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LEVEL OF KNOWLEDGE OF BEEF CATTLE FARMERS ABOUT FOOT AND MOUTH DISEASE IN PURWANTORO DISTRICT WONOGIRI INDONESIA

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Abstract

This study aims to determine level of knowledge of beef cattle breeders regarding Foot and Mouth Disease (FMD) in Purwantoro District, Wonogiri Regency. Implementation of data collection and collection on February 1, 2024 to June 31, 2024 in Purwantoro District, Wonogiri Regency. This research method is descriptive analytical using questionnaires and oral questions and interactions with surveys to farmers whose cattle are infected with FMD. Data is processed by recapitulation tabulation and then analyzed. The results of the study showed that out of 23 cattle (100%) infected with FMD in Purwantoro District, Wonogiri Regency, 0 died (0%), 6 were sold by force (26.08%), and 17 cattle were kept for maintenance (73.92%). The conclusion of this study is that FMD has become an epidemic in the Purwantoro District, Wonogiri Regency.

Keywords: *Cattle, Foot and Mouth Disease, Purwantoro District*

1. Introduction

The development of the livestock sector is part of the development of the agricultural industry of the Republic of Indonesia which aims to achieve a resilient livestock condition, has the ability to prosper livestock farmers, and the ability to encourage overall sector growth. The development of the livestock sector has a strategic value in meeting the increasing food needs and nutritional quality of the community (1).

Along with the development of the times, the increase in population that occurs also increases the need and consumption of meat in Indonesia every year. This then increases a number of opportunities in raising beef cattle. This is also because the results are quite promising with sufficiency so that many are used by the community. Generally, cattle produce various needs such as meat

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but besides that there are also other by-products such as manure, compost, biogas, skin, bones and other results (2).

Beef cattle are cattle that are raised with the main purpose of producing meat so they are often referred to as beef cattle. Beef cattle are also one of the sources of meat that has great benefits in improving community nutrition. Beef is one of the sources of animal protein that is very much needed in meeting the food and nutritional needs of the community. Therefore, it is very necessary to pay attention to the health of 2 livestock in order to produce good quality meat (3).

Livestock health is one of the factors that influences the success of beef cattle farming and affects the quality of meat produced. Diseases that attack livestock are known to reduce meat formation and livestock productivity due to impaired nutrient absorption. Livestock health disorders can be detrimental to farmers due to livestock deaths, costs incurred for treatment, decreased production, and decreased feed efficiency. These losses indicate that livestock health management is important to implement in beef cattle farming. In early 2022, the disease that was widely experienced by beef cattle farmers was the presence of cases of foot and mouth disease viruses that attacked beef cattle (4). The livestock sector, especially livestock farmers with beef cattle commodities, has been reported to be facing serious problems since April 2022 due to the spread of foot and mouth disease or also known as Foot Mouth Disease (FMD).

Foot and mouth disease is known by various names including aphthae epizootica (AE), aphthous faver, and foot and mouth disease (FMD). Foot and mouth disease is a type of infectious and acute disease and is very contagious in even-toed or cloven-hoofed animals (5). It is recorded that foot and mouth disease was first discovered in Indonesia in 1887 in the Malang area, East Java.

Indonesia has been declared a country free from foot and mouth disease by the OIE since 1990 and 3 has an obligation to maintain its status as a country free from foot and mouth disease without vaccination. However, in the last few months since April 2022, foot and mouth disease has begun to re-emerge widely and infect livestock, especially beef cattle.

The transmission of foot and mouth disease in an area occurs very quickly with a high morbidity rate of almost 100% (3). The beginning of the outbreak of foot and mouth disease in Indonesia is thought to be the impact of the policy of importing meat and live livestock from countries that are not yet free from foot and mouth disease.

Livestock infected with foot and mouth disease can be identified by looking at clinical symptoms, namely the formation of vesicles or blisters and erosion in the mouth, tongue, gums, nostrils, nipples, and on the skin around the nails (4). The spread of foot and mouth disease in livestock has a significant impact on losses not only in terms of livestock health but also in terms of the economy for farmers. Decreased production and hampered sales of livestock and their derivative products are examples of cases of economic losses that are often experienced by farmers (6).

The spread of foot and mouth disease in livestock is prone to occur in several areas quickly and widely due to the traffic of livestock, products, vehicles and objects contaminated with the foot and mouth disease virus. This is an indication that knowledge of foot and mouth disease and proper handling are needed as a priority for the government and the community in eradicating the spread.

This foot and mouth disease virus is small (± 20 millimicrons), without a fat layer and has a strong capsid so that this virus is very resistant to disinfectants that work by dissolving fat (7). Based on the nature and structure of the virus, not all types of disinfectants are sensitive to this virus, where currently foot and mouth disease is the most important and most feared infectious animal disease by farmers. This disease can spread very quickly and is able to cross national borders and can cause very high economic losses. For economic losses in the form of livestock deaths and high morbidity, trade barriers, disruption of the tourism industry, disease eradication operations, and disruption of socio-cultural aspects and public unrest.

This disease is characterized by the formation of vesicles or blisters and erosion in the mouth, tongue, gums, nostrils, nipples, and on the skin around the nails, limping and nails can come off, hypersalivation, animals lie down more often (8). In beef cattle there is a decrease in body weight and in dairy cattle there is a drastic decrease in milk production. Morbidity is usually high reaching 100%, but mortality or death rates for adult animals are usually very low, but in young animals it can reach 50%.

Animals infected with foot and mouth disease can excrete the virus in the fluid of peeled vesicles, respiratory air, saliva, milk, semen, feces and urine. Infected animals that are still in preclinical status, that is, they have not shown clear clinical symptoms, can actually excrete the virus (9). The great loss is caused by the emergence of foot and mouth disease, therefore prevention and control are needed. Prevention and control of foot and mouth disease by maintaining the cleanliness of the cage by disinfecting the cage and cage equipment, regular livestock health checks, regular livestock vaccinations and separating and isolating livestock infected with the virus so that it is not transmitted to other livestock.

In measuring the level of knowledge of beef cattle farmers regarding foot and mouth disease, many still do not have insight into how to detect symptoms, impacts and prevention of foot and mouth disease. Knowledge can be increased by participating in counseling and discussion activities and being actively supported to ask questions related to the spread of foot and mouth disease. The lack of insight has an impact on livestock that experience health problems. The purpose of this activity is to determine the level of knowledge of beef cattle farmers regarding foot and mouth disease and to provide more knowledge if they do not yet know about foot and mouth disease so that the insight of beef cattle farmers who have experienced cases have broader insight into livestock health, both when there is or is not a disease that attacks livestock so that farmers can minimize losses in the future.

Therefore, the determining aspect of the success of the level of knowledge of beef cattle farmers regarding foot and mouth disease is knowing whether beef cattle farmers know or do not know about foot and mouth disease.

2. Material and Methods

2.1. Place and time of research

This research was conducted in Purwantoro District, Wonogiri Regency. The implementation of data collection and collection was in January - May 2024.

2.2. Research Methods

This study uses a descriptive analytical method by conducting interviews through interviews with filling out questionnaires.

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2.3. Research Design

The research used questionnaires and oral questions and interactions with farmers using survey and interview methods. The variables observed in this study were the level of knowledge of farmers regarding Foot and Mouth Disease (FMD).

2.3.1. Impact Variables of Foot and Mouth Disease (FMD)

1. Number of cattle affected and still alive
2. Number of cattle affected and dead
3. Number of cattle affected and forcibly sold

2.3.2. Supporting Variables

1. Breeder Identity
2. Condition of the cage
3. Feed consumption
4. Animal Health

2.3.3. Data Collection Techniques

1. Farming questionnaire
2. Interview

2.4. Research Procedures

1. Provide a questionnaire to farmers whose cattle are infected with FMD, starting with a broad range of questions, then narrowing it down until each question is related to FMD.
2. Interviews with farmers focused on PMK to complete unclear answers.
3. Data collection must be carried out as a procedure for collecting, measuring and analyzing so that the results are accurate.

2.5. Data Analysis

The data was processed using recapitulation tabulation and then analyzed using analytical description.

3. Result and Discussion

3.1. Respondent Farmer Profile

The livestock farmers who were respondents in this study were all livestock farmers whose cattle were infected with Foot and Mouth Disease (FMD) in the Purwantoro District area and the data obtained were in Table 1.

The results of the study showed that the average age of farmers was 56 years old, indicating that cattle farming was dominated by the older generation, and was less popular with the younger generation. The number of farmers with married status was 100%. This shows that raising cattle has a role as family savings, that farmers raise livestock to be raised/fattened and at certain times when the family needs funds for various urgent needs such as for children's school fees, wedding celebrations, building houses and other needs, the livestock will be sold.

Farmers with an education level of less than elementary school 0 people (0%), never went to school 0 people (0%), graduated from elementary school 8 people (80%), graduated from junior high school 1 person (10%), and graduated from high school 1 person (10%). This shows that elementary school education dominates in cattle farming as an easy business opportunity without education level, does not require formal education and is less in demand by people with higher education as well as the influence of friends and the environment that is suitable and also supports cattle farming

Other jobs besides raising livestock are as farmers 9 people (90%), and trader 1 person (10%). The most other jobs as farmers indicate raising cattle as another effort to utilize agricultural waste from the harvest including rice straw, cassava leaves and green vegetable waste as well as a source of fertilizer by utilizing livestock manure as a source of manure.

The number of livestock or the number of livestock owned by 10 farmers with an average of 2 livestock ownership shows that raising cattle is not a main business but rather a side business to increase income sources, in addition to the main business of farmers, traders and other main businesses. The number of livestock owned varies, this may be due to the ability of farmers to raise livestock is not the same.

3.2. Impact of Foot and Mouth Disease (FMD)

The impact of Foot and Mouth Disease (FMD) on cattle that occurred in Purwantoro District produced data as shown in Table 2.

Based on this study, the results obtained were that the number of cattle owned by 10 respondents was 23 and the number of cattle infected with FMD was 23 (100%). This shows that the level of transmission of cattle infected with FMD, the virus infection is acute and contagious.

From the number of cattle infected with FMD and still alive 23 (100%) it can be concluded that cattle infected with FMD have high survival rate and low mortality rate which is 0 (0%). The number of cattle infected with FMD and sold is 6 (26.08%) because farmers panic and cows so they choose the shortcut by selling them when the condition declines and believe that there is little chance of recovery. The number of cattle that are still kept after being infected with FMD is 17 (73.92%).

When the cow is sick with signs of fever, hypersalivation, decreased appetite, reluctance to stand, lameness and blisters in the oral cavity. Farmers call a veterinary health worker to perform treatment. After being treated and find out the results of the diagnosis of cattle with typical FMD signs.

Farmers' understanding of Foot and Mouth Disease (FMD) is still lacking and cannot be separated from the habits that have been carried out so far by farmers in preventing and dealing with diseases that infect their cattle, especially Foot and Mouth Disease (FMD) which is understood by clinical signs according to Table 3.

Farmers' understanding of FMD that is currently infecting their cattle, all farmers know, 10 people (100%) and 0 people (0%) do not know and the cattle they are raising are sick, indicating symptoms of weakness/lethargy, fever, diarrhea/hypersalivation, decreased appetite, Reluctant to stand / limping as many as 10 people (100%) of breeders know because These symptoms are clearly visible in cattle that are kept and 0% that are not kept. know.

Special characteristics that indicate that cattle are infected with FMD, in addition to the symptoms above, are also accompanied by blisters in the oral cavity, which 10 farmers (100%) knew about and 0 people (0%) did not know about. After an examination was carried out by opening the cow's mouth, blisters were seen in the oral cavity, which farmers often call canker sores.

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Table 1. Respondent Farmer Profile

No	Variables	Information
1	Age	Average age 56 years
2	Status	Married 10 people (100%)
3	Education	Never attended school 0 people (0%) Did not finish elementary school 0 people (0%) Graduated from elementary school 8 people (80%) Graduated from junior high school 1 person (10%) Graduated from high school 1 person (10%)
4	Other jobs	Trader 1 person (10%) Farmers 9 people (90%)
5	Livestock ownership	Average 2 tails

Table 2. The Impact of FMD in Purwantoro District

No	Variables	Amount	Percentage (%)
1	Dead cow	0	0
2	Cows for sale	6	26.08
3	Cows are kept	17	73.92
	Amount	23	100

Table 3. Farmers' Understanding of FMD Disease

No	Variables	Amount
1	Farmers' Knowledge of FMD	know 10 people (100%) Don't Know 0 people (0%)
2	Special characteristics infected FMD	
	Lethargy / Weakness	know 10 people (100%) don't know 0 people (0%)
	Fever	know 10 people (100%) don't know 0 people (0%)
	Drooling / Hypersalivation	know 10 people (100%) don't know 0 people (0%)
	Decreased appetite	know 10 people (100%) don't know 0 people (0%)
	Reluctant to stand / limping	know 10 people (100%) don't know 0 people (0%)
	Blisters in the oral cavity	know 10 people (100%) don't know 0 people (0%)

4. Conclusion

This study can conclude that of the 23 (100%) cattle infected with FMD in Purwantoro District, Wonogiri Regency, 0 (0%) died, 6 (26.08%) were sold, and 17 (73.92%) were kept for breeding.

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