SUPERVISORY DATA ACQUISITION OF TEMPERATURE AND HUMIDITY IN OIL PALM TISSUE CULTURE LABORATORY

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ABSTRACT

The tissue culture laboratory provides the oil palm industry with innovations for the production of improved planting materials and information on the molecular biology of tissue culture processes. Research has shown that factors such as temperature and humidity are critical in producing quality colonial materials using tissue culture process. Consequently, sensors are required to monitor and record the data in growth room using data acquisition monitoring system which can be real–time. Sensors will monitor critical parameters that focus on temperature and humidity that will be linked to the database and analysis software for storing and analyzing the monitored data. The sensor is low cost because it used local products and low power consumption and fabricated to suit the biological laboratory environment. The purpose of this sensor is to serve as an interface among user as the disturbance analysis program and an expert system in identifying the disturbance. The system could monitor via a wireless system and automatically display data and graph in Visual Basic and stored data in Database Access. Xbee is the automatic wireless identification method using radio waves, relying on storing and remotely retrieving data from the sensor. Eventually, this wireless (Xbee) technology system could improve the efficiency of inventory tracking and management for oil palm tissue culture growth.

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