

EVALUATING THE SUITABILITY OF DIFFERENT ADVANCED GLUTINOUS RICE LINES FOR PRODUCT DEVELOPMENT

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Glutinous rice (*Oryza sativa* L. var. *glutinosa*) is an opaque grain cultivar distinct from common white rice. Fourteen (14) different advanced glutinous rice lines were cultivated in the research fields at the Rice Research and Development Institute (RRDI), Bathalagoda in the Yala season of 2023 to select the best rice line. Three hundred fifty (350) plants were evaluated in five replicates of five progenies in each advanced rice line. Plant height, panicle length, productive tiller percentage, grain filling percentage and thousand-grain weight were evaluated based on the Standard Evaluation System for rice developed by the International Rice Research Institute. The mean plant height was recorded as 134.5±5.3 cm and the panicle length ranged from 26 to 39 cm with the mean value of 27.80 cm ±7.39. The mean productive tiller percentage was recorded as 93.11%±7.03. Among yield parameters, the thousand-grain weight ranged from 24.14 to 32.54 g with a mean value of 27.25 cm ±2.39. The highest filled grain percentage was 86.06% while the lowest was recorded as 65.72% and the mean value was recorded as 77.87%±10.63. Based on the above results, five glutinous rice lines were selected for an analysis of amylose content, an evaluation of the eating qualities of cooked rice and the production of value-added products in the second study. The control variety, Bg 94-1, showed a notably higher amylose content of around 29%, whereas the selected 5 glutinous rice samples exhibited no significant difference in amylose content, averaging around 7% ($p<0.0001$). Glutinous rice yielded negative results in noodle production but was successful in producing puffed rice crackers. Conversely, Bg 94-1 failed to produce satisfactory puffed rice crackers. Sensory evaluations showed no significant differences among the cracker types. Due to the low amylose content, only certain foods can be formed from glutinous rice.

Keywords: Agromorphological characters, Amylose content, Chalkiness,
Puffed rice crackers