

LETTERS TO THE EDITOR

SELECTION OF AREAS FOR TEA REPLANTING

Despite the fact that a great deal has been written on various aspects of tea replanting, relatively little has been said regarding the initial choice of the area to be replanted.

Basically there would appear to be three main motives for replanting an area of existing tea:

1. low yield;
2. the eradication of a disease, *e.g.* *Poria*;
3. replanting with material resistant to a known pest, *e.g.* Meadow Nematode.

It is probably the first of these considerations, low yield, that has had most influence on the final choice so far.

There may be many reasons for a low yield in any given area, but that most frequently heard mentioned is simply "poor jat". It is possible, however, that what may appear to be a poor jat tea was, in fact, originally a good tea that has been exposed to adverse conditions for so long that it has developed the characteristics of a poor jat tea. One area in my experience which exhibited all the classic symptoms of a poor jat in an otherwise good field was found to be planted in a gravel soil overlying a local, impervious, clay stratum; this resulted in saturated soil conditions during the monsoon and inaccessible sub-soil moisture during a drought. This area, which was originally intended for replanting, has now been rejected as being an unsuitable site.

It is not always possible to discover a cause for low yield as easily as this and, on estates where large-scale replanting is in progress and there is a fund of accumulated experience, such local patches will doubtless be recognised and abandoned to Guatemala grass. On other estates, however, which may be taking their first steps in replanting, the selection of an area on the basis of low yield alone, without due attention to the elimination of possible underlying causes such as poor drainage, poor soil type, or local pH variation, may lead to serious disappointment, wasted expenditure, and a subsequent reaction against the principle of replanting.

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13th December, 1961.

TEA ROOTS SHOW EFFECTIVE DEPTH OF SOIL

The ultimate aim of replanting tea is to obtain larger profits. As Mr Riminton has pointed out, this aim may be frustrated on certain areas of land.

Assessment of the ability of the land to produce crops profitably is a science in itself; it can be divided into the study of the chemical fertility of the soil (the distinction between *poor* and *rich* soils) and the study of the physical characteristics of the soil (the distinction between *good* and *bad* soils). There are ways of making a poor soil richer (for instance by application of fertilisers), but it is very much more difficult and—if possible at all—very much more expensive, to make a bad soil better (for instance by subsoiling to make a shallow soil into a deep soil).

When there is doubt about the suitability of a soil, *i.e.* whether a soil is good or bad, it is worth while to have a number of soil pits dug (say to a depth of four feet) to study the soil profile. The difficulty, of course, is to know what to look for in a soil profile, and knowing this, what criteria to adopt in assessing and classifying the different profile characteristics. There are no straightforward answers to these questions, but a useful guide is to study the development and distribution of the roots in the profiles exposed. The tea itself may show the effective depth of soil.

If no roots are found below a certain rather shallow depth, it can be assumed that conditions are not conducive for root growth below this level. Such a root-impeding layer or horizon reduces the available rooting volume of a soil, and the smaller the volume of soil available for rooting, the less suitable the soil. The suitability class of a soil in relation to its rooting volume is governed by such factors as the crop grown, climatic factors, texture and exchange capacity of a soil, base saturation of the absorption complex of a soil, type of clay mineral, nutrient-supplying power of a soil and the variability of the soils in a given area.

Unimpeded root growth in the first four feet from the top is considered adequate for most crops. This criterion could also be used as one indication in assessing the suitability of soils for growing tea, and hence for the selection of areas for tea replanting.

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