SPRING ONION DISEASE DETECTION AND TREATMENT RECOMMENDATION

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ABSTRACT

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Spring onion is a delicate crop that demands much attention during its cultivation; diseases such as the purple blotch and the leaf blight affect spring onion crops and, in any case, prevention of these diseases is rather complicated to detect. Study aims to diagnose the diseases correctly and make suitable recommendations on the treatment needed. The researcher created an app that help in identifying the spring onion disease and would offer recommendations on how to treat such disease. In developing the app, the researcher used Android studio and Google Colab for datasets training. The technique used in choosing the survey participants is Simple Purposive Random Sampling and self-constructed checklist based on the ISO 9124 Likert scale to rate the app's functionality, reliability, and usability. The app is ideal for small and big farmlands, especially in regions without an internet connection, and during an experimental test, it

gained an accuracy of 90% in the purple blotch and 93% in leaf blight-captured crop diseases within a 3-inch range. The significant results of this study include the application's ability to detect two types of diseases, namely purple blotch and leaf blight, and its ability to provide personalized treatments, such as recommendations, chemical treatments, and care tips, based on the specific disease detected. The app's contribution to the farming community is its ability to detect crop diseases early, simplify disease detection techniques, increase harvests, decrease chemical use, and prevent minor spring onion problems that could result in major outbreaks and damage large farmlands.

Keywords: *treatment recommendation, spring onion, purple blotch, leaf blight, disease detection.*