SECTION B: AGRICULTURAL SCIENCES AND FORESTRY

B - 01

STUDY OF THE TIME FACTOR INVOLVED TO EQUILIBRATE THE MOISTURE CONTENT IN PADDY

S. P. Prematillaka, V. Pemajayantha
and **D. B. T. Wijeratne**
(Central Agricultural Research Institute, Gannoruwa, Peradeniya).

Moisture content of paddy is an index to determine the stage of harvesting, quality for safe storage and feasibility of milling with maximum head rice recovery. The moisture content of newly harvested paddy ranges from 18-22% and is too wet for milling or storage. To result in maximum head rice recovery during milling, it is recommended that paddy should be shade dried.

The time taken to attain equilibrium moisture level was studied for different varieties of paddy at different initial moisture contents. Four varieties of paddy were selected and each of their initial moisture contents were increased to four desired levels. Samples were stored under room conditions and their moisture contents were determined every third day.

The moisture levels were observed to be decreasing with time in a specific type of curve. The pattern analysis from plotted diagrams and statistical analysis indicated that the curves follow the polynomial pattern of '$y = \beta + \alpha x + \gamma x^2$', with higher correlation coefficients. The magnitude of the results were graphically expressed by plotting curves for different initial moisture contents of the same variety. The moisture content at equilibrium point was estimated according to the equation and was found to be in the range of 12.0 to 12.7% (at 25°-28°C room tepmerature and 42-56% relative humidity). The average time taken to attain equilibrium state was 21 days for all four varieties and was independent of the initial moisture contents.