Sistem Pakar Berbasis Web Untuk Mendiagnosis Penyakit Pada Tanaman Cabai Menggunakan Metode Certainty Factor (*Web-Based Expert System For Diagnosing Diseases In Chili Plants Using The Certainty Factor Method*)

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ABSTRACT

Diseases in chili plants are a major problem that can reduce yields and production quality. Farmers often face difficulties in diagnosing chili plant diseases due to limited knowledge and resources. Therefore, this study aims to develop a web-based expert system that can help farmers diagnose diseases in chili plants quickly and accurately. The system built uses the Certainty Factor (CF) method to calculate the level of certainty of each diagnosis based on symptoms entered by the user. With this system, farmers only need to select the symptoms observed in chili plants and provide their level of confidence. Based on this input, the system will automatically provide a disease diagnosis along with its level of certainty. The results of the system test showed that out of 40 tests, 39 times the system succeeded in providing a valid diagnosis according to expert data, while 1 time the result was invalid. This shows that the system's success rate reached 92%. In addition, testing using the User Acceptance Test (UAT) method showed an average result of 87.1%, indicating that this system is easy to use and meets user expectations. With a simple, responsive, and easy-to-use interface, this system is able to provide a diagnosis of chili plant diseases quickly and accurately. This web-based expert system has proven to be effective and suitable for use by farmers as a tool to detect diseases in chili plants and increase agricultural yields.

Keywords: Expert System, Chili Plants, Plant Diseases, Certainty Factor, Diagnosis System.