

CHAPTER 1

INTRODUCTION

1.1 Background

Digital image processing is the process of processing an image, the results will be issued according to the wishes of the image processing itself. The background started when I was kkn, where it used to be is the public work of the people farming. From the guava garden to the corn field, the problem that always occurs is that the harvest results are wasted because the farmers do not know the texture and color of the ripe guava fruit. With this problem, it is hoped that this research will be able to help farmers classify and classify guava fruit that are ready to be picked based on the color and texture grade based on the research results. HSV defines color in terms of Hue, Saturation and Value.

The advantage of HSV is that it contains the same colors that are captured by the human senses. Meanwhile, the colors formed by other models such as RGB are the result of a mixture of primary colors. The results of color processing will be data sets that are processed using the Learning Vector Quantization classification method in order to identify the ripeness of the guava fruit. Digital image processing and the Learning Vector Quantization (LVQ) classification method are implemented in the form of display data.

This research is expected to provide solutions to the problems that exist in the processing of plantation products. Especially in the process of selecting guava fruit based on the level of maturity. So that the implementation of this research can help especially the process of selecting fruit based on the level of fruit maturity according to consumer needs which can be done quickly, precisely and efficiently

1.2 Problem Formulation

The formulation of the problem in making my project is:

1. Are guava fruit classified based on color & texture?
2. Can the training data be applied as a classification guide when testing?

It can be concluded that in this project the answers and final results will be found. By doing the data testing process and training will be carried out optimally so that the target is achieved to answer these problems

1.3 Scope

limitations of the scope of this research, namely The guava fruit used is a red brittle guava variety which is more popular than other varieties as well as color identification based on RGB and HSV conversion.

1. Digital image captured for the training & testing dataset in the same luminance and saturation

2. The RGB mean value is obtained from the center point of the representative image cropping area

1.4 Objective

Creating a program that can facilitate the classification process of guava fruit in calculating the value of guava fruit maturity, which can determine the maturity level of guava fruit so that it can be used and applied to guava fruit farmers. So that farmers no longer experience losses because ripe guava fruit can be picked and sold immediately. Likewise with guava fruit that is not yet ripe so that it can be picked according to the right level of ripe.

