## **Development and Quality Evaluation of a Wood Apple *(Limonia acidissima* L.) Powder-based instant Beverage Mix**

## GTN Gunasekara1\*, IR Liyanage2 and GDK Kumara1

## *1Department of Export Agriculture, Faculty of Agricultural Sciences, Sabaragamuwa University of Sri Lanka*

*2Grain Legumes and Oil Crops Research and Development Centre, Angunukolapelessa, Sri Lanka*

[*\*nawodithanu@gmail.com*](mailto:*nawodithanu@gmail.com)

The study was conducted to develop a wood apple powder-based instant beverage mix with the best organoleptic qualities. ‘ANK wood apple 01’, ‘ANK wood apple 02’ varieties and Accession No-17 were evaluated with and without seeds to select the best physical, nutritional and health properties for dry powder preparation. Using an electric dryer, fully ripe wood apple pulp was dried for around 12 hours at 60°C before being ground into powder in a blender. The final product was made by blending the powder with sugar and table salt and it was packaged in selected packaging materials namely, Kraft paper pouch, Silver laminated sealed pouch, and transparent polythene pouch and kept in ambient temperature to evaluate its shelf life. Yield of the dry powder using fresh fruits was 15%. From both categories, Accession No-17 was chosen as the best for dry powder preparation. In comparison to wood apple dry powder without seeds, higher nutritional, physical and health parameters such as moisture%, crude fat%, crude protein%, ash%, pH, Brix (1:2), Acidity%, Solubility %, water activity , lightness and total phenolic content were at 15.89 ± 0.31, 5.44 ± 0.24, 12.09 ± 0.45, 5.97± 0.43, 3.05 ±0.01, 7.66 ± 0.58, 12.74 ± 0.39, 44.56 ± 0.93 ,0.49± 0.01 , 25.69 ± 0.74 and 386.59± 0.01 mg of GAE/ 100 g, respectively in wood apple dry powder with seeds. Two hedonic tests selected, The treatment (T5) which was made by blending 15 g of powder with 10 g of sugar and 1 g of table salt from both categories as the best recipe to develop wood apple powder-based instant beverage mix by evaluating color, texture, taste, aroma and overall acceptability. T5 with seeds was confirmed by the paired preference test as the best formulation to develop the final product. Nutritional properties of final product such as (dry weight basis) moisture, protein, total fat and ash were 10.24 %, 5.17 %, 3.25 % and 7.32 % respectively. The water activity, pH and brix of the final product with three packing materials varied between 0.51- 0.54, 2.64 - 2.76 and 7- 11 (1:2 dilution), respectively. The results express a lot of promise of commercializing wood apple powder-based instant beverage mix.

Keywords: *formulation, hedonic tests, shelf-life, wood apple powder-based beverage*