ABSTRACT

In agriculture, examine the weight, the size and the skin color of fruit can be used to decide its quality. A fruit can be conclude as quality fruit when it's becoming ripping, having large size or heavy weight. Farmers' manually classified tomato based quality using visual approach and calculation of tomato weight. In manual system, perception of each farmer is different about tomato quality and it makes the result of classification also be different. To get accurate and fast result in tomato mass classification, the process will be using a computer system to works with tomato image data that going to be classified.

In this final assignment will be create a software that can define size and ripeness of tomato using a simple method of digital image processing. Counting the width of tomato pixels and compare it with tomato model is the process of digital image processing that use to defining the size of tomato. To define the ripeness of tomato, first take a sample of RGB pixel data from tomato model (RGB sample), then start searching the RGB pixel of tomato target that have same value with tolerance value. After that, count RGB pixels found and compare it with width of tomato target pixel. Also decide the minimum value or threshold to classified tomato as ripe or big tomato.

The development of this system is using Borland Delphi v.7.0. From the experiment result, the whole system of classification dimension and ripeness tomato working accurately using 70 as tolerance value and the accuracy value is 62.5%.

Keywords: RGB sample, dimension, ripeness, tomato, digital signal processing