

The Use of Ramie Grass in Livestock Feed: A Scientific Perspective

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Introduction:

Animal husbandry plays a crucial role in the livelihood of farmers and significantly contributes to rural economies. For the proper growth and enhanced productivity of livestock, a balanced and nutritious diet is essential. In today's context, issues like climate change, land scarcity, and limited availability of traditional fodder have spurred the search for alternative forage sources. In this regard, Ramie grass (*Boehmeria nivea*) is emerging as a significant plant, recognized for its advanced nutritional qualities as animal feed. Ramie grass, known for its high protein and mineral content, is not only environmentally friendly but also a rapidly growing grass.

Introduction to Ramie Grass:

Ramie grass is a perennial plant, scientifically named *Boehmeria nivea*. It is primarily cultivated in countries like China, India, the Philippines, and Brazil. Traditionally, it has been used for fiber production, but in recent times, its potential as animal feed has garnered attention. Ramie grass, with its rich protein, minerals, and fiber content, makes an ideal source of forage for livestock.

Nutritional Value of Ramie Grass:

The nutritive value of ramie grass sets it apart from other forage crops. The key nutrients found in it are:

1. Protein: Ramie grass contains 12% to 20% crude protein, which is essential for muscle development, milk production, and overall health of livestock. This high protein content provides the necessary amino acids required for animal growth, thereby enhancing their productivity.

2. Crude Fiber: The fiber content in ramie grass ranges from 30% to 35%, which helps maintain a healthy digestive system in animals. This fiber aids in regulating intestinal functions, ensuring smooth digestion, and reducing gastrointestinal issues in livestock.

3. Minerals: Ramie grass is rich in minerals such as calcium, phosphorus, iron, and magnesium, which are crucial for the strength of bones, development of teeth, and blood formation in animals. These minerals are particularly important for lactating dairy animals.

4. Vitamins: It contains vitamins such as Vitamin A, Vitamin C, and to some extent, Vitamin B complex, which help in boosting the immune system of animals and support the maintenance of skin, eyes, and other vital organs.

5. Fat: Ramie grass has 2% to 4% crude fat content, which serves as an important energy source for animals. This fat helps maintain body temperature and fulfills the energy requirements of livestock.

6. Antioxidants: Ramie grass also possesses antioxidant properties, which reduce oxidative stress in animals. These antioxidants strengthen the immune system and enhance the ability to fight diseases.

Impact of Ramie Grass on Livestock:

The use of ramie grass as a part of livestock feed has shown positive effects on their health and productivity. Several studies have demonstrated that the proper inclusion of ramie grass in the diet results in improvements in milk yield, meat quality, and weight gain.

1. Increase in Milk Productivity: The high protein and calcium content in ramie grass makes it suitable for dairy animals. Cows and buffaloes fed with ramie grass have shown a 10% to 15% increase in milk production. Additionally, the quality of milk improves, with an increase in fat and protein content.

2. Aid in Weight Gain: Goats and sheep that consume ramie grass experience rapid body weight gain. This is primarily due to the high protein and amino acids that promote muscle development in animals.

3.Improvement in Digestion: The high fiber content in ramie grass ensures smooth digestion in animals. It regulates intestinal functions and maintains proper gut motility, reducing the chances of constipation and other digestive problems.

Environmental Benefits:

Ramie grass is also beneficial for the environment. It requires less water for cultivation and can thrive in dry, drought-prone areas, making it an ideal choice for regions with limited water resources. Additionally, the roots of ramie grass help stabilize soil, preventing erosion. Its fast growth rate and capacity for multiple harvests make it a valuable alternative during fodder shortages.

Challenges in Using Ramie Grass:

Although ramie grass holds high nutritional value, there are certain challenges associated with its use. Harvesting and processing ramie grass require specialized equipment due to the strength of its fibers. Furthermore, it is important to include ramie grass in the diet in appropriate quantities because excessive consumption may lead to digestive issues in some animals.

Conclusion:

Ramie grass can serve as a valuable alternative in animal husbandry, particularly in regions facing fodder shortages. Its high protein, mineral, and fiber content make it an excellent source of nutrition for livestock. In addition to benefiting the health and productivity of animals, ramie grass also offers environmental advantages.

In the future, ramie grass could play a significant role in livestock farming, and incorporating it in the right proportion into the diet will enhance the health and productivity of animals.

The use of ramie grass can provide livestock farmers with increased production and economic benefits. Its nutritional qualities and environmental advantages make it a highly valuable source of feed, potentially propelling the livestock industry to new heights.