GROUND COVER ON A DIMBULA ESTATE*

C. HUNTLEY-WILKINSON.

Since the article headed "Some Indigenous Weeds" appeared in *The Tea Quarterly*, 1933, Vol. VI, page 176, more experience has been gained and the following further notes may be of use to those who feel it would be beneficial to proprietary interests to arrest the soil denudation which continues annually. Before the dry period of the current year certain "Ground Covers" were established, mostly in exposed beds, on the same estate and were deliberately subjected to a severe test of not being watered except at rare intervals. I tabulate below the list of these with my observations on their utility.

Artemisia vulgaris.—This has survived the ordeal very well. Stringent measures are taken, however, to eradicate it from the tea area when it appears—not because I am convinced it is harmful, provided the ground is forked at frequent intervals, but because there is such great prejudice against it generally and there are so many more ground covers which to my mind are definitely harmless to tea.

Cardamine trichocarpa.—This has not survived the ordeal and I have therefore cut it out as a useful ground cover in Dimbula.

Cardamine hirsuta.—The same remarks applies here.

---

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

Hedyotis monosperma.—This has barely survived but I have reason to think that it would do so if grown under tea.

Desmodium triflorum.—This has survived but the same remark applies to it as to *Artemisia vulgaris.*

Laurembergia wangerinii.—See remark under *Hedyotis monosperma,*

Biophytum proliferum.—This has done extremely well and it also affords a splendid cover in tea. Its roots are not deep seated. It is, however, not definitely self-establishing even if left alone by the weeder. A 13-acre field has been planted with roots of this. *Biophytum proliferum* is abundant in grass ravines.

Plantago lanceolata.—This is the ordinary lawn plantain and has very deep seated roots. It is not favoured for the same reason as *Artemisia vulgaris.* Foliage is actually non-existent in the bed in which it had established but I have reason to believe that it will shortly throw out new leaves.

Centrosema pubescens.—This has grown in abundance. It is not actually growing in the tea. The objection against it would be that it requires careful control to prevent its climbing up the bushes.

The larger *Desmodium* (with the purple flower) probably *D. Heterophyllum.*—This has done very well and promises to be an efficient ground cover but requires "introducing" which is a disadvantage.

Ranunculus wallichianus is very shallow rooted. It did not however survive the ordeal very well but is abundant at 4,000 feet under tea after the drought.

Centella asiatica.—Survived very well. The same remark applies here as that made about *Artemisia vulgaris.*

Cassia mimosoides.—A splendid ground cover and has survived well but requires actually introducing.

Cassia kleinii.—The same remark applies here as to *C. mimosoides.*

Triflorum subterraneum—is now practically non-existent and I do not fancy it is a perennial; in this case it will not be much use. I would make this same remark concerning most Clovers which require introducing and are not likely to last. The same remark applies to Lupins.

Justicia procumbens.—There is no doubt of the survival of this and it has done almost as well as *Biophytum proliferum* under the severe test. This is left to grow where existent in tea and it promises to spread rapidly. It has a small harmless fibrous root and could easily be eradicated at any time. There is a slight tendency for it to climb but control is easy. It is to be found throughout Dimbula in tea and has even been observed growing at Elephant Pass. If anyone wishes to establish a ground cover quickly, I would strongly recommend this plant. The nitrogen content of the leaves was determined at Peradeniya and is 0·72 per cent. which is slightly higher than that of sunflower.

Cassia leschenaultiana.—This was introduced from Java and has survived. It is apt to grow too high and continually loses its foliage.

Hydrocotyle javanica.—This has definitely died out.

Parochetus communis.—The same remark applies to this as to *Hydrocotyle.*

Torenia cyania, Alst.—The same remark applies here also.

Drymaria cordata.—This definitely defoliates, even under tea, in the dry weather.

The introduction of this as a ground cover is not recommended but I would certainly suggest its *control* where established rather than the spending of thousands of rupees in fruitless attempts to eradicate it. The more it is "pruned" with the weeding scraper, the more vigorous it becomes. It is one of the most efficient ground covers existent.

Oxalis lutifolia and *Oxalis corymbosa.*—I do not think there is any further need to press the benefits of these as soil erosion preventatives except to repeat that no evidence was brought before the Soil Erosion Committee as to their doing any harm to tea.

Oxalis corniculata.—This has no bulbs. It is not to my mind prolific enough in growth.

Indigofera endecaphylla.—This is not too easy to establish in Dimbula but certainly has its advantages if persisted with.

It is needless to remark that many of the above are not actually legumes. If an actual indigenous legume can be found it would be very attractive, but I feel that the line of least resistance is the one to take in establishing a ground cover and, after all, many of the above which I have advocated as easy to establish have a very fair nitrogen content in their foliage.

Frequent forking and disturbance should counter any deleterious carpeting tendencies in ground covers.

If anyone is still doubtful of the existence of soil movement I would suggest that he plant *Paspalum dilatatum* soil barriers on what appears to be level ground and note after four months' heavy rains how quite a perceptible step is formed. On steep paths these barriers form very definite steps.

The Institute has laid down the axiom that soil erosion can only be efficiently checked *in situ* and that other useful control measures are little more than "a second line of defence."