Abstract

Coffee leaves are one of the most accessible parts to detect when the coffee plant is attacked by disease. Many factors can cause coffee plants to become sick. Some of the contributing factors are pests, leaf rust, leaf fungus, and leaf spot. By utilizing image processing, it can help classify diseases through the image of the leaves to provide proper treatment for these plants by performing color feature extraction using Color Moment. Then the classification uses the non-deep learning K-Nearest Neighbor method, which is optimized using Genetic Algorithm on its k value. The most optimal k value is obtained so that the accuracy value obtained is also higher. The results obtained the best accuracy using the color moment in the RGB color space is 78.9% using the KNN+GA classification.

Keyword : *image processing, color moment, k-nearest neighbor, genetic algorithm, coffee leaves*