AUTOMATED CLASSIFICATION OF RUBBER SEED CLONES USING COMBINATION THREE DIFFERENT SENSORS WITH ARDUINO UNO

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ABSTRACT

This paper studies automated rubber seed clones using three different sensors with simple technology using application of Arduino Uno. There are five types of clones from the same species of rubber seed have been used as samples in this paper which are RRIM 2002, RRIM 2015, RRIM2020, RRIM2023 and RRIM2024. Also for each type, there are 30 samples taken. The three different sensors were arranged side by side around rubber seed, to ensure that all lateral surface samples taken the reading. Meanwhile, Arduino Uno has be used as a controlled to control this system. The one way ANOVA was used to analysis the data that converts from light reflectance of color by takes 30 samples readings from 5 difference clones. Then, error plot contracted by using data obtained in ANOVA. Error plot constructed in order to identify if there any overlapping between samples existed.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Rubber breeding programme at the Rubber Research Institute of Malaysia was started in 1928. Since then the Institute has produced six series of RRIM clones example RRIM 500 Series, RRIM 600 Series, RRIM 700 series, RRIM 800 Series, RRIM 900 Series and the recently released clones RRIM 2000 Series[1]. The research found 30 clones under the RRIM2000 rubber seed clone[2].

The conventional way to identify rubber seed clones done by human that lead to a few disadvantages such as consume more time, low percentage accuracy and spend high labor cost. This disadvantages occur due to human sight limitation that really need to work well for identification of features rubber seed clone involving shape, texture pattern and colour spectrum. Reflected light from the skin surface of rubber seed clone contribute the important information and presentation for seed clone identification.