

## RELATIONSHIP BETWEEN CONSUMER KNOWLEDGE AND FRESH COW MILK CONSUMPTION IN WEST SUMATERA

### *Hubungan Pengetahuan Konsumen Dengan Konsumsi Susu Sapi Segar di Sumatera Barat*

Nova Sillia <sup>1)</sup>; James Hellyward<sup>2)</sup>; Melinda Noer<sup>3)</sup>

<sup>1)</sup> *Department of Agriculture Science, Faculty of Agriculture, University of  
Andalas, West Sumatera, Indonesia*

<sup>2)</sup> *Department Socio Economic of Animal Husbandry, Faculty of Agriculture,  
University of Andalas, West Sumatra, Indonesia*

<sup>3)</sup> *Department Socio Economic of Agriculture, Faculty of Agriculture,  
University of Andalas, West Sumatra, Indonesia*

Email: [novasillia21@gmail.com](mailto:novasillia21@gmail.com)

### ABSTRACT

Consumer knowledge builds a consumer perception. This perception can influence consumer preferences and behavior. Previous research has explained the relationship between consumer knowledge and consumption, primarily focusing on product knowledge. In contrast, consumer knowledge is not only about products knowledge but also purchasing and usage knowledge. This study aims to identify consumer knowledge about the product, purchase, and usage of fresh cow milk and analyze its relationship with the level of fresh milk consumption. Consumer product knowledge variables are differences and benefits of the product. Consumer purchasing knowledge variables are price and place of purchasing. Consumer usage knowledge variables are storage and post-storage processing. The level of fresh milk consumption as measured by the amount of fresh milk consumption. The relationship between knowledge and consumption level was analyzed using Chi-square analysis. This study explained that consumers have excellent purchasing knowledge, followed by product knowledge and usage knowledge. It means that increasing consumer knowledge is needed to increase the product, purchasing, and usage knowledge. This study also explains that fresh cow milk consumption depends on consumer product knowledge.

**Keywords:** *product knowledge, purchasing knowledge, usage knowledge*

## ABSTRAK

*Pengetahuan konsumen membangun penilaian konsumen terhadap suatu produk. Penilaian ini dapat mempengaruhi preferensi dan perilaku konsumsi. Penelitian sebelumnya telah menjelaskan hubungan antara pengetahuan konsumen dan konsumsi, terutama berfokus pada pengetahuan produk. Padahal, pengetahuan konsumen tidak hanya tentang pengetahuan produk tetapi juga pengetahuan pembelian dan penggunaan. Penelitian ini bertujuan untuk mengidentifikasi pengetahuan konsumen tentang produk, pembelian, dan penggunaan susu sapi segar serta menganalisis hubungannya dengan tingkat konsumsi susu sapi segar. Variabel pengetahuan produk konsumen adalah perbedaan dan manfaat produk. Variabel pengetahuan pembelian konsumen adalah harga dan tempat pembelian. Variabel pengetahuan penggunaan konsumen adalah penyimpanan dan pengolahan setelah penyimpanan. Tingkat konsumsi susu sapi segar diukur berdasarkan jumlah konsumsi susu sapi segar. Hubungan antara pengetahuan dengan tingkat konsumsi dianalisis menggunakan analisis Chi-square. Penelitian ini menjelaskan bahwa konsumen memiliki pengetahuan pembelian yang sangat baik, diikuti oleh pengetahuan produk dan pengetahuan penggunaan. Artinya, peningkatan pengetahuan konsumen diperlukan untuk meningkatkan pengetahuan produk, pembelian, dan penggunaan. Penelitian ini juga menjelaskan bahwa konsumsi susu sapi segar bergantung pada pengetahuan produk konsumen.*

**Kata Kunci:** *pengetahuan produk, pengetahuan pembelian, pengetahuan pemakaian*

## INTRODUCTION

Consumer knowledge is all information known by consumers about all things related to products and their functions as consumers. Consumer knowledge is one of the crucial factors in increasing consumption (Campbell et al., 2016; Hassan et al., 2014; Longacre et al., 2016; Wallenborn & Wilhite, 2014). Knowledge can encourage consumption behavior because it forms awareness, attitudes, and intentions (Allwood et al., 2014; Erinoshio et al., 2012; Frank & Schvaneveldt, 2016; Lee & Ro, 2016). Information received by a person will build his assessment of a product (Alwis et al., 2009). This assessment will influence and change consumer preferences (Gustafson et al., 2016; Yang et al., 2013). Consumer knowledge is also related to the formation of consumer awareness (Borda et al., 2021). Consumer knowledge has a positive influence on behavior (Min et al., 2020; Siahaan et al., 2020) which in turn encourages the formation of consumption behavior (Babaei et al., 2015; García-Maroto et al., 2015; Mukolo et al., 2015; Peschel et al., 2016; Y. Wang & Hazen, 2016). Consumers who have knowledge about the goodness of a product have a greater likelihood of consciously consuming the product. On the other hand, consumers who have knowledge about the dangers of a product are more likely not to consume the

product. Therefore, in increasing consumption of a product, it is crucial to understand how consumers knowledge about the product.

One of the products that need to be increased in its consumption is local products such as fresh cow milk. Fresh cow milk is one of the local products that is mostly cultivated by small-scale farmers (Nyokabi et al., 2021). Increased consumption of fresh cow milk can encourage an increase in the income of local farmers, which in turn has a positive impact on agricultural development (Tricarico et al., 2020). Besides that, fresh cow milk contains almost perfect nutrition. The nutritional content of milk can encourage the improvement of the quality of health and intelligence. Increasing consumption of fresh milk can also support food security (Henchion et al., 2021). Actually, West Sumatra is one of the centers of fresh milk production in Indonesia after East Java, West Java, Central Java, North Sumatera, South Sulawesi, and Lampung (BPS, 2021a). West Sumatran fresh cow milk production in 2020 is 1.036 tons (BPS, 2021b). However, this fact has not been able to increase milk consumption, especially of fresh cow milk. Consumption of fresh cow milk in West Sumatra is only 1.4 kg/capita/year (BPS, 2021b; Sillia et al., 2020). It is not respecting sufficient when compared to the amount of milk consumption recommended by The World Health Organization (WHO), which is 200 kg/capita/year (Kurajdová et al., 2015). Many factors cause low consumption of fresh cow milk. One of the main factors is that which comes from the consumer, such as the consumer knowledge (Ahmad & Hermiyetti, 2009; Kurajdová et al., 2015).

Several previous research on consumer knowledge has explained the relationship between consumer knowledge and consumption. Rachman et al., in a study conducted on adolescents fruit and vegetable consumption, explained that there was a positive relationship between nutritional knowledge and fruit and vegetable consumption. They explained that adolescents who have high nutritional knowledge would also consume more fruits and vegetables (Rachman et al., 2017). Besides that, Itsnaini et al., in a study conducted on pregnant women, also explained that there is a relationship between their nutritional knowledge and consumption of blood-enhancing tablets. They said that pregnant women who have good nutritional knowledge would consume blood-boosting tablets regularly (Itsnaini F. Shofiana et al., 2018). Characteristics of health benefits and nutritional value are significantly related to the frequency and amount of milk consumption (Prastiwi & Setiyawan, 2016). Consumer knowledge of green public procurement has an indirect positive effect on their green consumption attitudes (Wang et al., 2021). Collier et al., in their paper on meat consumption explains that providing knowledge about environmental impacts can be done to reduce meat consumption (Collier et al., 2021). Previous research on consumer knowledge has more focused on explaining and discussing product knowledge such as nutrition, hazards, and food safety. In contrast, consumer knowledge does not only include product knowledge but

also purchasing and usage knowledge. (Baptista et al., 2020; Kudryavtsev et al., 2020).

There is still few previous research that discusses consumer knowledge, including product, purchasing, and usage knowledge. This study aims to analyze consumer knowledge about fresh cow milk. The consumer knowledge discussed in this paper does not only includes product knowledge but also includes purchasing knowledge and usage knowledge. Furthermore, this study also analyzes the relationship between consumer knowledge and consumption levels. Besides that, few studies examine consumer knowledge, especially consumer knowledge about locally produced fresh cow milk. So, it is interesting and crucial for both academicians and practitioners to discuss consumer knowledge about fresh cow milk to increase its consumption.

## RESEARCH METHOD

The research location is a center for selling fresh cow milk; Padang Panjang, Padang, and Bukittinggi. The samples in this study were 240 consumers who acted as decision-makers (deciders) who were met at the research location. The selection of consumers as research respondents using an accidental sampling technique.

Data on consumer knowledge and consumption level of fresh cow milk were collected by filling out a questionnaire. In this research, consumer knowledge includes the product, purchasing, and usage knowledge. Product knowledge variables include the difference between fresh cow milk and other milk products and fresh cow milk benefit. Purchasing knowledge variables include knowledge about where to buy and the price of fresh cow milk. In comparison, the usage knowledge variables include storage knowledge and post-storage processing knowledge of fresh cow milk. The level of consumer knowledge based on consumer answers is then classified into not good, poor, good, and excellent. The consumption level is classified into high and low levels. Consumers who consumed fresh cow milk at least 1 x a day were classified into high-level consumption, and consumers who consumed fresh cow milk less than 1 x a day were classified into low-level consumption. The relationship between consumer knowledge and consumption is analyzed by Chi-Square analysis.

## RESULT AND DISCUSSION

Consumers of fresh cow milk have various levels of knowledge and consumption levels. Consumer knowledge of fresh cow milk has a relationship with the level of consumption.

## Consumer Knowledge about Fresh Cow Milk

In this study, Consumer knowledge about fresh cow milk includes product knowledge, purchasing knowledge, and usage knowledge of fresh cow milk.

### *Product Knowledge*

Consumer product knowledge is measured by the level of consumer knowledge about product differences and product benefits. The results of the descriptive analysis provide information that 52 consumers (21.67%) have excellent knowledge, 69 consumers (28.75%) have good knowledge, and 119 consumers (49.58%) have poor knowledge about the differences in fresh cow milk with the other milk products. While knowledge about the product benefits, 60 consumers (25%) have excellent knowledge, 30 consumers (12.50%) have good knowledge, and 150 consumers (62.50%) have poor knowledge about the benefits of fresh cow milk. The distribution of consumer product knowledge of fresh cow milk can be seen in Figure 1.

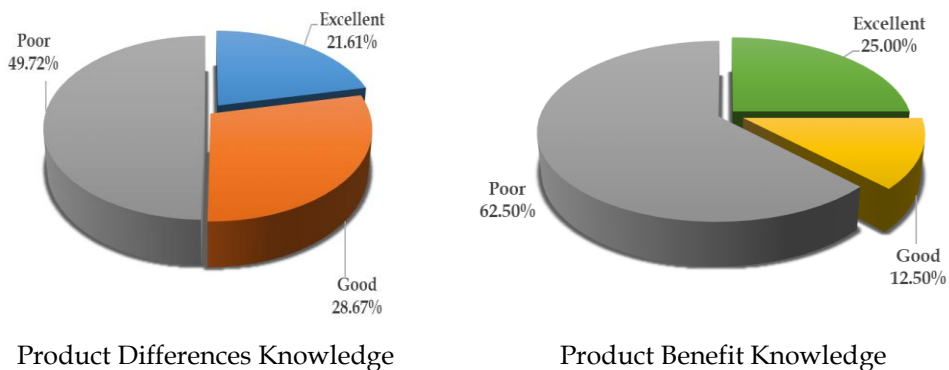


Figure 1.

The Distribution of Consumer Product Knowledge of Fresh Cow Milk

### *Purchasing Knowledge*

Consumer purchasing knowledge is measured by consumer knowledge about the place of purchase and the price of fresh cow milk products. The majority of consumers have good knowledge about the place of purchase, 104 consumers (43.33%) have good knowledge, 55 consumers (22.92%) have excellent knowledge, and 81 consumers (5.42%) have poor knowledge about the place of purchase fresh cow milk. In contrast, consumer knowledge about prices, all consumers (100%) have excellent knowledge about the fresh cow milk price. The distribution of consumer purchasing knowledge of fresh cow milk can be seen in Figure 2.

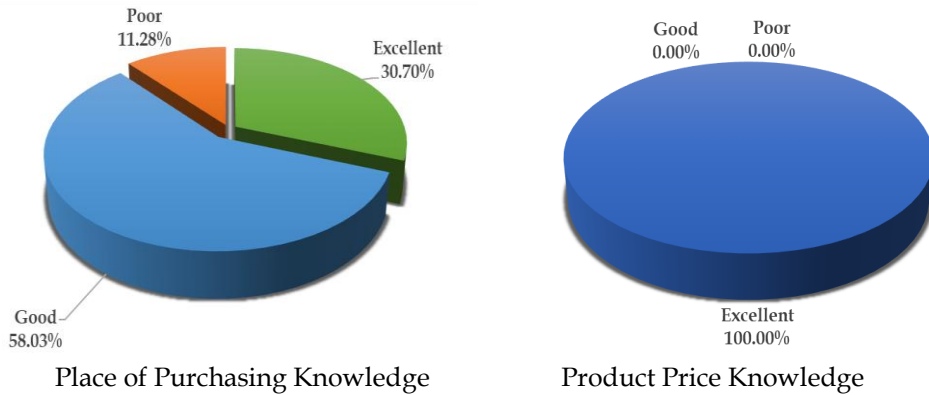


Figure 2.

The Distribution of Consumer Purchasing Knowledge of Fresh Cow Milk

**Usage Knowledge**

Usage knowledge includes consumer knowledge about storage methods and processing methods after storage. The study result shows that consumer knowledge about product usage, knowledge of storage methods, and processing after the storage is still low. Among the three consumers` knowledge about fresh cow milk, usage knowledge is the least of consumer knowledge level. The distribution of consumer usage knowledge of fresh cow milk can be seen in Figure 3.

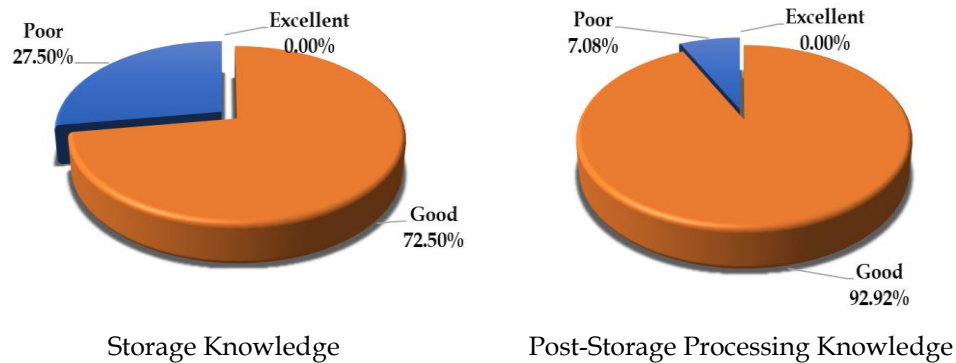


Figure 3.

The Distribution of Consumer Usage Knowledge of Fresh Cow Milk

Several factors can cause low consumer knowledge. One of them is the lack of consumer knowledge improvement programs carried out. Counseling on the benefits and importance of consuming fresh milk is only held once a year, every June 1 (national milk day). In addition, the lifestyle of consumers of fresh cow milk prioritizes practicality and comfort. Consumers prefer to enjoy fresh cow milk at sales outlets. Because of that, consumers do not find out information on how to store and process fresh cow milk after it is stored.

Meanwhile, the level of consumer knowledge about purchasing fresh cow milk is influenced by various things, including where to sell fresh cow milk and the lifestyle of consumers. Places to sell fresh cow milk in the form of outlets or cafes are widely available in various places with attractive designs. In addition, It is also influenced by the lifestyle of consumers, the majority of whom are early adults (19 - 24 years old). Consumers at that age like to gather and enjoy togetherness in a place with an attractive design.

The level of consumer knowledge about fresh milk, respectively, from the highest, is purchasing knowledge, product knowledge, and usage knowledge. The low level of consumer knowledge about fresh cow milk requires efforts to increase consumer knowledge.

### **Relationship Between Consumer Knowledge and Fresh Cow Milk Consumption**

This study informs that consumer knowledge and consumption of fresh cow milk have a significant relationship. It is in line with the explanation (Peschel et al., 2016; Wang & Hazen, 2016) that consumer knowledge can influence consumption behavior.

The cross-tabulation result explains that the majority of consumers who have an excellent level of product knowledge (differences and benefits of products) consume fresh cow milk with a high level of consumption (ideal). Meanwhile, consumers who have a good level of purchasing and usage knowledge are not also followed by a high level of consumption. The result of the Chi-Square analysis is smaller than the level of significance (0.05). It shows that there is a significant relationship between consumer knowledge and consumption of fresh cow milk. The relationship between consumer knowledge and the level of fresh cow milk consumption is shown in Table 1.

If viewed as a whole, information is obtained that although consumer knowledge is still low, all consumers have good knowledge about fresh cow milk. It can be seen that there are no consumers who do not have knowledge about fresh cow milk, both product knowledge, purchasing knowledge, and usage knowledge. It indicates that consumers of fresh cow milk are consumers who have knowledge about fresh cow milk. In other words, consumer knowledge is one of the determines factors to increase fresh cow milk consumption.

Tabel 1. The Relationship Between Consumer Knowledge and the Level of Fresh Cow Milk Consumption

Consumer Knowledge	Consumption Level		Asymptotic Significant
	Low	High	
Product Knowledge			
Product Differences	(%)	(%)	
Poor	49.58	0.00	0.000
Good	28.75	0.00	
Excellent	1.25	20.42	
Product Benefits			
Poor	62.50	0.00	0.000
Good	12.50	0.00	
Excellent	4.58	20.42	
Purchasing Knowledge			
Place of Purchasing			
Poor	34.17	17.92	0.000
Good	40.00	2.50	
Excellent	5.42	0.00	
Price			
Poor	0.00	0.00	
Good	0.00	0.00	
Excellent	79.58	20.42	
Usage Knowledge			
Storage			
Poor	56.67	15.83	0.117
Good	22.92	4.58	
Excellent	0.00	0.00	
Post Storage Processing			
Poor	79.58	13.33	0.000
Good	0.00	7.08	
Excellent	0.00	0.00	

## CONCLUSION AND SUGGESTION

### Conclusion

Fresh cow milk consumers have a low level of knowledge about fresh cow milk. The highest level of consumer knowledge is price knowledge, followed by benefit knowledge, product differentiation knowledge, place of purchase knowledge, storage knowledge, and post-storage processing knowledge. This consumer knowledge has a significant relationship with the level of consumption of fresh cow's milk except for price knowledge and knowledge



about product storage. This study shows that consumers with a higher level of product knowledge also consume a higher level.

### Suggestion

The low level of consumer knowledge about fresh cow milk need efforts to increase consumer knowledge. Consumer knowledge will increase by increasing product knowledge, purchasing knowledge, and usage knowledge.

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