

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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