

ABSTRACT

EXPERT SYSTEMS TO DETECT PEST AND POTATO PLANT DISEASES USING *FORWARD CHAINING* METHOD

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Expert systems are computer programs that contain knowledge from experts in their fields. Expert systems are applied in various fields, one of which is in agriculture. Potatoes are one of the largest commodities in Indonesia and are widely sought after by consumers. Potato production has been quite stable, although it sometimes goes up and down every year. One of the factors causing the decline in potato production is the attack of pests and diseases on potato plants. As time goes by, technological developments have reached the agricultural sector. The use of technology is very helpful in completing work and making decisions. In this case, the opinion of agricultural experts is needed to provide literacy and education for novice farmers about the types of pests and diseases, symptoms, and how to handle them. However, not all regions have experts in the field of agriculture, therefore researchers created an expert system for diagnosing potato plant diseases and pests based on a website based on expert opinions. As a result, researchers succeeded in creating an expert system website using the forward chaining method. The main features of the website are consultation and diagnosis results, with accuracy testing using a confusion matrix by testing 26 rules, and out of 26 rules, 3 results were less appropriate and 23 rules were considered appropriate, resulting in a system accuracy of 88%.

Keywords: *confusion matrix, forward chaining, potatoes, rule, expert system*