B5

A CONVENIENT AND EFFICIENT METHOD OF MEASURING NET PHOTOSYNTHESIS IN TEA (*Camellia sinensis* (L) O. KUNTZE) LEAVES

G. Wadasinghe & L.C. Yapa
Tea Research Institute of Sri Lanka, Low Country Station, Ratnapura

The basic instrument of this system is infra red gas analyser, which measures the amount of CO_2 in an air stream of a controlled gas handling system. Leaves were detached under water with a stem portion of about 2 cm and the two sides were trimmed to facilitate placing in the Leaf Chamber.

Leaf Chambers were constructed using vertically inverted glass tubes with a opening at the base, which was connected to the gas outlet pipe. The stem portion of the leaf was immersed in a water tube before placing in the chamber which contained sufficient amount of water for evapotranspiration during the measurements. The open end of the chamber was sealed using a rubber stopper with glass tube connected to the gas inlet pipe. A cooling chamber was kept in between the light source and the chambers to maintain the temperature below 35°C.

The system was found to be a very convenient and efficient method of studying the net photosynthetic activity of tea leaves. It has the facilities for handling six leaves at a time, and takes about 30 minutes to measure the net photosynthesis of all six leaves.