

**STUDIES OF TRACE METAL STATUS ON CULTIVATION OF TEA****R. S. Ramakrishna and S. Palamakumbura***(Centre for Analytical Research and Development,**Dept. of Chemistry, University of Colombo, Colombo 3)*

Analytical studies of the trace metal status in tea<sup>1</sup> were carried out in order to evaluate the effect on tea cultivation with chemical treatment of the soil. The errors resulting from sample preparation for analysis, and effect of soil extractants were investigated<sup>2</sup>. The Caffeine and polyphenol content of different varieties, as well as the ISO parameters were also determined. The investigation also included identification of the levels of toxic metal ions, such as Pb and Cd, with a view to establishing their translocation from the soil.

Plant-soil correlation has been obtained for treated and untreated soils with Zn and Cu additives and biocides.

The results indicated levels of Cd and Pb of the order of 200 ppb and 400 ppb respectively in black tea with variations in variety and sources. Trace metal contents were in the order of Cu, 20 ppm; Zn, 30 ppm and Fe, 140 ppm. These correlated well with their total values in soil. Levels of  $PO_4^{3-}$  were in the order of 0.3%.

*References*

1. Hasselo, H. N. (1965). *Tea Quart.*, **36** (3), 122-136.
2. Association of Official Analytical Chemists (1970). *Official methods of Analysis* 11th ed., Washington.