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Research Article

ECONOMIC LOSSES DUE TO MASTITIS IN DAIRY FARMS OF HYDERABAD, TELANGANA, INDIA: ESTIMATION AND IMPLICATIONS

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ABSTRACT

Mastitis is a prevalent and costly disease affecting dairy farms worldwide, including those in Hyderabad, Telangana, India. This study aimed to estimate the economic losses incurred due to mastitis in dairy farms in Hyderabad and explore the implications for the dairy industry. Data on mastitis prevalence, milk yield reduction, treatment costs, discarded milk, and reduced milk quality were collected from a sample of dairy farms. Economic losses were calculated based on these factors using established methods. The results revealed significant financial losses associated with mastitis, including reduced milk production, increased treatment expenses, milk discard, and decreased milk quality. The estimated economic losses highlight the substantial impact of mastitis on dairy farm profitability and emphasize the need for effective preventive and control measures. The implications of these findings for dairy farm management, animal health practices, and policy interventions are discussed.

KEYWORDS

Mastitis, economic losses, dairy farms, Hyderabad, Telangana, India, milk production, treatment costs, discarded milk, milk quality, dairy industry, preventive measures, control measures, animal health practices, policy interventions.

INTRODUCTION

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Mastitis, an inflammatory disease of the mammary gland, is a significant concern for dairy farms worldwide, leading to substantial economic losses and compromised milk quality. In Hyderabad, Telangana, India, the dairy industry plays a crucial role in the region's economy. However, mastitis remains a major challenge, impacting both farm profitability and milk production efficiency. Understanding the economic losses associated with mastitis is essential for implementing effective preventive and control measures, improving farm management practices, and promoting sustainable dairy production.

Mastitis adversely affects dairy farms in multiple ways. It reduces milk production, quality, and market value, increases treatment costs, and results in the discard of contaminated milk. The economic impact of mastitis extends beyond the direct costs, encompassing indirect costs related to reduced reproductive performance, increased culling rates, and decreased animal welfare. Therefore, assessing the economic losses caused by mastitis is crucial for highlighting its significance and guiding interventions to mitigate its impact on dairy farms.

METHODS

Selection of Dairy Farms:

A representative sample of dairy farms in Hyderabad, Telangana, India, is selected for data collection.

Farms with varying herd sizes, management practices, and mastitis control measures are included to capture a range of mastitis scenarios.

Data Collection:

Mastitis prevalence: The prevalence of mastitis is determined by examining the udders of lactating cows using standard diagnostic techniques.

Milk yield reduction: Daily milk production of both infected and uninfected cows is recorded to quantify the reduction in milk yield due to mastitis.

Treatment costs: The expenses associated with mastitis treatment, including veterinary consultations, medications, and labor, are documented.

Discarded milk: The volume of milk discarded due to mastitis contamination is measured, considering both clinical and subclinical cases.

Reduced milk quality: Milk samples are collected to assess changes in milk quality parameters, such as somatic cell count and bacterial load.

Calculation of Economic Losses:

Economic losses are estimated based on the collected data using established economic models and methods.

The reduction in milk production, treatment costs, discarded milk, and decreased milk quality are quantified and assigned monetary values.

Direct and indirect costs associated with mastitis are considered to provide a comprehensive estimation of economic losses.

Implications and Recommendations:

The implications of the estimated economic losses are discussed in terms of their impact on farm profitability, sustainability, and the overall dairy industry in Hyderabad, Telangana, India.

Recommendations for preventive and control measures, including improved hygiene practices, vaccination strategies, and early detection methods, are proposed based on the study findings.

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By employing a comprehensive methodology to estimate economic losses and identify their implications, this study aims to provide valuable insights into the economic burden of mastitis in dairy farms in Hyderabad, Telangana, India. These findings can guide the development of targeted interventions and management strategies to mitigate mastitis's impact, improve farm productivity, and enhance the overall sustainability of the dairy industry.

RESULTS

The study on economic losses due to mastitis in dairy farms of Hyderabad, Telangana, India revealed significant financial implications for the dairy industry. Mastitis prevalence was observed to be a major concern, with a notable impact on milk production, treatment costs, discarded milk, and milk quality. The economic losses incurred due to mastitis were estimated using collected data and established economic models.

The results showed that mastitis led to a substantial reduction in milk production, resulting in a direct loss of revenue for dairy farms. Treatment costs, including veterinary consultations, medications, and labor, contributed to the economic burden. Additionally, the discard of contaminated milk due to mastitis further increased the financial losses. The decrease in milk quality, indicated by elevated somatic cell count and bacterial load, also affected the market value of the milk produced.

DISCUSSION

The findings emphasize the economic significance of mastitis in dairy farms of Hyderabad, Telangana, India. The estimated losses underscore the need for proactive measures to prevent and control mastitis, as well as improve overall farm management practices. The impact of mastitis on milk production not only affects farm profitability but also hinders the sustainable growth of the dairy industry in the region.

The study highlights the importance of considering both direct and indirect costs associated with mastitis. Indirect costs, such as reduced reproductive performance and increased culling rates, further compound the economic losses experienced by dairy farms. Effective control and prevention strategies should address these aspects to minimize the overall economic impact of mastitis.

CONCLUSION

The economic losses incurred due to mastitis in dairy farms of Hyderabad, Telangana, India have significant implications for the dairy industry. The reduction in milk production, treatment costs, discarded milk, and compromised milk quality contribute to substantial financial burdens. Implementing preventive measures, including improved hygiene practices, vaccination strategies, and early detection methods, is crucial to mitigate mastitis's economic impact.

This study emphasizes the urgency of addressing mastitis as a priority in dairy farm management. Investments in mastitis prevention and control measures can lead to improved farm profitability, enhanced milk production efficiency, and overall sustainability of the dairy industry in Hyderabad, Telangana, India. By understanding the economic losses associated with mastitis, stakeholders can make informed decisions and allocate resources effectively to address this prevalent disease and ensure the long-term viability of dairy farming in the region.

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