

ABSTRACT

Cow's milk is a complementary substance in food, which has a lot nutrition such as proteins, fats, vitamins, minerals and carbohydrates. The characteristic is liquid and white colored. The price is affordable so all society can enjoy it. It can found anywhere, from small traders untill the supermarkets. But some of the sellers mix and add water, dyes, and artificial sweeteners to get more profit, so it reduce the milk's nutrition and the freshness.

The problem is it difficult to know the freshness level of milk if not by the expert, the only way the consumer to know the freshness level by sight and smell. In this Final Assignment, a sistem created to help consumer know the cow milk freshness level by using Matrix Laboratory Software (MATLAB) using image processing method. First step is taking image of data sample using digital camera, then doing feature extraction by using Gral Level Occurrence Matrix (GLCM) method and Local Binary Pattern (LBP) method and classified by K-Nearest Neighbor (K-NN).

Based on system analysis result, through GLCM method with type of City Block Distance Classifier has better accuration which has level of accuracy of 100% and computational time of 0.7777 second. While through LBP method with type of City Block Distance Classifier has level of accurary of 97.5% and computational time of 0.7722 second.

Keywords : Cow's Milk, Gray Level Co-Occurrence Matrix, Local Binary Pattern, K-Nearest Neighbor