

GLIRICIDIA INTERCROPPING ENHANCES PRODUCTIVITY OF COCONUT LANDS

In coconut growing areas, *Gliricidia sepium* (Jacq.) Walp. has been grown traditionally as hedge trees along boundary fences. Research undertaken by the Coconut Research Institute of Sri Lanka for more than five years has clearly demonstrated that *Gliricidia* can be successfully intercropped with coconut in the unutilized space between palms. Another important finding that emerged from this work is that even without the application of mineral fertilizers to *Gliricidia*, it performs well without causing detrimental effects on mature coconut plantations. In fact, the available data suggest that palms derive a greater benefit from *Gliricidia* intercropping. It has been proven that amongst several multipurpose tree species tested under coconut, *Gliricidia* is undoubtedly the most promising species, particularly on less productive marginal lands. A well established *Gliricidia* intercrop is capable of producing about 8 to 10 t/ha of fresh loppings from three prunings a year. It has also been found that *Gliricidia* raised from seedlings is capable of producing a higher leaf biomass of 12 - 15 t/ha/year, than those from cuttings, especially in drier parts of the 'Coconut Triangle'.

Although *Gliricidia* is widespread throughout the coconut growing area, no serious attempt has been made so far to explore its potential benefits for the improvement of unproductive coconut lands. Nearly 60% of coconut plantations in the Wet and Intermediate agroecological zones with lateritic gravel (Ultisols) suffer from degraded soil conditions. Studies have shown that the incorporation of *Gliricidia* loppings to 20 cm depth of soil can restore the fertility status of degraded ultisols, as evident from a substantial improvement of water holding capacity, organic carbon and earthworm activity and marked reduction in bulk density. The coconut palms along the stretch of land are known to be low yielding, producing around 40 nuts/ palm/ year. By opening quarter circle trenches (30 cm wide, 60 cm deep) around

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the palm, 30 cm away from its base and filling with 30 kg of *Gliricidia* lopping mixed with soil it is possible to induce new coconut roots and push yield in the region of 55 nuts/ palm/ year.

Another beneficial role of *Gliricidia* is that loppings make an ideal green manure for coconut palms. It has been found that the application of at least 30 kg loppings around each palm can completely replace nitrogen input and about 20% of phosphorus and potassium requirement of mature palms, thereby reducing the cost of fertilization by as much as 40%. This indeed is a very important finding as less than 20% of coconut plantations in the country actually receive inorganic fertilizer mainly due to high cost.

Integration of coconut with livestock, mainly cattle is a popular farming practice for increasing the productivity of marginal lands. Scarcity of pasture herbage during the dry season and poor nutritive value of herbage and crop residues such as rice straw are serious problems associated with livestock rearing. The incorporation of *Gliricidia* foliage containing 22% crude protein with low quality herbage in the proportion of 1:1 can improve the feed intake by cattle, resulting in higher live weight gains during the wet season. Further more, *Gliricidia* foliage makes an excellent feed for livestock during the dry season when mixed with readily available rice straw in the proportion of 5 kg *Gliricidia* to 10 kg straw.

These findings suggest that *Gliricidia* can be successfully intercropped with coconut using minimum external inputs, to improve coconut land productivity, without detriment to coconut palms.

COCONUT GROWERS ASSOCIATION

A long felt need, in the coconut sector was accomplished with the formation of a coconut growers association the CRI acting as a catalyst. This generous move was initiated by the CRI. The coconut growers were apprised of the need to organise themselves into an association with a view to securing a cost effective package, and to farmout the latest benefits available. The first assembly was in the auditorium of the CRI on 9 April 1994. The Chairman of the CRB Mr Naomal S Dias, the Director Dr M de S Liyanage, and the Head, Information Services Division Mr Henry Nimal

addressed them with all facts and figures in relation to the important contribution being made by the 'raw material maker' the coconut grower, to the whole coconut industry while absorbing all the possible adverse effects of an insecure pricing system.

A steering committee was appointed amongst those present, which was set to draft a constitution, and to proceed with for future prospects. The CRI wishes the new association every success.



Dr. M. de S. Liyanage, Director CRI, is addressing the meeting