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Assam Hill Goat: A Promising Indigenous Genetic Resource of Northeast India

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Abstract

The Assam Hill Goat is an indigenous small ruminant population primarily distributed across the hilly and foothill tracts of Assam and adjoining northeastern states of India. It is characterized by high adaptability, good disease tolerance and efficient feed utilization under low-input systems, this goat type represents a valuable genetic resource for meat production in humid subtropical ecosystems. The present review summarizes the origin, morphological characteristics, productive and reproductive performance, management practices and conservation concerns associated with the Assam Hill Goat.

Introduction

Indigenous livestock breeds play a critical role in the livelihood security of smallholder farmers in the northeastern region of India. Among these, the Assam Hill Goat occupies a significant position due to its adaptability to the humid climate and its contribution to meat production. Despite its socio-economic importance, this genetic resource remains under-characterized, with limited organized breeding and conservation efforts. Scientific documentation of its productive and adaptive traits is essential for breed improvement and sustainable utilization.

Origin and Distribution

The Assam Hill Goat is believed to have originated through natural selection under local agro-climatic conditions, without formal selective breeding. Its population is mainly concentrated in the districts of Karbi Anglong, Dima Hasao, North Lakhimpur, Sonitpur and Goalpara, extending into parts of Arunachal Pradesh, Meghalaya and Nagaland. The breed has evolved to thrive under the hilly topography, high rainfall and moderate humidity characteristic of these areas.

Morphological Characteristics

- The Assam Hill Goat is a small-to-medium-sized animal with compact body conformation.
- Coat color: Predominantly black, brown, or white, with occasional mixed patterns.
- Horn status: Both sexes are horned; horns are short to medium in length, curved backward.
- Ears: Medium-sized and horizontally oriented.
- Hair coat: Short to medium, providing moderate protection against humidity.
- Average body weight: Adult males 20–25 kg; adult females 15–20 kg.

Production and Reproductive Performance

The Assam Hill Goat is primarily a meat-type breed with moderate growth performance under traditional management.

- Age at first kidding: 12–15 months
- Kidding interval: 7–8 months
- Average litter size: 1.4–1.6 (twins common)
- Birth weight: 1.2–1.6 kg
- Weaning weight (at 90 days): 6–7 kg
- Average daily gain: 60–70 g under semi-intensive conditions
- Dressing percentage: 45–48%

Feeding and Management Systems

The Assam Hill Goat is mainly reared under extensive or semi-intensive systems. The animals graze and browse on native pastures, tree leaves and shrubs. Common feed resources include *Leucaena leucocephala*, *Gliricidia sepium*, *Ficus glomerata*, *Artocarpus heterophyllus* and crop residues. Under semi-intensive rearing, supplementation with agro-industrial by-products such as rice bran, mustard oil cake and kitchen waste enhances growth performance and reproductive efficiency. Their foraging ability and tolerance to feed scarcity are key adaptive features.

Adaptability and Disease Resistance

The Assam Hill Goat exhibits remarkable adaptation to the humid subtropical climate, characterized by high rainfall and seasonal feed fluctuations. The breed shows moderate resistance to internal parasites and common diseases such as Peste des Petits Ruminants (PPR) and foot rot. However, periodic deworming and vaccination are recommended to minimize disease incidence and mortality. The ability to maintain reproductive performance under nutritional and environmental stress underscores its adaptive genetic potential.

Socio-Economic Importance

Goat rearing is an integral component of mixed farming systems in Assam. The Assam Hill Goat contributes significantly to household nutrition and income security, particularly for tribal and marginal farmers. The breed's low maintenance cost, short generation interval and steady market demand for chevon make it economically viable. Women's participation in goat rearing further strengthens its role in rural livelihood enhancement and gender-inclusive agricultural development.

Conservation and Genetic Improvement

The population of pure Assam Hill Goats is reportedly declining due to uncontrolled crossbreeding and lack of systematic breeding programs. Conservation through in situ and ex situ strategies, supported by phenotypic and molecular characterization, is crucial. The establishment of community-based breeding units and performance recording systems can facilitate genetic improvement. Institutional support from ICAR-NRC on Pig (Rani, Assam) and ICAR Research Complex for NEH Region is vital for breed registration, conservation and productivity enhancement.

Conclusion

The Assam Hill Goat represents a unique genetic resource well-suited to the ecological and socio-economic context of the northeastern hill ecosystem. Its adaptability, resilience and economic potential highlight the need for focused conservation and improvement programs. Scientific management, coupled with participatory breeding and value chain development, can ensure the sustainable utilization of this indigenous goat population for enhancing meat production and rural livelihood security.

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