

IMPLEMENTATION OF THE SARIMA MODEL TO PREDICT PALM OIL PRODUCTION

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ABSTRACT

Palm oil is a commodity that plays an important role in the plantation industry and has a significant impact on the global economy. The problem faced in production planning and market analysis is the lack of adequate preparation. Therefore, developing a palm oil production prediction system is very important. This research aims to implement the SARIMA (Seasonal Autoregressive Integrated Moving Average) model to predict palm oil production for the 2022-2026 period. The data used in this research comes from the DITJENBUN Agriculture Plantation Statistics Book. Based on the analysis carried out, it was found that the SARIMA model with parameters (2,0,0)(1,0,0)12 gave the best results with a Mean Absolute Percentage Error (MAPE) value of 5.54%. These results show that the SARIMA model is able to predict palm oil production with a fairly good level of accuracy based on the historical data used. With this palm oil production prediction system, it is hoped that it can make a significant contribution to production planning, market analysis and palm oil availability. By utilizing historical data and using the SARIMA model that has been tested beforehand, this system can help stakeholders make decisions and increase efficiency in the palm oil plantation industry.

Keywords: SARIMA; Palm oil; Forecasting; Time Series.