

GERMINATION AND WATER REQUIREMENT FOR COOKING OF DEHULLED RICE AT DIFFERENT DEGREES OF POLISHING

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ABSTRACT

In Sri Lanka, as a rice (*Oryza sativa* L.) consuming country, 34% of total arable lands are cultivated with rice. Rice with high grain quality has a high demand in the export market. When exporting quality red rice, an assurance should be given to the buyer that any rice grain will not germinate under any circumstances. Information on correct amount of water required for cooking rice, for its best quality at different degrees of polishing is crucial during rice exporting process. Thus the objectives of the present study were to determine the influence of de-hulling and degree of polishing on germination of long slender and short round rice grains and the water requirement for cooking of rice at different degrees of polishing and influence of degree of polishing on cooking time and volume expansion of cooked rice for long slender and short round grains. The red rice varieties used in this study were CIC 300 and BW 272-6b. Each variety was polished at 0, 20, 40, 60, 80 and 100% degrees of polishing and grains at each level of polishing were subjected to germination test along with rough rice. Grains at each degree of polishing of each variety were also cooked with six different amounts of water as 1, 1.5, 2, 2.5, 3 and 3.5 cups per one cup of rice. Cooked rice quality was evaluated. Volume expansion of cooked rice and cooking time were also recorded. Grain germination of just dehulled rice (0 level of polishing) was similar to that of rough rice in both varieties. Germination percentage of CIC 300 became zero at 40% degree of polishing while BW 272-6b showed 0 germination at 60% degree of polishing. BW 272-6b showed a higher volume expansion at all levels of polishing than that of CIC 300 when cooking. Irrespective of the variety, volume expansion of cooked rice increased as the amount of water used for cooking was increased. Cooking time increased with increasing amount of water and decreased with increasing degree of polishing for both varieties. One and half cups of water was the correct amount of water for the best quality cooked rice when the degree of polishing was 60% or above for both varieties.