Popular Article

Goat Research Trends: A Review

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Abstract

The main goat-related issues from the previous few years are included in the current review. Milk production and quality, production methods, hair and meat production were the key subjects. To the level of understanding of other species like cattle or sheep, goat research must advance quickly, particularly in the production of milk and meat as it has a great scope in future.

Keywords: goat, cheese, milk, meat, hair

Introduction

Goats are multiplying all over the world and are getting more and more significant for a variety of reasons. Although there are countless variations, there are two main production systems. In developing nations, where meat production is the most extensive system, it frequently coexists with pastoral land use. Conversely, milk (and cheese) production take place in developed nations and is typically reliant on feedstock. This article's goal is to cover the most recent global research interests in this area.

Milk production and quality

In developing nations, milk production is a topic of particular interest; foreign breeds are imported, and the production of milk is investigated in tropical and subtropical environments. In

order to match the lactation curve of regional goat pure breeds and hybrids under southern Tunisian settings, Gaddour *et al.* (2009) used the gamma function. Similar studies have been conducted on popular breeds like Murciano-Granadina (Menendez-Buxadera *et al.* 2010). To enhance milk production without the use of hormones, new methods are being researched.

Advantages of goat milk consumption

It has balanced proportions of carbohydrates, protein, fat, other nutrients and minerals that are essential for wholesome nutrition and have various advantageous health benefits. Goat milk is said to be superior to milk from other species since it has more health benefits and a lower risk of allergy. Goat milk offers 13% more calcium than cow milk, which is essential for the development of bones, and 20% more vitamin K than cow milk. A 25% increase in vitamin A concentration is beneficial for the improvement of vision. It has 27% more selenium. Riboflavin (vitamin B2) is present in larger amounts. Since the fat globules in goat milk are smaller than those in cow or buffalo milk and are therefore easier to digest, goat milk is naturally homogenised.

Hair production

Although the production of hair (cashmere) from goats is relatively small, it is very significant in specific areas. Evidence from the Lan *et al.* (2009) study supports the hypothesis that the insulin growth factor binding protein-3 (IGFBP-3) gene affects cashmere yield, which may be at least partially influenced by age and prolactin levels in Inner Mongolia White cashmere goats.

Fig1. Bulgarian Long Hair Goat	**Fig2.** Hand Milking

Meat production

The production of goat meat is significant in emerging nations, and scientists are actively attempting to adapt the prediction method to their local breeds. In Tunisia, Najari *et al.* (2010) investigated the ideal adjustment for local goat kid growth. Crossbreeding is a crucial tool for adjusting the output of meat in various conditions. Khalil *et al.* (2010) investigated the features of

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Saudi Arabian animals crossed with Damascus goats for growth, carcass, and meat composition. The major findings showed that the estimates of heterosis produced in this experiment are of substantial value, especially for growth and carcass components, while those estimations relating to meat quality attributes were of low importance.

Fig3. Meat production	**Fig4.** Goat farming

Production systems

Now, scholars from all over the world are interested in the study of production systems in developing countries. The Najari and Gaddour study (2010) are one example of this situation, where the goat productivity was evaluated in two different production systems: pastoral and oases systems. Animal research continues to benefit from morphometry as a tool. Multivariate analysis is used by Yakubu *et al*. (2010) to identify distributional variations across three agro-ecological zones in Nigeria. The three goat populations were found to be intermixed and to have relatively short morphometric distances, proving their genetic similarity and homogeneity.

The understanding of the requirements for their protection and the development of suitable breeding and selection procedures may be aided by these discoveries. It is crucial to define new breeds in developed nations since there is a lot of pressure on local breeds from selected breeds. In 2010, Martini *et al.* completed a comprehensive zootechnical study on Garfagnina goats in Italy whose milk might one day be used for people with specific needs.

Conclusion & Future Directions

Many advantages of goat milk have been noted in our Ayurveda books, and this could serve as a differentiator for businesses. If the government and business sector provide the necessary chances and assistance, meat and milk, hair production of goat has a lot of potential. Goats can be raised for very little money and are incredibly hardy animals. The poorest of the poor parts of society and women who desire to become financially independent might use these goats as a source of

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income. So, now a days goat' research is in trend among researchers. Given the economic and social climatic challenges that the world will have to meet, goat farming can play an important role in the restructuring of the agricultural systems of many regions. We are indeed in a situation of paradigm change. In terms of research and production of knowledge, we will have to understand better the practices of farmers, and integrate crops and goat farming, to control diseases without antibiotics and to identify what social economic technical performances they need. The organization and development of training will be another important issue.

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