

**APPLICATION OF DEMAND FORECASTING TO DETERMINE THE  
NEED FOR PURPLE SWEET POTATOES IN THE STIK TELO UNGU  
INDUSTRY  
(CASE STUDY OF UMKM GUNUNG LIRANG, MOJOKERTO)**

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**ABSTRACT**

*UMKM Gunung Lirang are one of the UMKMs engaged in snack food processing. UMKM Gunung Lirang products that have high demand are purple telo sticks. Demand for purple telo sticks fluctuates, causing uncertainty in the raw materials needed. Optimization in determining raw material requirements is needed at UMKM Gunung Lirang so that the need for purple sweet potatoes is fulfilled. The purpose of this study is to apply demand forecasting for purple telo stick products to determine the purple sweet potato needs of UMKM Gunung Lirang. The method in this study used the Artificial Neural Network forecasting method with five parameters and is used as a reference in determining the need for purple sweet potatoes.. This study resulted in forecasting the demand for purple telo sticks using 12 - 5 - 1 parameters, namely 12 inputs, 5 hidden layers, and 1 output with a Mean Absolute Percentage Error value of 43.65%. Forecasting results for January 2025 to December 2025 are 262.26, 330.54, 211.58, 255.17, 303.57, 188.05, 112.85, 55.33, 243.57, 237.05, 421.20, and 414,51 respectively in kilograms and the known needs for purple sweet potatoes for Gunung Lirang MSMEs in January 2025 to December 2025 are 87.42, 110.18, 70.53, 85.06, 101.19, 62.88, 37.62, 18.44, 81.19, 79.02, 140.40, and 138.17 in kilograms, respectively.*

**Keywords :** *Potato, Forecasting, ANN, Material*