

# \* DESMODIUM OVALIFOLIUM AS A COVER CROP FOR TEA.

By

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(Received 8th April, 1951)

*This article, though not wholly in accord in detail with the previous article on the maintenance of fertility in tea soils, is written in the same spirit. His Excellency the Governor-General addressing the Tea Research Institute Conference in December 1950 referred to the industry in terms of "Trustees" for a heritage of soil fertility which must be preserved by each succeeding generation.*

*The writer of this article asks what should be done to preserve cover after pruning when "the best cover crop for tea" is unable to function as a cover crop—a very pertinent question.*

*The mulch arising from the prunings of a heavy cover of tea should provide part of the answer. This leaf mulch is probably more useful on the surface for some time after pruning than it would be if forked into the ground. Green manures should also be used to give protection to soil exposed by pruning but spraying, as protection against blister blight during the very vulnerable period after pruning, complicates the growing of green manures. Ground cover, so long as it can be kept under control, would be in many ways more convenient than green manure. The views and criticisms invited by Mr. Fernando could be published in this journal.*

With the kind permission of Messrs. The Panadura Tea & Rubber Co. Ltd., the Proprietors of Enselwatte Group, Deniyaya, I am able to state what has been done on this group to solve the question of soil erosion. Before pro-

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

ceeding further, I must record that this work would have not been possible were it not for the whole-hearted co-operation of the Company, and its Manager, Mr. L. C. de Mel.

The elevation of this group is approximately 1,500 feet arising to 3,500 feet. In 1946 a tea field, 18 acres in extent, was planted with *Desmodium* cuttings one foot apart on alternate rows after the field had been pruned. The age of this tea field at the time was five years. Incidentally, this is replanted tea in tea land that had been abandoned and allowed to grow into patna.

The cost of planting *Desmodium* was six labourers per acre. One year after planting *Desmodium*, there was a fair cover of it. Once the cover was well established weeding was done only round the bush. Fortunately, at this elevation, *Desmodium* has more creeping qualities than in the real low-country, but it is in no way a nuisance when weeding gets out of hand. It can be kept for two months without giving much trouble, i.e., without its creeping on to the tea bushes and plucking surface. I do monthly weeding round the bush and the cost is only two or three labourers per acre. I have found that there is almost nothing to be cleaned in the silt pits in the drains after one year. While this fact reduces expenditure, it proves to what extent soil has been conserved. It may dispel the belief, which is rooted in some quarters, that only 25% of the rain water sinks into the soil and 75% drains off to rivers.

Comparative yield figures are given below of another field, which is of the same jat but which was planted a year earlier and has no cover, and the corresponding figures of the field that has the *Desmodium* cover. The planting distance of the tea in both these fields is 3— x 3—.

Year	23 acre field (Without <i>Desmodium</i> cover). Yield in lbs. made tea.	18 acre field (With <i>Desmodium</i> cover). Yield in lbs. made tea.
1944-45	76	—
1945-46	231	23
1946-47	248 (p)	200 (p)
1947-48	598	659
1948-49	547 (p)	589 (p)
1949-50	686	754
1950-51	712	831

(p) denotes pruning.

The increase in crop, I feel, is definitely due to the improvement to the soil and the conservation of it by the aid of a ground cover. One has really to see the improvement in the soil structure to realise how much can be done in a short space of time to improve the soil by a cover that suits the particular locality.

Provided I am given timely notice, I shall be very glad to conduct anyone interested in ground covers for tea around these blocks. After five years of experimenting, I am full convinced that there is nothing detrimental to the tea bush or tea crop by planting *Desmodium ovalifolium* in tea as a cover. I am planting the whole tea area of this group with it.

In conclusion, I would welcome views and criticisms of planting members of their experiences of *Desmodium* and other cover crops in tea. It would be of interest to learn of their successes or failures. I may, therefore, ask this question from members who believe that tea is the best cover for tea: How could soil be conserved after pruning and before the bush expands especially when pruning is done during one of the monsoons? During such seasons, due to impact of rain on the soil, much erosion is bound to take place, as tea is a crop which can be successfully cultivated only in districts with a good rainfall.