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## **SAMPLING FOR FOLIAR ANALYSIS OF TEA**

*(This Circular cancels Advisory Circular No. F7 Serial No. 7/92 issued in August 1992)*

### **1. Introduction**

Plant growth is dependent on the nature of the medium in which they grow as well as on other agro-climatic factors. They extract their nutrient requirements from the soil and for healthy growth, the important nutrients should be freely available in the right proportions. Either a deficiency or an excess of any one or more of the nutrients can have a profound influence on the healthy growth of the plant. A nutrient deficiency or excess will in the first instance, show up in the foliage of the plants as distinct and characteristic symptoms. Chemical analysis of the foliage of the plants would, therefore, serve to confirm the visual observations and also give a reasonably good index of their nutrient status.

If tea growers strictly follow the fertilizer recommendations of the Tea Research Institute of Sri Lanka, the need for routine analysis would not arise. Foliar analysis is, however, recommended in instances where growth abnormalities are suspected to be due to nutritional problems.

### **2. Leaf sampling**

For most leaf analysis, it is the first mature leaf (Figure 1) that is collected and it is from the axil of this leaf that the pluckable shoot emerges. This is usually found on the plucking table, whilst those below, and consequently shaded should be avoided.

1. When sampling an experimental plot, one or two leaves are taken from each bush in the plot to provide a composite sample of about 100 leaves
2. When sampling is carried out on a field scale, a large number of widely distributed bushes should be sampled, taking one leaf from each bush
3. In order to get a representative sample, it is preferable to randomly select bushes from different rows
4. Bushes growing in abnormal areas such as close to roads and drains and those in bare patches should be avoided
5. It is best to avoid collecting leaf samples following a period of prolonged heavy rainfall or during extreme droughts

### **3. Sampling and packing procedure of leaf samples**

1. Leaf sampling should be avoided in the early part of first year and the latter part of final year of the pruning cycle. Under low country conditions where certain fields are maintained on a 2 year cycle, sampling should be done in the 2nd half of first year or 1<sup>st</sup> half of 2<sup>nd</sup> year
2. It is absolutely essential to note that sampling should be done only after a minimum period of 6 weeks following the last ground application of fertilizer
3. From each block of 2 ha, collect about 100 leaves at random selecting only the first mature leaf at the plucking table (Figure 1)
4. Do not collect more than one leaf per bush

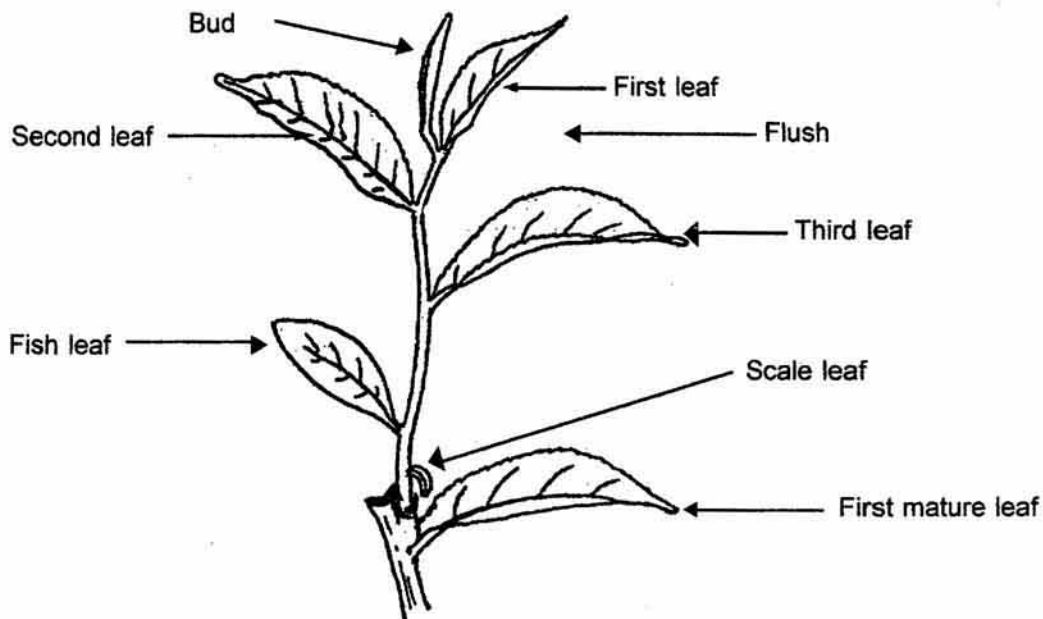


Figure 1. Diagrammatic sketch of shoot showing leaf to be sampled

5. Pack the samples in polythene bags
6. Label each sample clearly and ensure that the label is not in contact with the sample. This precaution is taken to avoid the labels becoming illegible at the time of arrival at the TRI laboratories or its centres. The labels should contain details of the field and the block number, seedling or VP tea, year of last prune, length of the pruning cycle and the date of the last fertilizer application

#### 4. Sample despatch

The samples should be sent directly to the Head, Soils and Plant Nutrition Division, Tea Research Institute of Sri Lanka, Talawakelle or to the regional laboratories located at following addresses depending on the convenience for transport:

- Soils and Plant Nutrition Laboratory, Walahanduwa, Galle.
- Soils and Plant Nutrition Laboratory, Research, Advisory and Extension Centre, PO Box, 130, Hantana, Kandy

It is necessary that the total cost of analysis should be paid prior to commencing analysis. Payments could be made through cheques, postal or money orders drawn in favour of "Tea Research Institute of Sri Lanka" and forward to the Head, Soils and Plant Nutrition Division, Tea Research Institute of Sri Lanka, Talawakelle or to the regional laboratories located at Hantana, Kandy and Walahanduwa, Galle. Money could also be paid at the cash counter of the Tea Research Institute or its centres at the time of submission of samples for analysis.

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