

ABSTRACT

A WEB-BASED EXPERT SYSTEM FOR RICE PLANT DISEASES DIAGNOSIS USING BREADTH FIRST SEARCH METHOD

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Rice is one of the most important plants for humans, especially in the Asian region, where this plant is a staple food for people living in the Asian region. However, in the process of managing and caring for rice plants, diseases can also be infected, therefore to determine what diseases occur in rice plants, an expert system is needed. Expert system methods that are widely used in disease diagnosis in rice usually use Forward and Backward Chaining, Certainty Factor, Bayes, Breadth First Search, Case Based Reasoning models. Basically the Breadth First Search method is an algorithm that performs a wide search that visits a node in preorder, namely visiting a node and then visiting all nodes that are neighbors to that node first. Based on several journals that the author has read, the reason why the author chooses to use Breadth First Search is because in this method there will be no dead ends or as there is no solution, if there is only one solution then BFS can find it, but if there is more than one solution, then BFS will provide the minimum solution that will be found by means of the best solution. The stages of the BFS method are to enter a node (symptom) and it will be processed with other adjacent nodes and will search to find the closest or best solution to produce a solution. The results of this study are an expert system for diagnosing diseases in rice plants using the website-based Breadth First Search method. Tests are carried out using the BlackBox method to test functionality and certainty factor for accuracy testing. The results of the accuracy test carried out obtained a value of 99%.

Keywords: BFS, Certainty Factor, Rice, Expert System, Website