Monitoring the Charcoal Furnace Control System of Coconut Shell Waste Treatment Becoming Charcoal with ATMega 328P Microcontroller

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Abstract

Coconut plants is the one of potential commodities that are classified as strategic hard/annual plantation commodity. Demand of the coconut plants tend to increase each time along with development of science and technology that increase rapidly these days, especially in the computerized technology field that is real with the existing of computer device which is working automatically then will be designed with integrated control using microcontroller.

The testing result on the control system of the charcoal furnace indicates that the system works by the design. Testing control of servo motor to setting up the size of flame on the gas stove set by servo motor to open/close the regulator on LPG gas.

The testing on the charcoal furnace control Thermocouple Type K signal sensor detects temperature on the charcoal furnace during the combustion of the coconut shell then processing by microcontroller and will be displayed on LCD and monitoring on PC with LabView application program.
Testing process with the coconut shell that burned in the charcoal furnace for 23 kg produce charcoal for 8.75 kg, meanwhile the room temperature average during the testing process is 30.46°C and the maximum temperature of charcoal furnace is 215°C.

References


Index Terms

Computer Science

Information Sciences

Keywords

Charcoal Furnace, Microcontroller, servo motor, Sensor Thermocouple