

ABSTRACT

Dairy farming is a common thing nowadays. Products from cow's milk have been widely used as food today so that dairy farming is something important. But because of the absence of male cow on dairy farms, getting a new breed of cow on a dairy farm is quite difficult. One way is by artificial insemination. But this artificial insemination can only be done if the female cow is ready to mate so that it can only be done at certain times. This has become a new problem because farmers cannot monitor their cows at any time, so sometimes the period is missed.

In this final project, the author group made a device that can detect the behavior of dairy cows so that if a particular dairy cow has an estrus, it can be immediately detected by detecting the flapping of the cow's tail. The tool will be installed at the base of the cow's tail. By using the Fuzzy algorithm from the amplitude of the flattening of the cow's tail that has been averaged, the tool can classify the state of cow's lust. This device will send data to the farmer's computer so that the farmer can immediately find out if there is a cow that is lust.

Based on the results of test, the device can record the flick of a cow's tail properly. This can be proven by the device can record the flick of a cow's tail and convert it to an amplitude of -250m to 250m every 10 times in 1 second. Based on the sensor test results, the device has the smallest accelerometer galat of the sensor 2.94% and the largest is 100%. This galat is due to the sensitivity of. The tool can also classify a cow's estrus from not estrus, "Maybe Estrus" and "Estrus". This can be shown from the graph of experimental results on cows for 3 days and the results of the device's accuracy were 55.55%.

Keywords: Fuzzy, amplitude