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Physicochemical properties of three rice varieties related to Noodle quality

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Physicochemical properties of rice (*Oryza sativa*. L) varieties, Bg 300, Bg 352 and At 405 and their suitability for making noodles were evaluated. Studies on physicochemical properties revealed that the rice variety Bg 352 had significantly ($p < 0.05$) high amylose content (25.1 %), low gel consistency (56 mm) and high gelatinization temperature (GT) (51 ˚C). Pasting behaviour such as peak viscosity (PV), hot paste viscosity (HPV), cold paste viscosity (CPV), setback and Amylogram consistency were shown to be significantly higher for Bg 352. High HPV indicates low cooking loss and superior eating quality, while high CPV relates to high resistance to shear.

Rice variety Bg 352 yields noodles with significantly ($p < 0.05$) lower cooking loss. Amylose content and GT are positively correlated with swelling ratio ($r = 0.88$, $p < 0.001$), Breakability ($r = 0.88$, $p < 0.001$) and firmness ($r = 0.91$, $p < 0.001$) while, negatively correlated with Cooking loss ($r = -0.82$, $p < 0.05$) and adhesiveness ($r = -0.69$, $p < 0.05$). Sensory evaluation of noodles showed ($p < 0.05$) significantly lower scores for appearance, odour, elasticity and stickiness for At 405. Noodles from Bg 352 and Bg 300 did not show any significant difference. The sensory qualities and textural qualities of noodle made out of Bg 352 have the qualities, which are expected by the Sri Lankan consumers from noodles. Therefore the rice noodles made from high amylose, GT, PV, CPV and SB of rice varieties have better eating quality and desirable textural characteristics.

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