

ABSTRACT

Potato (Solanum tuberosum L.) is one of Indonesia's leading horticultural commodities with a crucial role in national food security. However, its production is often hampered by plant diseases that lead to significant losses. This study aims to develop a web-based expert system to diagnose potato plant diseases using the Certainty Factor (CF) method, which is capable of handling uncertainty in the inference process. Data on diseases and symptoms were collected through interviews with agricultural experts and extension workers, resulting in six identified diseases and eighteen main symptoms. The developed system is designed to provide disease diagnoses along with recommended solutions, supporting both farmers and agricultural advisors. Testing using the Blackbox Testing method showed excellent results, with the system achieving a 100% success rate in functional testing. This system is expected to serve as an effective and efficient tool for identifying potato plant diseases in the field. Future development is expected to integrate image recognition technology and environment-based recommendations to improve diagnostic accuracy and user experience.