RUBBER SEED CLONES IDENTIFICATION USING LDR MODULE COMBINED WITH ARDUINO

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ABSTRACT

This paper studies the rubber seed clones identification are presented using LDR sensors and Arduino as a controller. The main objective of this project is to create an intelligent and simple identification of rubber seed that can recognize the clones based on colour being reflected by the LDR module sensor. Rubber seed clones have different textures and colour characteristic though observation. The functions of this project are to select the best rubber tree series by using a light dependent resistor (LDR) for analyse the intensity of light being reflected through a surface rubber seed. These projects need to identify five types of rubber seed clones. There are RRIM 2009, RRIM 2016, RRIM 2008, RRIM 2011 and RRIM 2005. The three of LDR module sensors are used and located at different distance to take the sample of reading. The device measure the percentages of reflectance based on the intensity of light reflected from the rubber seed surface. The output voltage measurement is then analysed using recommended statistical test to identify the type of rubber seed. The Microsoft Office Excel was used to analysis the average voltage that converts from light reflect by taking 30 sample readings from 5 different clones. The analyses are shown in TABLE and graph and decided to take the average range as a conclusion to compare the type of every clone.

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CHAPTER 1

INTRODUCTION

1. INTRODUCTION

Rubber was first introduced in Malaysia in 1888. With the invention of cars, the demand for rubber, particularly for the production of tires and others. Malaysia became the main supplier of rubber early in the 20th century. To date, there are still around 1.3 million ha of land planted with rubber in Malaysia with a resurgent interest in new plantings. The estimated planting material requirement is about 3.2 million plants with a market value of RM6.4 million (RM2 per plant). Rubber is currently being planted using two whorled budding with some opting for open-pollinated seedlings the polyclonal seed garden. The trade of planting material will not greatly accelerate as traditionally, rubber growers buy improved buddings only once and will subsequently multiply further buddings themselves. The task of breeding and evaluation of rubber clones is credited to the Malaysian Rubber Board (MRB), previously known as the Rubber Research Institute of Malaysia (RRIM). The most significant achievement has been in developing new rubber varieties or clones with high-yielding trees producing more than 3,500 kg latex per hectare per year and the introduction and cultivation of disease-resistant clones. Rubber Research Institute of Malaysia (RRIM) exploits the R&D to find the best technology had been used to develop the upstream, downstream and processing sectors [1] .The conventionally fundamental that had been used before this is by looking at the seed and tries to match its shape, weight, colour and pattern texture photo from the library text. This project is enhancement from a previous project, and use three LDR module as a sensor detector to identify the clone types. LDR is the resistors whose resistance vary with the intensity of light incident upon it. The resistance is typically very high when no light on the incident and it begins to reduce as light is incident upon it. So by doing this