Milk Adulteration using IOT and Machine Learning

Kadam Aniket Chandrakant, Jasud Ajay Bhivsen, Bansode Shubham Babasaheb, Prof. S. R. Aher

Department of Electronics and Telecommunication Engineering

Pravara Rural Engineering College, Loni, India

Abstract*: Adulteration is extremely basic today and the most normally adulterated nourishment item is milk. The most widely recognized explanation behind adulteration is the utilization by producers of undeclared materials that are less expensive than the right and pronounced ones. Adulteration brings down the nature of nourishment and now and then, harmful synthetic substances are likewise added which can be dangerous to health. Adulteration of products either in liquid or solid form can harm or pose serious health risk issues to the consumer. The present investigation was arranged with the primary goal of recognizing purchasing practices of homemakers and their degree of awareness identified with chosen food items. Being considerate of the health & betterment of the society we have planned a project which will allow the customer to know about the level of purity of product which they are buying and being aware of it in future.*

Keywords: Milk adulteration ESP32 pH sensor

REFERENCES

[1] Azad, T., Ahmed, S. Common milk adulteration and their detection techniques. FoodContamination 3, 22 (2016)

[2] Santos, P.M., Wentzell, P.D. & Pereira-Filho, E.R. Scanner Digital Images Combined with Color Parameters: A Case Study to Detect Adulterations in Liquid Cow's Milk. Food Anal.Methods 5, 89–95 (2012).

[3] Lucas de Souza Ribeiro; Fábio Augusto Gentilin; José Alexandre de França; Ana "Development of a Hardware Platform for Detection of Milk Adulteration Based on Near-Infrared Diffuse Reflection" IEEE Transactions on Instrumentation and Measurement, 7, 65 (2016)

[4] Sheweta Barak, Deepak Mudgil, Synthetic milk: A threat to Indian dairy industry. Carpathian Journal of Food Science and Technology 5(1):64-68 (2013)

[5] LukášMűller,PetrBarták,PetrBednář,IvetaFryšová,JurajŠevčík,KarelLemr.   Capillary   electrophoresis-mass spectrometry – a fast and reliable tool for the monitoring of milk adulteration. ELECTROPHORESIS,10, 29 (2008)

[7] Pehrsson P R, Haytowitz D B, Holden J M, Perry C R and Beckler D G 2000 USDA's National Food and Nutrient Analysis Program: Food Sampling *J. Food Compos. Anal.***13** 379–89

[8] Kumar A 2013 *India emerging as a leading milk product exporter* Retreived from dawn.com

[9] PTI 2014 Government scraps incentive on milk powder exports to check prices Retreived from economictimes.indiatimes.com

[10] Hemme T and Otte J 2010 *A Living from Livestock Pro-Poor Livestock Policy Initiative Status and Prospects for Smallholder Milk Production A Global Perspective* Food and agriculture organization of the united nations Rome

[11] National Diary Development Board 2017 Contribution of different states to the growth of milk production in India

[12] J S and DC M 2011 Defining the public health threat of food fraud *J. Food Sci.* **76**

[13] M P, CM B, B R, A S and J O 1999 On-farm quality assurance programs: a survey of producer and industry leader opinions *J. Dairy Sci.* **82** 2224–30

[14] Mudgil D and Barak S 2013 Synthetic milk: a threat to Indian dairy industry. Carpathian J *Food SciTechnol***5** 64-8.

[15] ESP32 Technical Reference Manual