Expert System Early Detection of Diseases in Rice Plants Using the Certainty Factor Method

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ABSTRACT

Many farmers in Bondowoso Regency have complained about problems with their rice plants. Considering the low ability of farmers in Bondowoso district to deal with rice diseases, it is necessary to create a tool in the form of an expert system for early detection. In this research, an expert system was developed using the certainty factor method. This method is deemed suitable because it is easier for farmers to understand. They only need to focus on sentences and images provided by experts, select several symptoms occurring in their rice plants, and determine their levels of confidence. The first step is for the system to calculate the expert CF value (Certainty Factor, a measure of expert confidence) previously determined by the expert multiplied by the CFuser selected by the user. The existing CFexpert and CFuser values are then calculated by the system and compared with statements from experts. Results: The expert system curation rate was 86.6%, indicating the application's suitability for use, and the blackbox testing results were 98%.

***Key words**: Expert System, Certainty Factor, Rice plants*