ABSTRACT

THE PADDY SEED CONTROLLED DESIGN BASED ON THE TEMPERATURE AND HUMIDITY USING ARDUINO MEGA 2560 BASED ON VISUAL BASIC 2010

BY

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The world of Agricultural, the paddy seed *(oryza sativa)* was one of the cultivated plants which had the *hygroscopic properties* that absorbed water easily and always tried to get the *equilibrium* condition for its environment, if the water content around the seed was higher than the water content in its seed. So, the seed would absorb the water from the air in order to increase the seed moisture content and caused the temperature and moisture of it would be influenced on the environment around the seed. The obstacles which was found in rice seed processing were the problem of temperature and moisture.

Therefore, we needed a tool which could sort the paddy seed based on the temperature and moisture that could work with an automatic control system and manually. This research used arduino mega 2560 as the main controller, visual basic software 2010 as the storage media, controller and also data appearance of the temperature and moisture serially, LM35 sensor, DHT22 sensor, 16x2 LCD, DI-infrared transceiver sensor, and a servomotor.

Based on the result and observation, itshew that when the automatic control mode condition in 1 Kg of primed rice seeds, there would be 11 times of measuring data retrieval as many as 915 grams with the average percentage temperature was $30,39^0$C and the moisture was 68,81%. If the manual control condition in 1 Kg of primed rice seeds, there would be 12 times of measuring data retrieval as many as 981 grams with the average percentage temperature was $30,86^0$C and the moisture was 68,33%.

Keywords : The paddy seed sorter, temperature, moisture and arduino mega 2560.