

## Processing and evaluation of most popular value-added products of rice

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### Abstract:

Globally rice has established itself as a major energy source for its population. In India, share of energy intake contributed by cereals is about 57% for rural India and 48% for urban India. Besides, the technological advancement and focus on food waste has led to focus on value added products of rice to be consumed as a refreshing food and snacks at any time in the day. In this study, three most commonly value-added products of rice namely popped rice, puffed rice and flaked/flattened rice have been developed from high protein rice variety (CR Dhan 310) from ICAR-NRRI, Cuttack. The physical properties (the average 1000 grain weight, major and minor diameter, volume, surface area, sphericity, aspect ratio, bulk density and porosity etc.) of products have been studied that has huge impact on the design of packaging material. The relationship between mass and dimensions of the value-added products was established using linear, quadratic and power models. A good relationship was established between mass and geometrical dimensions of the products with a high coefficient of determination  $R^2 = 0.95$  with a minimum regression standard error, R.S.E for the study. Apart from this, the textural parameters and colour of the products have been explored to meet the consumer acceptance. It was found that the variety gave good popped grains followed by flattened rice however the puffing was not at par. The texture of popped rice was found to be good and the colour values ( $L^*$ ,  $a^*$  &  $b^*$ ) of popped rice was whiter as compared to the other products. The rice-based value-added products can provide substantial employment to the rural youths and farm women thereby enhancing nutritional and livelihood security of the farm families.

**Keywords:** High protein rice, physical properties, textural parameters