Development of Natural Food Colourant from *Melastoma malabathricum* (Maha Bovitiya) Fruit

D. N. M. Weerasooriya and J.W.A. Sajiwanie

Department of Food Science & Technology, Sabaragamuwa University, Belihuloya, Sri Lanka

Natural food colourants have become a global trend due to its excellent health benefits and less side effects rather than properties as colourants. Availability, taste and stability are some of the limitations associated with natural food colourants. Maha bovitiya (Melastoma malabathricum) is a commonly available plant with attractive coloured fruits which are sweet in taste with a pleasant smell and used for Ayurvedic medicine in Sri Lanka. There is a great potential to develop natural colourant from Maha bovitiya fruit due to its positive characteristics. However, detailed investigation on colourant properties of Maha bovitiya is limited. Thus, this study was performed to develop a natural food colourant using M. malabathricum fruit. Methanol (99.9%), distilled water and acetone were used as three different solvents to select the best solvent for the extraction. Pigment stability of selected extract (99.9% Methanol extract) was calculated by half life time using regression analysis and Arrhenius equation in different treatments as temperature (27 C, 40 C and 100 C), pH (4, 5 and 6) and light intensity (presense or absence). Consumer preference for pigment was determined by paired preference test using two tailed binominal test. Results indicated that methanol was the best solvent with 12.45 mg ml-l extract. Highest half life time was recorded as 78.13 hours in the sample of 27 C at pH 5 in the absence of light. M. malabathricum fruit colourant has a high consumer preference compared to artificial colourant (E131) with 5% significance level. Results clearly revealed that M. malabathricum fruit extract has a good potential as a natural food colourant in food industry due to acceptable stability and high consumer preference.

Keywords: Maha Bovitiya, *Melastoma malabathricum*, Natural food colourant, Pigment extraction, Pigment stability