QUANTIFICATION OF WEATHER PARAMETERS TO PREDICT TEA YIELDS

S. Kandiah
(*Dept. of Botany, University of Jaffna*)
and
T. Thevadasan
(*Tea Research Institute, Talawakele*)

Knowledge of the growth response of the tea plant to the weather factors is essential to optimise returns from agricultural inputs. Laycock (1964) derived a term E_{tw}, based on rainfall and evapotranspiration and found it to be highly correlated with yields of tea in Malawi. Devanathan (1975) used rainfall-sunshine hours product term RS, in a similar manner. These terms were found to show poor correlation with tea yields in Sri Lanka. A weather term '$f_tR_wS_p$,' is derived using daily recordings of the major climatic factors — temperature, rainfall and sunshine hours. The '$f_tR_wS_p$' for each month from April to December is shown to be strongly correlated with yields of the following month at St. Coombs Estate, in the wet zone hill country of Sri Lanka. Thus '$f_tR_wS_p$' enables prediction of monthly yields at the beginning of each month from April to December for the location studied.

The manner of deriving '$f_tR_wS_p$' from recordings of air temperature rainfall and sunshine hours is shown and the physiological basis for such a correlation is explained. Devanathan, M. A. V. (1975) Weather and the yield of a crop. Experimental Agriculture, **11**, 183.

Laycock, D. H. (1964). An empirical correlation between weather and yearly tea yields in Malawi. Tropical Agriculture, Trindad, **41**, 277.

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