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OPTIMIZATION OF PROCESSING PARAMETERS FOR THE PARBOILING OF PADDY

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Grain quality is a combination of inter-related factors that include consumer taste, preferences, appearance, nutritional value, grain purity, processing and storage quality. Processing quality is dependent on processing methods as well as quality of the seeds that go in for processing[1]. Quality and colour of parboiled rice are dependent on the extent of parboiling. The heat treatment given in the process of parboiling affects the quality of the product and it also shows varietal differences[2]. The possible grain characteristics responsible for this behaviour are the size-shape and gelatinization temperature.

Seven varieties of paddy were selected representing all recommended Sri Lankan rice varieties with respect to the size-shape and gelatinization temperature. The laboratory processing parameters for optimum parboiling were studied for the above mentioned samples. The samples were tested at three different soaking temperatures and at two steaming periods. The degree of parboiling was determined on the basis of Ranghino test, milling quality, water uptake ratio and alkali degradation score.

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Results indicated that optimum parboiling is dependent only on the gelatinization temperature of the varieties, but not on the size-shape. To obtain an optimum parboiled product it could be recommended that the low gelatinization temperature varieties be soaked at 70°C for six hours and steamed for twelve minutes, while the intermediate gelatinization temperature varieties be soaked at 65°C and steamed for fifteen minutes.

References

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