ABSTRACT

In Indonesia . Prices of agricultural commodities that are sometimes unstable often make people fret. One of them is farmers of agricultural commodities themselves. The price of agricultural commodities is very fluctuating raises doubts for farmers to start planting seeds because the price of agricultural products is cheaper than the price of production that makes people and consumers restless. One of the main factors is the weather in the agricultural cultivation area. Therefore, there is a need to predict the price of agricultural commodities, where the forecast price can be used as a recommendation for farmers in making a decision to start planting seeds or not.

In previous research has done research about price prediction of onion and chilli price by using Radial basis function neural network (RBFNN) algorithm. Similarly, this final research is prediction of agricultural commodity price Using Functional Link Neural Network (FLNN) algorithm optimized with Artificial Bee Colony (ABC). This study uses monthly historical data on the price of red pepper and monthly weather for 3 years. This data will be preprocessed in advance with *Principal Component Analysis* (PCA), *Weighted Moving Avarage* (WMA), and Normalization. System performance is measured using *Mean Absolute Percentage Error* (MAPE) method.

After doing the research of agricultural commodity price forecasting by using FLNN-ABC algorithm scenario which get best MAPE performance result with normalization scenario where MAPE can be equal to 12,52%

Keyword: *Functional Link Neural Network, Artificial Bee Colony* komoditas harga pertanian