ABSTRACT

Cow's milk is a food that has high nutrition, protein content and other nutrients are useful for health. Cow's milk is consumed by various circles, the lower, middle and upper circles. The liquid-shaped cow's milk allows it to be mixed with water, thereby increasing the volume and profit for the seller. Therefore, it is necessary to program the detection of the purity and freshness of the milk in order to determine the level of purity of the milk mixture in a percentage based on the amount contained in the milk.

In the process of this final project simulation and analysis to detect the purity of milk quality through digital image process based on the methods Adaptive Region Growing (ARG) using software simulator. Step workmanship her that taking samples of milk that has been processed by the pasteurization process of pure 100% and that is mixed with water at a dose different, namely 20%, 40%, 60%, and 80% milk board using acrylic as its base and dropper to drip with a height of 6 cm. Then the milk image retrieval using digital cameras, and then on though with software simulator using Adaptive Region Growing (ARG) and classification Learning Vector Quantization (LVQ).

From the results of the study found 100% accuracy and computational time of 6.113 seconds with resize 1024×1024, radius 0.2, hidden layer 10, and epoch 100.

Keywords: Image Processing, Adaptive Region Growing (ARG), Learning Vector Quantization (LVQ), Resize, Radius, Hidden Layer, Epoch.