



SUMMARY

WIBOWO SETIO LAKSONO. Optimization of Fresh Milk Supply Allocation Case Study in PT. Frisian Flag Indonesia. Supervised by AMZUL RIFIN and IMAM TEGUH SAPTONO.

Freshmilk is the raw material in Milk Processing Industry (IPS). Freshmilk in Indonesia comes from the type of Frisian Holstein and Brown Swiss dairy cow. But this time the dairy cow population has decreased in number. Every year the number of dairy cows has decreased by 2.11%. Freshmilk quality varies greatly in each region and suppliers. Not all suppliers have the same quality. Only a few suppliers that have good quality. These problems led to the scarcity of the freshmilk. It is faced by IPS in Indonesia today.

PT. Frisian Flag Indonesia (FFI) is one of the IPS in Indonesia. FFI freshmilk demand is increasing every year. Improving the welfare and education led to changes in the public mindset. Milk is not only used as complementary foods but serve basic needs. This high demand can not be supported by the freshmilk supplier. Scarcity of freshmilk push FFI to do the optimization of fresh milk supplies for existing suppliers. This is done to overcome the scarcity of milk that will happen and maintain business continuity.

FFI has 18 major supplier of freshmilk, which is spread over an area of Jakarta, West Java, Central Java and East Java. Supplier consists of farmers and cooperatives. Supplier is always send freshmilk every month to FFI with different amounts of freshmilk prices. Process optimization needs to be done for the 18 suppliers. It is intended that the FFI can choose and have a reliable supplier. Where the latter freshmilk supply can run smoothly and freshmilk costs can be optimized.

Linear programming is a tool used to solve problems with limited resources. The results of analysis using LINDO software to freshmilk suppliers in FFI shows that, from a total of 18 suppliers not all recommended for selected as suppliers. Just as much as 14 suppliers who get good and decent criteria for selected suppliers and 4 are not recommended. Suppliers are not recommended CV Sumber Alam Jaya, KCP Sinar Mulya, CV Kemayoran Machinery and Erif Farm. The cost of fresh milk supply used Rp 30.6 billion of the total budget of Rp 31 billion per month.

Sensitivity analysis was conducted to determine the amount of change that can be tolerated, a good amount of supply, the need and cost of fresh milk supply. The analysis shows that if the cost of fresh milk supply increased more than Rp 30 per liter, optimal conditions will change. In other words, freshmilk supply costs should not be more than Rp 4.464 per liter if still want to achieve optimal conditions. In addition, the supply of fresh milk from each supplier may be increased up to 185,035 liters per month. The demand of freshmilk is allowed for 2,727,881-2,945,580 liters per month. Comparison of the amount of supply, the need and cost of fresh milk supply is determined to obtain optimal conditions.

Keywords: Demand, Freshmilk, Linear Programming, Sensitivity Analysis Supply