seed Production Farm of Coconut Development Board at Kondagaon in Bastar District, on trial basis.

MULBERRY CULTIVATION

Mulberry is a hardy, perennial which can be grown in a wide range of soil and climatic conditions. The optimum climatic conditions for luxurient canopy growth of mulberry are - temperature 22°C to 30°C, rainfall between 1,000 mm to 2,500 mm and relative humidity of 60-85 per cent. Kanva-2, Mr-2, S-54 etc. are some of the high yielding varieties of mulberry recommended for cultivation in Madhya Pradesh.

Mulberry is propagated by cuttings obtained from hard wood branches of one year old plants. Rooted cuttings are prepared in nursery from pencil thick 15-20 cm long cuttings having 3 to 4 healthy buds. Rooted cuttings are planted on ridges formed at a distance of 60cm. The plant to plant distance should be 30cm. Planting could be done during June-July by the onset of South-West Monsoon. Proper weeding or light digging should be done once or twice, three months after planting for proper soil aeration. In the established mulberry gardens deep digging or ploughing should be done after pruning.

MANURING

Farm yard manure at the rate of 20 tonnes per hectare should be incorporated in the field every year after bottom pruning of mulberry. The fertiliser recommendation for an irrigated crop is 250:100:100 kg NPK per hectare per year which may be incorporated into the soil in two or three splits.

To ensure higher and quality leaf yields supplementary irrigations are required. The frequency of irrigation varies from 8 to 15 days according to the soil type.

PRUNING

Pruning is an important cultural practice required to invigorate mulberry plants to produce maximum tillers and leaves. It should be done twice a year at a height of 60cm from the ground.

HARVEST

Leaf harvesting is done by picking individual leaf once in 45-60 days. A well maintained mulberry garden as an intercrop in coconut will yield 20,000 to 25,000 kg of leaves per hectare per year which is sufficient to rear 2,000 to 2,500 DFLS (Disease Free Layings of Silk worms).

REARING SILK WORMS

Silk worm (*Bombyx mori.* L.) passes through four stages viz. the

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egg, larva, pupa and adult during its short life span of 40 to 50 days. The popular hybrid race L x NB_4D_2 (Multivoltine x Bivoltine) of silkworm can be reared throughout the year.

Since silkworm is a delicate and domesticated insect, it is reared in protective hygienic enclosures called rearing house. Good quality silkworm eggs can be obtained from the Central Silk Board offices / State Sericulture Department offices or authorised grainages. Rearing work is a semi skilled job requiring practical training which can easily be obtained from the various Field / Extension units of Central Silk Board and State Sericulture Department. Feeding the leaves should be in choped form for effective utilisation of leaves. Depending upon the age of the worms, the age and size of the leaves should also be regulated.

ECONOMICS

One hectare mulberry as an intercrop in coconut yields about 20,000 kg leaves which can be used for 2,000 DFLS. 100 DFLS can yield about 30kg cocoon, thus obtaining 600kg cocoon/hectare/year. At the present market rate of Rs.40 per kg the cocoons can fetch Rs.24,000/hectare. This apart, the litter obtained while rearing is a good organic manure containing 3-4% N and small quantities of other macro and micro nutrients which could be effectively used as a good manure for coconut.

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