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Prediction of Sulfur Content in Copra Using Machine Learning Algorithm

A. S. Sagayaraj[a], T. K. Devi[b], and S. Umadevi[c]

[a]Department of ECE, Bannari Amman Institute of Technology, Sathyamangalam, India; [b]Department of EIE, Kongu Engineering College, Erode, India; [c]Department of Ece, Centre for Nano Electronics & VLSI Design, VIT University, Chennai, India

ABSTRACT

Coconut copra is the white stout inside a coconut. Besides coconut oil, coconut copra has become a trendy snack and ingredient in cooking, owing to its numerous health merits. A good quality coconut without any infections is maintained by the farmers by employing the procedure of sulfur fumigation over the coconuts. The usage of sulfur is poisonous, and the pollution caused by burning of sulfur is toxic. This sulfur addition creates breathing, skin problems for the consumers. The proposed method is intended to make sure the availability of good quality coconut in the market by assessing the quality of each individual sample going into the production line. The sulfur content in the copra is predicted by the feed-forward machine learning technique. The features of dissimilar kinds of copra are examined and are used to train the machine model. Simulation of the proposed work is carried with MATLAB. From the validation and testing, it is found that 70% of the samples are trained; among them; 15% are validated and 15% are tested. Results indicate that 96.5% accuracy is obtained from the validation.

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Introduction

Food and Agriculture Organization (FAO) study reports that the total population is envisaged to hit 9.1 billion in 2050 as reported in Arivazhagan (2010). In this way, the rural formation should be expanded up to 70% to satisfy the food prerequisites of a consistently developing population. Then again, abundant utilization of synthetic mixtures, for example, bactericides, fungicides, and nematicides, to control the plant sicknesses, has been causing unfriendly impacts in the agro-biological system. Presently, there is a requirement for a successful early contamination detection procedure to control the plant infections for food security and supportability of agro-biological system. One specific area of concentration is the coconut copra. There is an increasing demand for coconut and its products. Coconut is enriched with more vitamins and necessary nutrients essential for human bodies. It is commonly consumed in daily diets and acts as a major source of anti-oxidant. India is the third-largest coconut producing country (area-15.5%,

CONTACT A. S. Sagayaraj snafia.sagayaraj@gmail.com