RED ONION PRICE PREDICTION SYSTEM IN YOGYAKARTA SPECIAL REGION PROVINCE USING NEURAL NETWORK BACKPROPAGATION METHOD

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ABSTRACT

The price of shallots in an area in Indonesia can rise and fall in line with high demand and increasing population, so this can especially affect farmers who sell shallots. To reduce the impact that may arise due to price increases or changes, action is taken beforehand. One way that can be done is to carry out a forecast that can predict the price of shallots from time to time in the future, so that it can be used to estimate and prepare to face price changes. This research aims to create a forecasting system that can predict the price of shallots in the Special Region of Yogyakarta province using the Backpropagation Neural Network method, so that it can help shallot farmers in particular as a consideration in decision making. The research was carried out using experiments on the input layer variables used, namely 7, 14, and 21. The input layer variables are represented as the number of days used in the backpropagation network architecture to predict the next day's price. Experiments were also carried out using a combination of hidden and output layer variables, learning rate values, target error values, and number of epochs. The system created is expected to be able to predict prices in the next few days based on the smallest mse (mean squared error) value. The data used is daily data from 2017 to 2024.

Keywords: Price of Shallots, Multilayer Perceptron, Backpropagation, mse.