

CHAPTER 1

INTRODUCTION

In India, 70% of the agricultural labor and common man depends on the agriculture. As the major source of national income is from agriculture, it becomes the backbone of Indian Economy. Inspection of fruits and vegetables is an important procedure for marketing, storing and processing as their appearance affects the consumer acceptance. Agriculture sector plays an important role in economic development of India.

As compared with development in electronic and automobile sector, development in agriculture sector is very slow. Hence, there is need to come up with some novel techniques so as to fore front the agriculture sector again. Grading of fruits is necessary in evaluating agricultural produce, meeting quality standards and increasing market value. If the classification and grading is done through manual techniques, the process will be too slow and sometimes it will be error prone. The labors classify based on color, size, weight etc. If these quality measures are mapped into automated system by using suitable programming language then the work will be faster and error free.

In this project we proposed a computer based method to classify and determine quality of grapes by digital image processing. In this work color plays a key role, other parameters like shape, hardness, softness, day light, day temperature, colorization also can determine quality of fruit. Here we are classifying grape images as green, black and red then identifying them as with or without pesticide and to determine quality as high, medium and low this is done with the help of digital images which involves image analysis, visual examination and inspection of color.

1.1 Classification of grape images

Fig 1.1 shows different variety of grape images. The color attribute of the fruit plays a vital role in classifying the fruit such as green grape, black grape and red grape.