

INTERCROPPING OF MEDICINAL PLANTS IN COCONUT LANDS

H A J Gunathilaka
Coconut Research Institute
Lunuwila, Sri Lanka

The success of intercropping depends on the favourable conditions prevail in the coconut lands. The popularly known intercrops under coconut are Pepper, Coffee, Pineapple and Banana. Apart from these crops Rambutan, Cinnamon and Cashew are also popular intercrops under coconut

In the recent past, use of indigenous medicines are receiving more and more popularity locally. Most important medicinal plants are *Tippili*, *Komarika*, *Katuwelbatu*, *Egurupiyali*, *Senehekola*, *Aswaganda*, *Irriweriya*, *Polpala*, *Ratnitol*, *Kapukinissa*, *Amukkara* and *Adathoda*.

The continuous indiscriminate exploitation of these plants from the natural forest resulted not only some of these species are at the verge of extinction but also some are identified as endangered species. To meet the increasing local demand for the quality medicinal drugs and the difficulties in the local supply due to the scarcities of these plants, we are

forced to import them. During the import most of these drugs loss their actual medicinal values and qualities, because of the improper packaging and long delays in transport.

The Coconut Research Institute initiated research programmes to overcome these problems by selecting several important species of medicinal plants for cultivation under coconut. The results observed from these programmes were promising.

Tippili, *Komarika*, *Adathoda*, *Egurupiyali* and *Ratnitol* are recommended for the wet zone under coconut. On the other hand *Katuwelbatu*, *Senehekola*, *Kapukinissa*, and *Amukkara* are suitable for intermediate and intermediate wet zones. The details of cultural practices and yields are given below in the table 1 and 2 respectively.

Table 1 : Various cultural practices adopted during intercropping of medicinal plants

Name	Spacing (cm)	Density plants/ha.	Parts/ used for medicine	Age/maturity	Remarks
Tippili	75 x 75	11,700	Stem cuttings	4-12 months	Prefer shade
Rathnitol	60 x 60	18,000	Stem cuttings	One year	Shade tolerant
Igurupiyali	60 x 45	24,000	Rhizome	One year	Shade tolerant
Komarika	50 x 30	44,000	Leaf	8 months to 2-3 years	Shade tolerant
Adathoda	50 x 30	12,000	Stem cuttings	8 months to more years	Shade tolerant
Katuwelbatu	45 x 15	95,000	Seeds	6 months to one year	Need more sunlight
Ammukkara	60 x 30	36,000	Seeds	6 months to one year	Need more sunlight
Senehekola	60 x 30	36,000	Seeds	6 months to one year	Need more sunlight

Source : Agronomy division - C.R.I.

Table 2: Yields, parts used as medicine and medicinal values

Name	Parts/medicinal value	Yield/plant (g)	Yield/ ha/yr. (kg)	Medicinal products	Medicinal value in % (1 st year)
Tippili	Pods (Dried)	32	379	Pyperic	0.8
Rathnitol	Roots (Dried)	87	564	Sprit	23.0
Igurupiyal	Rhizome (Dried)	45	1084	Votatile oil	8.7
Aloe vera	Leaves (Dried)	1145	50380	Fresh sprite	2.2
Adathoda	Whole plant (Dried)	133	1590	Votaltile oil	-
Katuwelbatu	Whole plant (Dried)	10	960	Alkaloides	0.8
Ammukkara	Roots (Dried)	15	547	Alkaloides	0.3
Senehekola	Leaves (Drived)	2	47	Senocides	1.2

Source : Agronomy Division - C.R.I.

Note

- a) Planting should be carried out in raised beds, in the coconut square.
- b) Leave space for infrastructure development and two meters width of space from each base of coconut palms. The spacing varies with the soil and the plant habits.
 - I. Preparation of weed free land is very important.
 - II. Planting should be carried out with the on set of rains.
 - III. As a basal dressing add 10 kg of cow dung and 500g of concentrated superphospate per coconut square.
 - IV. Apply 10 kg of cow dung and one kg of urea once in three months.
 - V. No major pests or diseases observed.
 - VI. The method of harvesting and processing of the products varies according to the plant.

Example:

- a. *Tippili* - Harvest the matured pods and sun dry.
 - b. *Rathnitol* - Up root 8-12 months old plants and prune the shoots. Sun dry the roots which is used for medicinal purposes.
 - c. *Comarika* - Harvest matured leaves and extract the spirit (Juice) by mechanical crushing.
 - d. *Ingurupiyal* - Harvest the rhizome when the plant is 8-12 months old. Sun dry the harvested rhizomes.
 - e. *Katuwelbatu* - uproot 5 months old plant and sundry.
- VII. Some medicinal plants thrive well in special soil types.
- Ex: *Komarika* / Well drained boralu soil
Rathnitol / Sandy loam soil
- VIII. Large scale commercial medicinal plants could be undertaken based on the market and the demand.