

ABSTRACT

MATHEMATICAL MODELING USING LINEAR REGRESSION ALGORITHM TO PREDICTE DATA VALUES THAT AFFECT THE SELLING PRICE OF COOKING OIL

The increase in cooking oil prices in Indonesia is a complex issue because it is influenced by various economic, social, and seasonal factors. The author's purpose in conducting this study is to apply the Linear Regression method to determine the results of predicting cooking oil selling prices and RMSE values. This study was conducted using historical data from 2023 to 2024. The factors analyzed include raw material prices, operational costs, subsidy policies, and seasonal patterns. The linear regression method is applied as the main analysis tool to model the relationship between independent variables (variables used to predict) and dependent variables (variables to be predicted) that affect prices. The results of the regression analysis show good prediction accuracy, namely 88% for 2024 and 78.6% for 2025. The conclusion of the study is that the linear regression method can be used to predict cooking oil selling prices in the next period.

Keywords: *Cooking oil, price prediction, linear regression*