

## **Influence of discoloration on grain quality parameters of different rice varieties grown in three locations**

B P Ratnayake and R F Hafeel

*Rice Research and Development Institute, Batalagoda, Ibbagamuwa*

A study was carried out at the Rice Research and Development Institute to find out the relationship between discoloration and grain quality parameters such as head grain percentage, colour, chalkiness, size and shape of a rice variety that are presently considered for selection. Varieties were classified into 3 age classes depending on their age at maturity. They were 2½ (L55 E (S10), L55 E(S7), L 60 E (S12), Bg 750), 3(Bg 2835, At 576, At 581, Bg 305) and 3½ (Bg 2780, Bg 328-1, Bw 99-1046, Bg 359) month age groups. Testing was done in a CRD with 3 replicates.

Samples were de-hulled and milled in a Mac gill sample mill for 1 minute to obtain milled rice. Head grain % of each variety was calculated and length and width were measured using a micrometer. Colour and chalkiness were assessed visually while discolouration was determined by using an electrical grain crack inspector/grain scope. Discolouration percentage was denoted on a weight basis for 100g of total milled rice. In all three age classes highest discoloration was observed in Bombuwela location. In each age class there was a particular variety identified having the highest discoloration% which is common to all three locations. Those were L55E (S10), At 581 and Bg 359 in the age groups of 2½, 3 and 3½ month respectively. In 2½ month age group the variety which showed the highest significant discoloration had a low head grain percentage compared to other varieties. But in

other two age classes (3 and 3½ month) there was no such relationship between head grain percentage and grain discoloration. Discoloration didn't have any influence on other grain quality characteristics such as size and shape, chalkiness, or the pericarp colour. The variety itself had a tendency of becoming discoloured when the environmental factors contribute to same.