

**Sistem Pendukung Keputusan Pemilihan Jenis Ikan Koi Berdasarkan
Kualitas Air Kolam Koi Berbasis IoT Menggunakan Fuzzy Tsukamoto**
*Decision Support System for Selection of Koi Fish Types Based on IoT-Based Koi
Pond Water Quality Using Fuzzy Tsukamoto*

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ABSTRACT

Koi fish is a type of ornamental fish that is in great demand by the public, especially in Indonesia. According to the Central Statistics Agency in 2019, it was recorded that in 2017-2018 the export rate of koi fish was up to 47.6%. With the development of the community of koi fish enthusiasts in Indonesia, there are often failures faced by koi fish farmers due to poor pond water quality and causing huge losses because many koi fish die. So that researchers will conduct research by measuring the quality of koi pond water and will provide a decision for the selection of the type of koi fish. In the current study, researchers used an artificial intelligence algorithm, namely fuzzy tsukamoto. By using parameters such as pH, temperature, air purity, oxygen content, and salt content in the air. So that it will help koi enthusiasts and koi fish farmers in making decisions for the right type of koi fish based on the water quality of the koi pond. To reduce the failure rate in koi pond cultivation, the researchers designed an IoT-based system that can be monitored in real time for the pH value, temperature, and purity of the koi pond water. With an artificial intelligence algorithm, the system can provide a decision in choosing the type of koi fish and the value of the water quality of the koi pond. Based on the test results, the researchers got the system accuracy value is 93,21%.

Keywords: *Decision Support System, Koi Fish, Internet of Things, Fuzzy Tsukamoto, Pond Water Quality*