

ABSTRACT

Chili is a type of fruit plant that has many varieties. One of them is the big red chili which has high economic value. However, farmers often experience low yields due to damage to the chili fruit caused by anthracnose disease caused by the fungus Colletotrichum sp. Some farmers are not aware of anthracnose disease on their chili plants so preventive measures are not taken. Although there have been many studies on diseases in chili plants, research on anthracnose disease in chili fruit is still limited. Therefore, the purpose of this research is to develop a classification system for anthracnose disease in red chili fruit using the Convolutional Neural Network (CNN) method. Testing is done by comparing various CNN methods that use different optimization algorithms. The test results show that the Nadam optimization algorithm gives the best results with an accuracy of 97.00% and a loss of 6.45%. This shows that CNN is effective in classifying large red chili fruits affected by anthracnose disease. This research is an effort to reduce losses due to anthracnose disease by improving preventive measures on large red chili plants in the future, which will ultimately benefit farmers by increasing yields.

Keywords: Anthracnose, Red Chili, Classification System, Convolutional Neural Network