

ABSTRACT

Chicken egg is one of the many food ingredients consumed by public in general. In addition, egg is also known as food that has a high source of protein. Eggs produced from each farm will have different quality and freshness. The quality and freshness of egg can be seen from the height of the egg whites.

One of the problems that often occur nowadays is the decrease in quality and freshness of eggs caused by many factors. One of the factors that result in the quality and freshness of the eggs is decrease in the way they are handled and the length of storage they are placed and also the temperature in the storage. Yolk color can be measured using a tool called Yolk Color Fan. The result when matching the yolk color by using Yolk Color Fan with visible can be subjective which is caused by the factors of the different ability of a person's vision. The quality and freshness of the egg can be measured from the height of the egg whites. The higher the egg white the better the freshness and the quality of the egg. In this final project, the author will discuss how to detect the quality and freshness of chicken eggs from the height of egg whites.

In this final project, the writer will produce the simulation of quality and freshness of chicken egg based on transparent object using Discrete Cosine Transform (DCT) method with K-Nearest Neighbor (KNN) classification.

Through this Final Project the author hopes the research can be useful for the community to determine the quality and freshness of eggs seen from the egg whites in a more effective way than achieving the expected accuracy to 90%.

Keywords: Egg, Yolk Color Fan, Discrete Cosine Transform (DCT), K-Nearest Neighbor (KNN), Transparent Object