ABSTRACT

RICE LEAF DISEASE CLASSIFICATION USING CONVOLUTIONAL NEURAL NETWORK (CNN) WITH VGG-19 MODEL

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The disease problem in rice worldwide causes damage and a large reduction in rice production. If rice farmers can quickly diagnose the types of pests that attack rice from their symptoms, they can promptly control these pests. An open interview was conducted by the author with the Head of the Agricultural Extension Centerof Mondokan District, Sragen Regency, Mr. Rebin Yulistiawan, SP., on Wednesday, April 20, 2022, as attached in Appendix 1 to identify rice diseases, Agricultural Extension Center of Mondokan District Sragen Regency cooperates with the Pest and Disease Observation Laboratory. As per the result of these interviews, the time required from sampling until the test results came out was not short. VGG-19 is used to categorize diseases in rice leaves. VGG-19 was chosen because VGGNet is a deeper and more dependable architecture for ImageNet technology. The author is also interested in learning how accurate the VGG-19 model is. The total of 12,000 datasets is divided into training data, validation data, and testing data with 80:10:10. The results obtained for epochs 32, 64, dan 96 have varying accuracy. The accuracy results obtained using VGG-19 were 98% at epochs 32, 64 and 96.

Keyword: Rice, Rice leaf disease , VGG19