

## **A STUDY ON FARMERS PERCEPTION AND ATTITUDE TOWARDS ANTIBIOTIC USE IN ANIMAL NUTRITION**

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### **INTRODUCTION**

Antibiotics in animal nutrition. Antibiotics have long been employed as growth promoters and to prevent disease in livestock, but their extensive use has raised concerns about the development of antibiotic-resistant bacteria and its potential impact on human health. We embark on a journey to understand the perspectives and attitudes held by farmers regarding the use of antibiotics in animal nutrition. By exploring these perceptions, we aim to uncover valuable insights that can inform policymakers, researchers, and stakeholders in making informed decisions about antibiotic use in agriculture.

The study will explore key questions such as the reasons behind antibiotic use in animal nutrition, how farmers perceive the risks and benefits of these practices, and whether there are regional or cultural variations in attitudes towards antibiotic use. To gather data, the study will use a multidisciplinary approach that combines elements of agriculture, veterinary science, and social psychology. Surveys, interviews, and data analysis will be conducted to capture a comprehensive picture of farmer attitudes and behaviours. The findings of this research can be instrumental in developing targeted educational initiatives, policy recommendations, and sustainable farming practices that consider the needs of agriculture, animal welfare, and human health. Antibiotics are added to animal feeds to treat and prevent infections and to improve growth and production. Until recently, the major concerns about incorporation of antibiotics in animal feeds related to antibiotic residues in products from treated animals.

## Antibiotic use in animal nutrition

Antibiotic use in animal nutrition refers to the practice of adding antibiotics to the feed or water of livestock and poultry for various purposes, including growth promotion, disease prevention, and treatment. This practice has been a common and controversial aspect of modern animal agriculture.

**Growth Promotion:** One of the main reasons for antibiotic use in animal nutrition has been their ability to enhance animal growth. Subtherapeutic or low-dose antibiotics have been shown to improve feed conversion rates, allowing animals to convert feed into body weight more efficiently.

**Disease Prevention and Control:** Antibiotics have also been used to prevent and control diseases in crowded and intensive farming operations. They can help reduce the spread of bacterial infections among animals in close quarters.

## LITERATURE REVIEW

(Moffo et al., 2020) in this study wide use of antimicrobial products in rural poultry farms in most sub-Saharan African countries. However, little is known of the factors that motivate rural poultry farmers towards antimicrobial use (AMU) and their level of awareness about antimicrobial resistance (AMR). This cross-sectional survey was conducted to investigate the knowledge, attitudes, practices, perception of poultry farmers in Cameroon about AMU and risk of AMR (KAPP) (n = 358). The data collection was conducted using questionnaires administered through face-to-face interview and the responses were recoded into binary scale.

(Stokstad, 1954) in this study the recognition that antibiotics can increase the growth rate of animals has given us a new insight into the function of intestinal microflora. Our concept of the action of intestinal microflora may be considered as having gone through two distinct phases. The first was the view that intestinal bacteria contributed to the well-being of the host by synthesis of water-soluble vitamins. This has been well established in ruminants; and abundant data suggest that synthesis of vitamins occurs in the intestinal tract of single-stomached animals.

(Manyi-Loh et al., 2018) in this study Due to the increased demand of animal protein in developing countries, intensive farming is instigated, which results in antibiotic residues in animal-

derived products, and eventually, antibiotic resistance. Antibiotic resistance is of great public health concern because the antibiotic-resistant bacteria associated with the animals may be pathogenic to humans, easily transmitted to humans via food chains, and widely disseminated in the environment via animal wastes. These may cause complicated, untreatable, and prolonged infections in humans, leading to higher healthcare cost and sometimes death.

**(Barton, 2000)** in this study antibiotic resistance in bacteria that cause disease in man is an issue of major concern. Although misuse of antibiotics in human medicine is the principal cause of the problem, antibiotic-resistant bacteria originating in animals are contributory factors, with some types of resistance in some species of bacteria. Antibiotics are added to animal feeds to treat and prevent infections and to improve growth and production. Until recently, the major concerns about incorporation of antibiotics in animal feeds related to antibiotic residues in products from treated animals. Although, in 1969, the Swann (1969) report drew attention to the potential for antibiotic-resistant bacteria to spread from treated animals via the food chain, there was little response until the detection of vancomycin-resistant enterococci in animals fed a related glycopeptide, avoparcin.

**(Ozturk et al., 2019)** in this study was to determine knowledge, attitudes, and behaviours of farmers dealing with animal husbandry in eastern Turkey with regard to antibiotic knowledge, use, and resistance. A face to face questionnaire survey, consisting of five sections with 42 questions in total, was applied to 360 farmers located in the region. The questions in the first and fifth sections were closed-ended while those in other sections were prepared using the Likert scale. It was determined that knowledge of the farmers about antibiotic use, duration, storage, and resistance was well below desired levels. This was particularly remarkable in the participants with a low level of education, living in rural areas, and those at 48 years of age or over.

## **STATEMENT OF THE PROBLEM**

The use of antibiotics in animal nutrition has been a common practice among farmers to enhance livestock growth, prevent diseases, and improve overall productivity. However, concerns have been raised globally about the potential adverse effects of antibiotic use, including the development of antibiotic-resistant strains of bacteria and the potential for residues in animal products. Despite these concerns, there is a lack of comprehensive understanding of farmers' perceptions and attitudes towards antibiotic use in animal nutrition.

This study aims to address the following key problems,

- **Limited Understanding of Farmer Perceptions:** Farmers play a crucial role in the decision-making process regarding antibiotic use in animal nutrition. Understanding their perceptions and beliefs regarding the benefits and risks associated with antibiotic use is essential for developing effective strategies to promote responsible use.
- **Factors Influencing Attitudes towards Antibiotic Use:** Identification and exploration of the factors influencing farmers' attitudes towards antibiotic use, such as economic considerations, knowledge levels, and access to alternative practices, are essential to design targeted interventions and educational programs.
- **Awareness of Antibiotic Resistance:** The level of awareness among farmers about the development of antibiotic resistance due to continuous use in animal nutrition is not well-documented. Investigating this awareness is crucial for developing educational campaigns to mitigate the potential risks associated with antibiotic-resistant strains.
- **Compliance with Regulations and Best Practices:** There is a need to assess farmers' compliance with existing regulations and recommended best practices related to antibiotic use in animal nutrition. Understanding the gaps in compliance can guide the development of policies and initiatives to promote responsible use.
- **Exploration of Alternative Strategies:** Exploring farmers' openness to and awareness of alternative strategies for animal nutrition that reduce reliance on antibiotics is crucial. This includes assessing attitudes towards probiotics, prebiotics, and other non-antibiotic additives in livestock feed.

By addressing these problems, this study aims to provide valuable insights into farmers' perspectives on antibiotic use in animal nutrition and contribute to the development of sustainable and responsible farming practices.

## **METHODOLOGY**

Research methodology is the systematic way to solve the research problem. It gives an idea about the various steps adopted by the researcher in a systematic manner with an objective to determine various manners. Research methodology explains why we are using a particular method

and not using another so that the results are capable of being evaluated either by researcher or by others.

### **DESCRIPTIVE RESEARCH:**

Descriptive research used to find out facts and details of the antibiotic use in animal nutrition. The farmers perception and attitude towards antibiotic use in animal nutrition has been studied.

### **SAMPLE SIZE AND SAMPLING METHOD**

- Population: Farmers in Kanchipuram district.
- Sample size: A sample of 125 farmers is selected for carrying out the study.
- Sampling technique: The sampling technique used is convenience sampling

### **CONVENIENCE SAMPLING**

Convenience sampling is a non-probability sampling method where units are selected for inclusion in the sample because they are the easiest for the researcher to access. This can be due to geographical proximity, availability at a given time, or willingness to participate in the research.

### **DATA COLLECTION**

#### **1. Primary data**

The primary data were collected by survey through questionnaire among the farmers.

#### **2. Secondary data**

The main sources of secondary data are company website, journals, articles, institutional data.

### **STATISTICAL TOOL**

- SIMPLE PERCENTAGE ANALYSIS
- ANOVA
- CHI-SQUARE TEST
- CORRELATION

### **RESULTS**

- 54.4% respondent belong to 1-10 years experience, 20.0% of the respondent have the experience of 20-30 years, 13.6% of the respondent have the experience of 10-20 years, rest 12.0% of the respondent have the experience of above 30 years.
- Majority of the respondent clear that aware of the concept and practice.
- 50.4% respondent clear that Very important of cost-effectiveness in antibiotic use, 21.6% respondent have moderately important, 16.0% Not important at all, rest 12.0% somewhat important of cost-effectiveness in antibiotic use.
- 39.2% respondent occasionally Seek information about antibiotic use in animal nutrition, 26.4% respondent seek rarely, 18.4% respondent seek frequently, rest 16.0% respondent never Seek information about antibiotic use in animal nutrition.
- 53.6% respondent have believe somewhat important of meeting consumer preferences for antibiotic-free or organic products.
- 62.4% respondent aware of antibiotic resistance and its potential impact on human and animal health.
- there is no correlation between antibiotic contribute significantly to animal health and well-being in livestock and long-term sustainability of antibiotic use in animal nutrition.

## DISCUSSION

This survey revealed viewpoint of poultry farmers perception on antibiotic use in animal nutrition, which may help the farmers and authorities to draw a direction towards taking necessary steps to reduce the challenges which is faced by the farmers, decision making process towards antibiotic use, minimize antibiotic resistance. the use of antibiotics in animal nutrition is a complex issue that demands careful consideration and responsible practices. While antibiotics have long been employed to promote growth and prevent diseases in livestock, the emergence of antibiotic-resistant bacteria poses a significant threat to both animal and human health. To address this challenge, it is crucial to adopt a holistic approach that prioritizes the well-being of animals, public health, and sustainable agricultural practices.

Some of the suggestions which has derived through the study,

- Farmers have to monitor the potential disease outbreak in regular basis
- Farmers need to seek the knowledge and information regarding to antibiotic use

- Farmers have to get to know the concept antibiotic resistance.
- Before buying the nutritional product, customers have to analyze the marketing campaign and advertisement with refers to animal nutrition
- Before using the antibiotics to animals the farmers get the advice from the veterinarian
- Focus on maintaining proper hygiene, providing adequate nutrition, and managing stress to reduce the need for antibiotics.

### Referneces

- Smith, J., Petrovic, P., Rose, M., De Souza, C., Muller, L., Nowak, B., & Martinez, J. (2021). Placeholder Text: A Study. *The Journal of Citation Styles*, 3. <https://doi.org/10.10/X>
- Barton, M. D. (2000). Antibiotic use in animal feed and its impact on human health. *Nutrition Research Reviews*, 13(2), 279–299.
- Manyi-Loh, C., Mamphweli, S., Meyer, E., & Okoh, A. (2018). Antibiotic use in agriculture and its consequential resistance in environmental sources: potential public health implications. *Molecules*, 23(4), 795.
- Moffo, F., Mouiche, M. M. M., Kochivi, F. L., Dongmo, J. B., Djomgang, H. K., Tombe, P., Mbah, C. K., Mapiefou, N. P., Mingoas, J.-P. K., & Awah-Ndukum, J. (2020). Knowledge, attitudes, practices and risk perception of rural poultry farmers in Cameroon to antimicrobial use and resistance. *Preventive Veterinary Medicine*, 182, 105087.
- Ozturk, Y., Celik, S., Sahin, E., Acik, M. N., & Cetinkaya, B. (2019). Assessment of farmers' knowledge, attitudes and practices on antibiotics and antimicrobial resistance. *Animals*, 9(9). <https://doi.org/10.3390/ani9090653>