PEMODELAN DINAMIK KEBUTUHAN BAHAN BAKU PADA HOME INDUSTRI KERIPIK NANGKA (Studi Kasus di UMKM Seger
Waras VI Pati Jawa Tengah)
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Dynamic Modelling of The Requirement of Raw Material in Jackfruit Chips Home Industry

(Case Study in UKM Seger Waras VI Pati – Central Java)

Abstract

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UKM Seger Waras VI is a home industry that produce jackfruit chips. As a Fruit Processing Industry, its production depends on many things including raw material. To get raw material, UKM Seger Waras VI depends on jackfruit potential harvest in the region. Actually, jackfruit is a kind of seasonal fruit. The research aims to design a dynamic model of food industry based on limited resources. The model would be simulated to support decision making.

The research started in collecting data of every element needed such as jackfruit resources, UKM Seger Waras VI, consumers, and traditional market. They were processed to be model inputs. The data processing used multiply decomposition method to forecast seasonal-cyclic consumers' demand. The development of model used STELLA for Windows. It resulted causal and flow diagram described both real and simulated condition. The model must be passed verification and validation test to prove that it was verified and valid.

The simulation of initial model showed that there was unequilibrium between jackfruit chip production and consumers' demand because of jackfruit unavailability. There are some alternatives to solve the problem while well-planned make-to-stock production system was the best alternative. The result of simulation model showed that it required jackfruit chips stock, which equals to 825 kgs of jackfruit, in the start of forecasting period. It is recommended that UKM Seger Waras VI need to increase production frequency in order to reach the make-to-stock production system.

Keywords : raw material, multiply decomposition, dynamic modelling, make to stock

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