

Evaluation of fungal identification of Pestalotiopsis on Azalea employing ANN.

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Timely control of plant diseases can reduce crop losses and lead to optimal use of agricultural pesticides and reduce the environmental pollution. Plant diseases can be diagnosed by specialists with naked eyes, which is time-consuming and costly. Image processing can also be an effective method for early detection of plant diseases. In this study, Azalea flower leaf disease (Fungal Pestalotiopsis) is detected using image processing. After infecting the leaves with Pestalotiopsis, pictures were taken. Using the algorithms developed in Matlab the areas infected were clustered out. Then the color and texture features of the infected areas were extracted. Three models were developed, one including the features derieved the co-occurrence matrix, the second with the color features and the third model with all the features extracted. Using the artificial neural network diseased and non-diseased leaves were classified. The results showed that artificial neural network could successfully mark healthy and infected leaves with fungal Pestalotiopsis using k-mean clustering method with the accuracy of 95%.

Keywords : Keywords: Leaf disease, Azalea, Fungal Pestalotiopsis, Image processing, K-means clustering, Artificial Neural network (ANN).

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