



A SIMPLE SYSTEM TO DETECT AND MEASURE FORMALIN IN FRUIT BY USING CONDUCTIVITY, pH AND CAPACITANCE MEASUREMENT

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ABSTRACT

Economically motivated adulteration (EMA) of food is becoming common in some developing countries. Formalin is a harmful organic chemical substance which is often used by businessmen to keep their fruits etc. look fresh for longer times. It consists of two substances: formaldehyde and water. Formalin is used for long time preservation for various types of foods and other things from putrefaction. It affects human life as well as environmental ecology. At present, EMA by Formalin is becoming severe in countries like Bangladesh. Formalin detection is a challenging task. Most of the techniques to detect formalin are based on chemical sensors. The paper aims at detecting formalin in fruits by electrical properties such as conductivity and capacitance together with cheap pH sensor. The fruits are immersed in distilled water and conductivity, capacitance and pH of the water are measured. The result is very promising with an average error of 7.18%. For higher concentration the average error is 5.02%. Although the proposed method does not give result instantaneously, but it could lead to a method of detecting formalin mainly based on electrical properties in future.
