IDENTIFIKASI PENYAKIT BUAH STRAWBERRY MENGGUNAKAN PENGOLAHAN CITRA DIGITAL DENGAN METODE JARINGAN SYARAF TIRUAN

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ABSTRACT

Strawberry is a type of subtropical fruit plant. Strawberries are only cultivated in certain areas, generally in the highlands. Strawberries, like fruit in general, also have diseases. In recent years, strawberry farmers have experienced losses due to crop failure. One of the losses experienced by strawberry farmers is caused by disease in strawberry fruit, which is the result of a lack of knowledge and tools to detect strawberry disease. This research aims to create a system for detecting strawberry fruit diseases using digital image processing with artificial neural network methods. This research also aims to create a system to process new strawberry image input whose status will be determined. Measuring the level of accuracy of applying the artificial neural network method to the strawberry disease detection system is also included in the objectives of this research. The method used to identify strawberry fruit diseases is identification using a backpropagation artificial neural network with a total of 250 data. The results of research conducted using 5 nodes with each number of nodes 1024, 512, 256, 128, 64, with 5 output nodes, dropout of 0.5, learning rate 0.01, Sparse Categorical Crossentropy loss with the activation used is ReLU with output activation using Softmax and epoch of 2500 obtained the best results for training data accuracy of 66% and test data accuracy of 50%.
Keywords: Artificial Neural Network, GLCM (Gray Level Co-occurrence Matrices), Disease Identification, Strawberry Fruit