DIY PROVINCE RED CHILLI PRICE PREDICTION USING ARTIFICIAL NERVE NETWORK METHOD

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ABSTRACT

Red chili is a horticultural crop for food which plays an important role in the daily lives of people in Indonesia. One of the cities in Indonesia that uses red chilies as a processed food ingredient is the city of Yogyakarta. Almost every day, the price of red chilies in the city of Yogyakarta fluctuates. The fluctuating changes that occur make it difficult to predict the price of red chilies properly. The uncertain and upward trend in red chili prices can result in losses for the state and society. To overcome this problem, one solution is to carry out price predictions which can be used to predict possible price increases for red chilies quickly and accurately so that consumers and the government can take preventative action against existing problems. This research was carried out using the Neural Network algorithm. Neural Network algorithms are very effective when used to solve problems regarding forecasting or prediction of time-dependent data which is often referred to as forecasting. This research will use data on the price of red chilies in Yogyakarta, which consists of 196 data. Based on the tests carried out in this research, the best test results were obtained, namely using a data sharing ratio of 85%:15%, epoch 100, batch size 50, learning rate 0.05, number of neurons 50, ReLU activation function, Adam optimization function, the number of attributes is 10 which produces an MAE value of 0.0689, an MSE value of 0.0104, and a MAPE value of 11.3927%, as well as an accuracy of 88.6073%. With this system, the problem of highly fluctuating red chili prices can be resolved well.
Keywords: Prediction, Price of Red Chilies, Time Series, Neural Network.