

UTILIZATION OF MEDICINAL PLANTS/CEREALS/LEGUMES IN FORMULATION OF INSTANT KOLA-KENDA (GREEN PORRIDGE) MIXTURES

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Kola-kenda is a traditional drink with many medicinal and nutritional benefits. However, habit of consumption of kola-kenda is disappearing fast due to difficulties in obtaining suitable leaves and inconveniences associated with traditional preparation methods. The study was conducted to establish the processing variables in the formulation of instant kola-kenda mixtures using unexplored medicinal herbs such as Curry leaves (*Murraya koenigii*), Kalukamberiya leaves (*Solanum nigrum*) and Heenbovitiya leaves (*Obeckia octandra*).

The herbs were dried after steam blanching or water blanching. The three pre-treatments for rice included precooking, wet milling or dry milling. Soya bean was either roasted or dried after boiling. The herbs were mixed separately with rice and soya bean (used in place of coconut) to develop nutritionally and organoleptically sound products. The best proportion of ingredients in the mixtures were identified. The best formula for each herb was selected based on physical (colour, viscosity and cooking time), nutritional (crude protein, crude fat, crude fiber and total ash contents) and sensory properties (appearance, taste, colour, aroma, consistency and overall acceptance) of the final product. A sample currently available in the market was used as the control for statistical comparisons.

The best pretreatment combinations which received the significantly ($P < 0.05$) lowest cooking time and acceptable viscosity were presoaking for 4 hrs followed by wet milling and drying at 80°C for 1 hr for rice, and roasting at 175°C for 5 min for soya bean. Steam blanching for 2 min followed by drying at 60°C for 3 hrs was found to be the best pre-treatment for all herbs. The color measurements as "L" (lightness) and "a" (greenness) values indicated a significantly ($P < 0.05$) higher retention of chlorophyll in the products developed than the control. Sensory evaluation showed that all three formulae were ranked within the acceptable range of 7 – 7.5 in the 9 point hedonic scale. The instant mixtures contained considerable amounts of crude protein, crude fat, crude fiber and total ash within ranges of 12.5 – 15.3%, 3.0 – 3.8%, 0.4 – 1.0% and 8.9 – 11.0% (dry basis), respectively.

The study reveals that the kola-kenda mixtures from Curry leaves, Kalukamberiya leaves and Heenbovitiya leaves are convenient (cooking time; 5 min.) and, nutritionally and organoleptically sound. The products could be a remedial measure to alleviate certain diseases as stated in the indigenous medicine.