

ABSTRACT

Onions are one of the main commodities in the market for raw materials and spices. One of the onions that has a high need and demand is Shallots. Shallots are widely cultivated by farmers because they have a wide market and are easy to cultivate. In the cultivation of shallots, it will be difficult to know the level of maturity or harvest readiness of the plant. It takes an intelligent system as a medium to help farmers in the harvest process. This study uses a camera as a medium to take the image of the shallot plant. The purpose of this study is to test the accuracy of the detection results of an object which is divided into two categories, namely Shallots "Ready to harvest" and "Not ready to harvest" by using histogram features as a feature extraction method and K-Nearest neighbor as an image classification method, detection Shallots were tested by calculating accuracy, precision and recall to assess whether the system was used or not. The test results obtained detection accuracy results of 96.5%, precision results of 94.5% and recall results of 94.9%. These results indicate that the system model created works well enough to determine the readiness of the onion plant to harvest.

Keywords: *accuracy, Histogram, K-Nearest Neighbor, precision, recall, Shallots*