

ABSTRACT

Chicken Eggs have become one of the main consumption of people in Indonesia. The eggs have a high quality protein so that the eggs used as ingredients of the food. However, each off eggs has different quality and its freshness. There are some factors that cause chicken eggs to have different quality and freshness, such as the production site and the storage process. The quality and the freshness of eggs can be seen from the height of the egg. The more viscous of the white egg, the more freshness of the eggs. The height of the eggs can be measured using HU (Haugh unit).

In this research, the author discusses how to detect the quality and the freshness from the height and the color of egg yolks. In this research the author uses the transparent objects detection using DWT (Discrete Wavelet Transform) and KNN (K-Nearest Neighbor) classification.

Therefore, this research is done with 51 images egg, with the composition of each class has 17 images egg AA quality, 17 images egg A quality , and 17 images egg B quality . So we get the best of 90,1% accuracy and computing time 0,4012s using DWT(Discrete Wavelet Transform) with level dekomposisi 2 and subband LL, which used clasification K-NN (K-Nearest Neighbor) using distance euclidean with $K = 1$.

Keywords: Egg, HU (Haugh Unit), DWT (Discrete Wavelet Transform), KNN (K-Nearest Neighbor)