Sistem Pakar Produksi Hasil Prediksi Benih Padi Menggunakan Metode *Fuzzy Tsukamoto*

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Abstrak

Produksi benih padi dipengaruhi oleh beberapa faktor, seperti luas lahan, jumlah pupuk, suhu, dan curah hujan. Ketidakpastian pengaruh faktor-faktor tersebut menyebabkan prediksi hasil produksi sulit dilakukan secara akurat. Penelitian ini bertujuan untuk membangun sistem pakar prediksi hasil produksi benih padi menggunakan metode Fuzzy Tsukamoto. Sistem menggunakan empat variabel input, yaitu luas lahan, jumlah pupuk, suhu, dan curah hujan, serta menghasilkan output berupa prediksi produksi benih padi. Basis pengetahuan sistem terdiri dari 81 aturan yang dibentuk dari kombinasi himpunan fuzzy setiap variabel. Hasil penelitian menunjukkan bahwa sistem mampu memberikan prediksi hasil produksi berdasarkan data yang dimasukkan pengguna. Sistem ini diharapkan dapat membantu petani dan pihak terkait dalam perencanaan produksi serta pengambilan keputusan di bidang pertanian.

Kata Kunci: Sistem Pakar, Benih Padi, Prediksi Produksi, Fuzzy Tsukamoto.

Expert System for Predicting Rice Seed Production Using the Fuzzy Tsukamoto Method

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Abstract

Rice seed production is influenced by several factors, including land area, fertilizer quantity, temperature, and rainfall. The uncertainty of the effects of these factors makes it difficult to predict production yields accurately. This study aims to develop an expert system for predicting rice seed production using the Fuzzy Tsukamoto method. The system utilizes four input variables, namely land area, fertilizer quantity, temperature, and rainfall, and produces an output in the form of rice seed production predictions. The system's knowledge base consists of 81 rules generated from the combination of fuzzy sets for each input variable. The results of this study indicate that the system is capable of providing production predictions based on the data entered by users. This system is expected to assist farmers and related stakeholders in production planning and decision-making processes in the agricultural sector.

Keywords: Expert System, Rice Seed, Production Prediction, Fuzzy Tsukamoto, Fuzzy Logic.