Tea Bull. 13(1), 09-13, 1993.

INTERCROPPING TEA WITH RUBBER

E.B. Ananda de Zoysa*
(Superintendent, Vogan Group, Matugama)

If tea is to be grown successfully, the land selected should meet certain basic requirements such as adequate depth of soil, reasonable amount of top soil, absence of slab rock boulders, stones and surface gravel.

Large extents of lands in the Kalutara and Kegalle districts do not satisfy these basic requirements. This was evident from the very high percentage of casualties of tea we had in the severe drought experienced in 1992. We lost as much as 50% of our tea bushes. In most of our replantings/new plantings which were one to four years old, the casualties were as high as 80%. I am aware that in two estates in the Kalutara district, almost the total extent of tea was wiped off.

As most planters of the Kalutara and Kegalle districts are aware the present stand of tea bushes per hectare is less than 50% of the original stand with an average yield of less than 800 kg per ha in the majority of estates.

---

* The Institute does not necessarily endorse the views expressed in papers contributed by persons other than the members of its staff.

In the circumstances, are we going to suspend replanting or in extreme cases give up planting of tea altogether. If we do so, we will have a heavy excess of labour and the viability of the plantations will further diminish.

We also have to keep the tea factories in full production. Before the management of estates were privatised, most factories in Kalutara, Kegalle and in the lower elevations of Ratnapura district were run under capacity and manufacture was undertaken only every other day. After privatisation, the small holders were paid an incentive over and above the Tea Commissioner's formula and the Factory Staff too were paid an incentive for the manufacture of outside leaf. With these incentives the factories came into full production.

However, it is prudent that a minimum of 50% of green leaf that comes into the factories should be our own estate leaf. The present situation is that in all factories in the Kalutara, Kegalle and in lower elevations of Ratnapura districts, 80% is leaf collected from the small holders and only 20% is estate leaf.

What is the solution to remedy this situation? In most parts of the world, monoculture is being done away, giving rise to multi-cropping for better co-existance. Benefits are derived from crop to crop resulting in improvement of soil fertility, soil moisture retention, arresting soil erosion, soil temperature, etc.

In view of such benefits the interplanting of tea with rubber should be undertaken in our average to marginal soil conditions in the low-country.

During the severe drought of 1992, planters would not have failed to notice that the tea fields adjoining the rubber fields had minimum casualties.

The Tea Research Institute in collaboration with the Rubber Research Institute commenced a series of experiments in the estate sector in 1986 to intercrop tea and rubber. The progress reported was very satisfactory and encouraging. I am personally aware that on Miriswatte Estate, Welipenna in the Kalutara district, where I was the Visiting Agent, there was hardly any casualties in the interplanted experimental blocks, but there were extensive casualties in the adjoining fields planted in the same year.

In the experiment on Miriswatte Estate, rubber was planted at a spacing of 30' between the rows and 8' in the row while the tea was planted at 4' x 2'. However, it must be stated that the cropping of the tea was poor due to heavy shade from the rubber trees.

It is my experience that the rubber should be planted at a spacing of 40' between the rows and 8' in the row. With this spacing, there will be adequate sunlight for the tea. The Rubber Research Institute is of the opinion that 25% of the lower branches of the rubber trees could be lopped without adverse effects on the flow of latex. If this is adopted sunlight will not be a restriction for the tea.

At a spacing of 40' x 8' there will be 336 rubber trees per hectare which is 67% on the full stand of 500 rubber trees.

Mana grass should be planted at the same time the rubber is planted in the inter rows for the purpose of rehabilitation of the soil and the tea crop introduced two years later.

For rehabilitation of the soil mana grass is preferred to Gautamala as the latter can be unwieldy and if not kept under control may encroach and smother the young rubber plants.

It is also preferable to plant the rubber in poly bags with two to three leaf whorls than planting bare root budded stumps. This will give some form of shade initially to the young tea plants when the tea is planted two years later.

The tea will be planted 6' away from the rubber rows at a spacing of 3 1/2' x 2'. The stand per hectare will be 10769 bushes per hectare which is 72% on a full stand of 15000 tea bushes per hectare.

A low shade should be introduced with *Gliricidia* in the centre of the tea row at a spacing of 20'.

The rubber clone that should be planted is RRISL 121 which is high yielding and an upright clone which will give less shade to the mature tea in plucking.

The tea clones that should be planted are TRI 2025, TRI 2027, TRI 2016 and S 106. They

are hardy clones which will withstand drought conditions and are most suitable for average to marginal soils.

Intercropping tea and rubber is an ideal concept for the small holders. When there is wet weather tapping of rubber trees is not possible but during such weather, the tea will flush well giving adequate income for the green leaf. Similarly, when drought conditions are experienced, crop will be poor in the tea but it will be possible to tap the rubber trees generating further income.