

# Implementation of Pattern Recognition Techniques for Identifying Leafhoppers by Using Artificial Neural Networks

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Three species were selected in males and females of Leafhoppers and the Self-Organizing Mapping was implemented to identify species. Selected parameters such as body size and color diversity, were measured by image processing systems, and were provided to the Kohonen network as input. Seven nodes were used as input layer while 2-dimensional (3 by 3) nodes assigned as the output layer. Learning rate was 0.4 while the threshold of the error was about 0.32 (total sum of error). Total iteration number was 3000. Identification was successful of after training the Kohonen network.