

ABSTRACT

Tea is one of the plantation commodities that has an important role in the Indonesian economy. In the cultivation process, several obstacles cause a decrease in production, one of the obstacles faced is the attack of empoasca pests on tea leaves. Inappropriate use of drugs to overcome pest attacks can reduce the quality of tea leaves. Proper diagnosis of plant diseases using the correct plant protection system can prevent a decrease in production. In this thesis, the detection of tea leaves affected by empoasca pest attacks is proposed based on multispectral cameras, this research proposes the Convolutional Neural Network (CNN) method as data processing to obtain high accuracy. The characteristic of the empoasca pest attack is a curled leaf shape that can cause death to the leaves. The use of multispectral cameras was chosen in this study because multispectral cameras have separate spectrum features, in this study the green spectrum was used because it was easy to detect the characteristics of tea leaves that were attacked by empoasca pests, making it easier to process data using CNN.

Keywords: Convolutional Neural Network (CNN), Tea Leaf, Empoasca Pest Attack