HONEY ADULTERATION DETECTION USING INSTRUMENTAL TECHNIQUES

***Oroian Mircea, Ropciuc Sorina, Dranca Florina**

Food Engineering Faculty, University "Stefan cel Mare" of Suceava, Romania
* Oroian Mircea: m.oroian@fia.usv.ro

Abstract: Honey adulteration has three perspectives: public health (represented by the presence of uncontrolled ingredients which may affect the human body), legislation (the EU laws forbid the addition of any substances in honey) and economic (because represents an unfair competition comparing with authentic products). The aim of this study was to check the utility of a cyclic voltammetric e-tongue for the detection of honey adulterated with fructose, glucose and inverted sugar. 55 samples of authentic honeys of different botanical origin (acacia, honeydew, sunflower, tilia and polyfloral) were adulterated with these substances in different percentages: 5%, 10% and 20%, respectively. The e-tongue has classified correctly 81.11% of the adulterated samples according to the adulteration agent, while combining the e-tongue with physicochemical parameters the correct classification reached 96.66%.

Keywords: honey, adulteration, e-tongue, physicochemical parameters