

## Strategies for Reducing Sodium in Instant Rice Porridge and its Influence on Sensory Acceptability

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### ABSTRACT

*Health concerns associated with high sodium consumption have led to increased requirements for appropriate salt reduction techniques to create reduced-salt processed foods. The objective of this research was to develop a reduced-sodium instant rice porridge using multiple salt reduction strategies. The effects of partially substituting NaCl with 35% of soy sauce odor, potassium chloride (KCl), glycine, or KCl in combination with glycine (1:1) on consumer acceptance (9-point hedonic scale, n= 110) and some physicochemical properties (consistency, water activity, color, and proximate analysis) of this product were investigated using a completely randomized design. From the results, the most suitable formulation of a reduced-sodium instant rice porridge replaced 35% of the sodium with KCl in combination with glycine (1:1). This reduced-sodium product did not differ significantly ( $p>0.05$ ) from the prototype formulation with scores for overall liking, color, overall flavor, saltiness, and viscosity at like slightly (6.2, 6.7, 6.1, 5.4, and 6.0, respectively). The developed product had 16.80 cm/min consistency and 0.384 water activity. The color values of  $L^*$ ,  $a^*$ , and  $b^*$  were 80.74, -0.64, and 12.24, respectively. The proximate analysis of the developed product was 4.0% ash, 77.3% carbohydrate, 1.3% fat, 7.4% moisture content, 10.0% protein, and 360 kcal energy/ 100 g sample. The sodium content was 1,148 mg/100 g sample, a reduction of 39.3% from the prototype formulation.*

**Keywords:** Instant rice porridge, Salt, Sodium reduction, Salt reduction strategies, Consumer acceptance