Farmer’ Perception of Risks on Production and Post-Harvest Towards the Performance of Dairy Farmers in Getasan Semarang District

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Abstract. A deficiency of cow’s milk in order to meet national consumption demand makes dairy cows potential to be developed in Indonesia. Nevertheless, dairy farmers usually face up a variety of risk in production and post-harvest activities while running their businesses. Based on these conditions, production and post-harvest risk management needs to be carried out by dairy farmers to reduce the risks that might occur. However, its implementation cannot be separated from the farmers’ perception on the risks in production and post-harvest. Therefore, this study has purpose to analyzed perceptions of production and post-harvest risk on the performance of dairy farmers. The analytical method was carried out by perceptual analysis with scoring techniques and utilize average determination. The research respondents were 100 dairy farmers. The results showed that perceptions of production risk on the performance of dairy farmers were categorized as poor. This indicates the perception of post-harvest risk towards the performance of dairy farmers was good.

1. Introduction

Dairy farm is one of the businesses that focused on dairy cattle with the main product is fresh milk. This product is profitable for farmers in line with high demand in the market. Indonesian consumption needs of milk from year to year are increase along with the increasing population and the awareness level of people’s nutritional needs [1]. Facts on the ground show that Indonesia's fresh milk production in 2017 only grew 0.81% from 912,000 tons / year to 920,000 tons / year. This condition makes national needs can be fulfilled by domestic is only around 18%, so the remains of 82% is fulfilled by imports [2]. Thus, in order to meet Indonesian consumption needs of milk, the government through the Directorate General of Animal Husbandry and Animal Health has set a target in 2020 so as the supply of fresh milk reaches 3 billion liters.

The one of the reasons why domestic consumption needs of milk cannot be fulfilled caused by the condition of dairy farmers that face several obstacles. They are faced up with a higher risk compared to other subsectors. Dairy farming is generally influenced by the topography or the natural environment, as well as how the process to produce fresh milk. The risks that might often be found in dairy farming business are production and post-harvest risks. As it is known that dairy farmers still often face several sources of risk in milking production, which are related to disease, feed, lack of knowledge and skills of themselves. The production risk in dairy farming will affect upcoming fresh milk production and their income will decrease because the output produced is also reduced. Furthermore, dairy farmers are lack of knowledge in post-harvest management, which results in the products are being unable to compete in the market. Therefore, the ability to manage risk properly and precisely are needed by every
dairy farmer to minimize the risk, hence business can provide benefits as well as in line with their expectations.

Dairy farmers are the main actors in efforts to increase milk production, therefore their perceptions have an important role. Good risk management is inseparable from dairy farmers' perceptions. Perception is a process from vision to the form of responses in an individual, hence every individual is aware of everything in their environment through their senses [3]. Perception is related to the process of interpreting a sensation becomes something meaningful. Perception is focused on the meaning of experience that is formed throughout the processes in learning and thinking. Dairy farmer’s perception will affect the way they look at the risks of production and post-harvest dairy farming. This perception can be one of the driving factors or obstacle factor for them in running a dairy farming business. So, it needs to be assessed in perceptions of production and post-harvest risks towards the performance of dairy farmers.

2. Materials and Methods

The study was conducted in Getasan district, Semarang Regency, Central Java Province. Determination of location was done by purposively. There were two considerations of choosing this location, such as Getasan district is one of dairy farming center and has the highest number of dairy farmer groups in Semarang Regency. In addition, this location has the highest population of dairy cows and milk production in Semarang Regency.

The research was conducted in February to March 2018. Determination of respondents was carried out using probability using simple random sampling technique. Respondents required in this study were 100 dairy farmers. In this study, data collection techniques were carried out through survey techniques with questionnaire instruments. The data analysis method used is perception analysis using qualitative data. The data was quantified by scoring techniques and it was analyzed by the average score method. The measurement scale used in the analysis of perception was the Likert scale.

3. Results and Discussion

3.1. Perception of Production Risk on the Performance of Dairy Cattle Farmers

Perception is a part of social interaction that explains why and how uniformity in views and behavior can occur among people [4]. This behavior is influenced by the observations and interpretations of farmers in interpreting what they observe. Similarly, in dairy farmers. In this study, farmers' perceptions of production risks towards their performance include 15 indicators, that is: 1) Fulfillment of forage quantity, 2) Fulfillment of concentrate quantity, 3) Fulfillment of forage quality, 4) Fulfillment of concentrate quality, 5) Spending time for livestock, 6) Application of science and technology information, 7) Intensity of high disease, 8) Treatment measures if attacked by disease, 9) Action when prices of milk go down by doing milk processing, 10) Type of cage, 11) Complete equipment, 12) Successful of IB in one time action, 13) Record of milk production, 14) Record of feed requirements, and 15) No capital problem.

Two indicators were categorized in very good perception, namely: fulfillment of concentrate quality and action when prices of milk go down by doing milk processing. Mostly, some indicators of perceptions on production risk were categorized as good perception. It shown in terms fulfillment of forage quantity, fulfillment of concentrate quality, treatment measures if attacked by disease, type of cage, complete equipment, successful of IB in one time action, and record of milk production. In other hands, the criteria on the fulfillment of forage quality, the application of science and technology information, record of feed requirements and no capital problem were categorized in poor perception. Whereas two last indicators were categorized in very poor perception that is spending time for livestock and the intensity of high disease. For detail can be seen in table 1.
From perception on production risk towards the Performance of Dairy Farmers, we can obtained the average production risk score of 278. This indicates that the overall perception on production risk towards the performance of dairy farmers was relatively poor. This was caused by the lack of understanding and attention of farmers to the perception of production risk. It can be seen from the very lack of farmers’ attention on how long spending time with their livestock. It resulted of highly intensity of the disease. Moreover, it decreased milk production. The one of the main causes of low level in milk production is disease [5], such as mastitis (udder gland infection). Mastitis occurs because the udder has been contacted with bacteria, as well as poor milking procedure by the farmers.

In addition, the causes of low level on milk production in Getasan district was lack of attention to fulfillment of forage quality. As we know, forage quality can affect the milk production [6]. But, the condition in Getasan district was contrary. The dairy farmers in Getasan district feed their cows with low quality of dry forage as known in Indonesian language as Jerami. Hence, it resulted the low quality of milk production. High feeding practices is important for animal health and milk production. It is important to provide the cows highly feed resources, for example, forage and feed concentrate as additional feed.

3.2. Result Analysis on Farmer’ Perception on Post-Harvest Risk toward Performance of Dairy Farmers

Perceptions on post-harvest risk towards the performance of dairy farmers in this study include 3 types of indicators, namely: 1) The distance between cow ban to the milk container, 2) The using of milk cans container, and 3) The rejection by cooperatives toward milk production have been produced by the farmers. All indicators of farmer’ perception on post-harvest risk shows in a good category. The details can be seen in table 2.
Table 2. Perceptions on Post Harvest Risk

| No | Indicators                                                                 | Score | Criteria |
|----|-----------------------------------------------------------------------------|-------|----------|
| 1  | The distance between cow ban to the milk container                          | 285   | Good     |
| 2  | The using of milk cans container                                           | 288   | Good     |
| 3  | The rejection by cooperatives toward milk production have been produced by the farmers | 280   | Good     |
|    | **Average post-harvest risk score**                                         | **284** | Good     |

In contrast to the perception on production risk, table 2 shows that the average post-harvest risk perception score is 284. It means in good category. This can be seen from the treatment of dairy farmers who always cleaned their milk can container before using it. This condition shows that dairy farmers in Getasan District have knowledge on how to handling fresh milk. Fresh milk must be handled quickly and correctly, because it easily damaged and contaminated [7]. In Getasan Distric Dairy farmers are able to safely handling fresh milk, such as: 1) the cleanness of milking equipment, 2) the proper raw milk filtration. Both of these ways have been done by dairy farmers in Getasan district. It resulted milk had rarely been rejected the cooperative.

4. Conclusion
Dairy farmers in Getasan District should be increase their knowledge and attention of perception on production risk. Their perceptions on it were categorized in relatively poor. It can be seen from the very lack of them attention to how long spending time to livestock, hence the intensity of the disease is high. The big effect is cow milk production getting low. In other side, perception of post-harvest risk towards the dairy farmers’ performance were categorized in quite good. This result shows that dairy farmers are able to handling fresh milk with quickly and correctly. It can be seen from the distance between cow ban to the milk container, the using of milk cans container, and the rejection by cooperatives toward milk production have been produced by the farmers.

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