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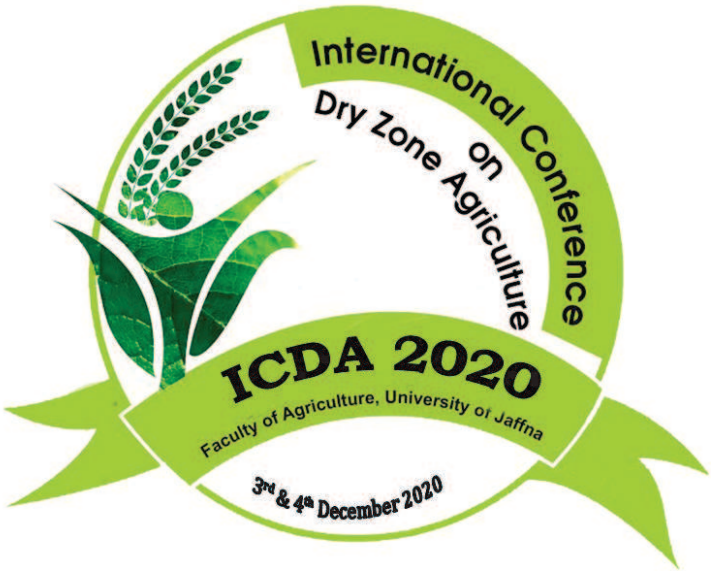

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Effect of Different Processing Methods on Resistant Starch Contents of Selected Rice Varieties

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Resistant starch (RS) is considered to possess several health benefits. The content of RS in different varieties of rice in the Northern Province of Sri Lanka and the effect of different traditional methods of processing on RS content were determined. Five commonly consumed rice varieties [two improved (*Bg 250* and *Bw 351*) and three traditional varieties (*Periyavellai, Pachchaperumaal* and *Moddakaruppan*)] were selected. Samples were processed by roasting, cooking with and without draining of excess water and cooking the presoaked rice without draining the excess water. The total starch, non-RS and RS contents before and after processing were estimated. The highest and lowest amounts of RS were found in raw *Pachchaperumaal* (27.87±0.32%) and *Bw 351* (18.94±0.26%) varieties, respectively. When roasted, highest and lowest amounts of RS were found in *Bw 351* (11.09±1.29%) and *Bg 250* (7.32±1.68%), respectively. Further, *Bw 351* contained highest amount of RS when cooked without draining the excess water (11.63±1.2%) and with draining excess water (11.40±0.50%). *Periyavellai* contained lowest amount of RS when cooked without draining the excess water (7.04±0.5%) and with draining excess water (4.45 ±0.60%). *Periyavellai* contained the highest amount of RS (14.50±0.84%) and *Moddakaruppan* contained the lowest amount of RS (11.75±0.58%) when the rice was pre-soaked before cooking and without draining the excess water. On the basis of complete randomized design, cooking methods have effect on RS content ($p<0.05$). The RS contents of raw rice and pre-soaked rice cooked without draining of excess water were significantly different. Different processing methods have significantly reduced the total starch, non-RS and RS contents. As the processed rice is consumed; among the rice varieties and the processing methods, consuming presoaked *Periyavellai* rice variety cooked without draining excess water could be recommended to have more RS.

Keywords: Improved rice varieties, Resistant starch, Sri Lankan rice varieties, Traditional rice varieties