SENSORY AND QUALITY ASSESSMENT OF A NOVEL ZERO-WASTE MARMALADE USING JACKFRUIT SEED BARK (JACK FRUIT SEED ARILS)

J. K. P. D. Lakshani

Department of Agricultural and Food Technology, University of Vocational Technology, Sri Lanka
jayawardhanadilini1@gmail.com

Abstract: Harnessing agricultural by-products can lead to innovative and sustainable food options. The outer bark of jackfruit seeds, known as jack arils, is a fiber-rich and essential nutrient that remains largely untapped. Although jack arils are not commonly consumed, the research aims to change that narrative by introducing a delightful marmalade made from fresh jack arils, sugar, passion fruit peel, and pectin. This unique product promotes health and celebrates the potential of underutilized ingredients. Careful tests and experiments were conducted with various ingredient ratios, ultimately resulting in a well-textured marmalade featuring a harmonious blend of components: PEC consists of 75.2% jack arils, 18% sugar, and 6.8% pectin, while PAS is made up of 70% jack arils, 20% sugar, and 10% pectin. Sensory evaluations involving 30 panelists yielded positive results for odor, color, taste, texture, and overall acceptability. It confirms its quality with a pH level of 4.3 and Brix values that range from 67. The results revealed that the zero-waste jackfruit seed bark marmalade was well-received in terms of taste, featuring a unique blend of sweet and tangy flavors and an appealing texture. The marmalade exhibited good microbiological stability, and its nutritional content demonstrated a rich source of dietary fiber, antioxidants, and essential minerals. Although sensory at-tributes like aroma and texture were slightly different from conventional marmalades, they were considered acceptable by the panel.

Keywords: Jack arils, Zero-waste solution, Sensory quality, Valued-added marmalade.