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Physical and cooking characteristics of biofortified (iron and zinc) aerobic rice varieties

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Biofortification is a process of breeding staple food crops that are rich in micronutrients. Since it do not produce methane, one of the major 'greenhouse gases' that contributes to global warming hence, it is considered as eco-friendly. Grain quality is one of the important parameter that determines the overall acceptability and profitability of a variety. Rice is a cereal that is consumed mainly as whole milled and boiled grain. An experiment was conducted to study milling, physical and cooking characteristics of six biofortified aerobic rice varieties. The head rice recovery ranged from 79.93 per cent to 92.70 per cent, grain length 5.40 to 6.43 mm, breadth 2.0 to 2.21 mm, L/B ratio 2.40 to 3.21 mm and grain width 2.13 to 2.71 mm, 1000 grain weight 15.03 to 17.06 g and bulk density 0.77 to 0.88 (g / ml). As per dimensional classification Karidaddi, Makam IVT (SHW) 91, Badshahbhog and control sample were of fine type and BI 43 common type. Cooking time ranged from 16 to 20 minutes, per cent increase in weight 168 to 210, per cent increase in volume 226 to 260, water uptake ratio 29.80 to 40.29, kernel elongation ratio 1.27 to 1.57, per cent curled grain 29 to 53 and dispersed solids 2.6 to 5 per cent. Cooking time, per cent increase in weight, per cent increase in volume, water uptake ratio, L/B ratio and dispersed solids were positively correlated with sensory mean scores and whereas length, breadth, kernel elongation ratio and per cent curled grains were negatively correlated with sensory mean scores.

Key Words : Biofortification, Aerobic rice, Physical and cooking characteristics, Milling, Sensory evalution

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