

DEVELOPMENT OF *SUWANDEL* RICE (*Oryza sativa*) INCORPORATED PURPLE YAM (*Dioscorea alata* L.) INSTANT PORRIDGE MIXTURE

S.L.T. Kumarasingha¹, D.W.M.M.M. Kumari², U.A.S.K. Edirisinghe³
and J.A.E.C. Jayawardena³

¹Postgraduate Programmes, Faculty of Agriculture, Rajarata University of Sri Lanka, Anuradhapura, Sri Lanka.

²Department of Biosystems Technology, Faculty of Technology, University of Sri Jayewardenepura, Pitipana, Homagama, Sri Lanka.

³Department of Agriculture and Food Technology, Faculty of Industrial Technology, University of Vocational Technology, Ratmalana, Sri Lanka.

Purple yam (*Dioscorea alata* L.) is renowned for its nutrient composition, vibrant colour, and potential health benefits. However, purple yam has a short shelf life and is easily spoiled due to its high moisture content. Therefore, this study aimed to develop a *Suwandel* rice-incorporated instant purple yam porridge mixture. Six porridge formula were formulated considering the availability of nutritive value, flavour, colour and the gravy of the final processed instant porridge mixture, based on literature. They were made from dehydrate oven-dried (Cabilac) and vacuum-oven (DZ-1BCII)-dried purple yam flour, incorporated with dehydrate-oven-dried *Suwandel* rice flour. The best formula was selected by a sensory analysis with thirty semi-trained panellists using 5-point hedonic scale. Proximate composition, colour, and water absorption capacity of the final product were analysed. The sensory analysis revealed that F2 which contained 49% dehydrate oven dried purple yam flour, 49% dehydrate oven dried *Suwandel* rice flour, and 2% garlic powder was the best with respect to appearance, colour, odour, taste, after taste, and overall acceptability. The moisture, protein, fat, and ash content of the final product were 5.61%, 6.99%, 0.12% and 5.26%, respectively. The colour of dehydrate oven dried flour sample was darker containing a lower L* value of 46.52 than vacuum oven-dried flour with higher a* and b* values of 7.78 and 14.29, respectively, which had vibrant purple colour. The water absorption capacity of the final product was 2.56 (g/g). Thus, this study offers a solution to the challenges of purple yam preservation, providing a convenient and nutritionally rich instant porridge option.

Keywords: Drying technique, Sensory analysis, Water absorption capacity,