

EXPLOITATION OF POOR PASTURES AND WOODY VEGETATION BY GOATS

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Abstract: This paper examines the capacity of goats to utilize poor pastures and woody vegetation, highlighting their unique role within livestock systems from social, scientific, and environmental perspectives. Goats are widely recognized for their adaptability to marginal environments, where conventional grazing species often perform poorly. Their feeding behaviour, characterized by browsing shrubs and woody plants, enables them to exploit vegetation resources that are otherwise underutilized, making them valuable in low-input and resource-constrained farming systems. The authors analyze both the advantages and limitations of this feeding strategy. On the one hand, goats contribute to improved land use efficiency, support rural livelihoods, and play a role in ecological management by controlling invasive or excessive woody vegetation. On the other hand, unmanaged browsing may lead to overexploitation, vegetation degradation, or imbalances in plant communities. The paper explains the biological and behavioural reasons behind goats' preference for woody species, including their digestive adaptability, selective feeding habits, and ability to tolerate secondary plant compounds. A significant portion of the study is dedicated to identifying sustainable management strategies for systems where goats are used to exploit poor pastures and woody vegetation. These include controlled grazing, rotational systems, appropriate stocking rates, and integration with broader land management practices. Additionally, the authors propose practical methods for using goats as a tool for vegetation control on pastures, offering an environmentally friendly alternative to mechanical or chemical interventions. Overall, the paper emphasizes the importance of balanced and well-managed approaches to maximize the benefits of goat browsing while minimizing potential negative impacts

• Introduction

Goats can exploit poor pastures and woody vegetation very effectively, and this behaviour has important ecological and management implications. They are naturally mixed feeders, i.e. they combine browsing (shrubs, trees, and woody plants) with grazing (grass), which makes them uniquely suited for landscapes where herbaceous forage is degraded or scarce. The role of goats in the world – i.e. in society, science, and sustainability – is comprehensively explained in Figure 1 below.

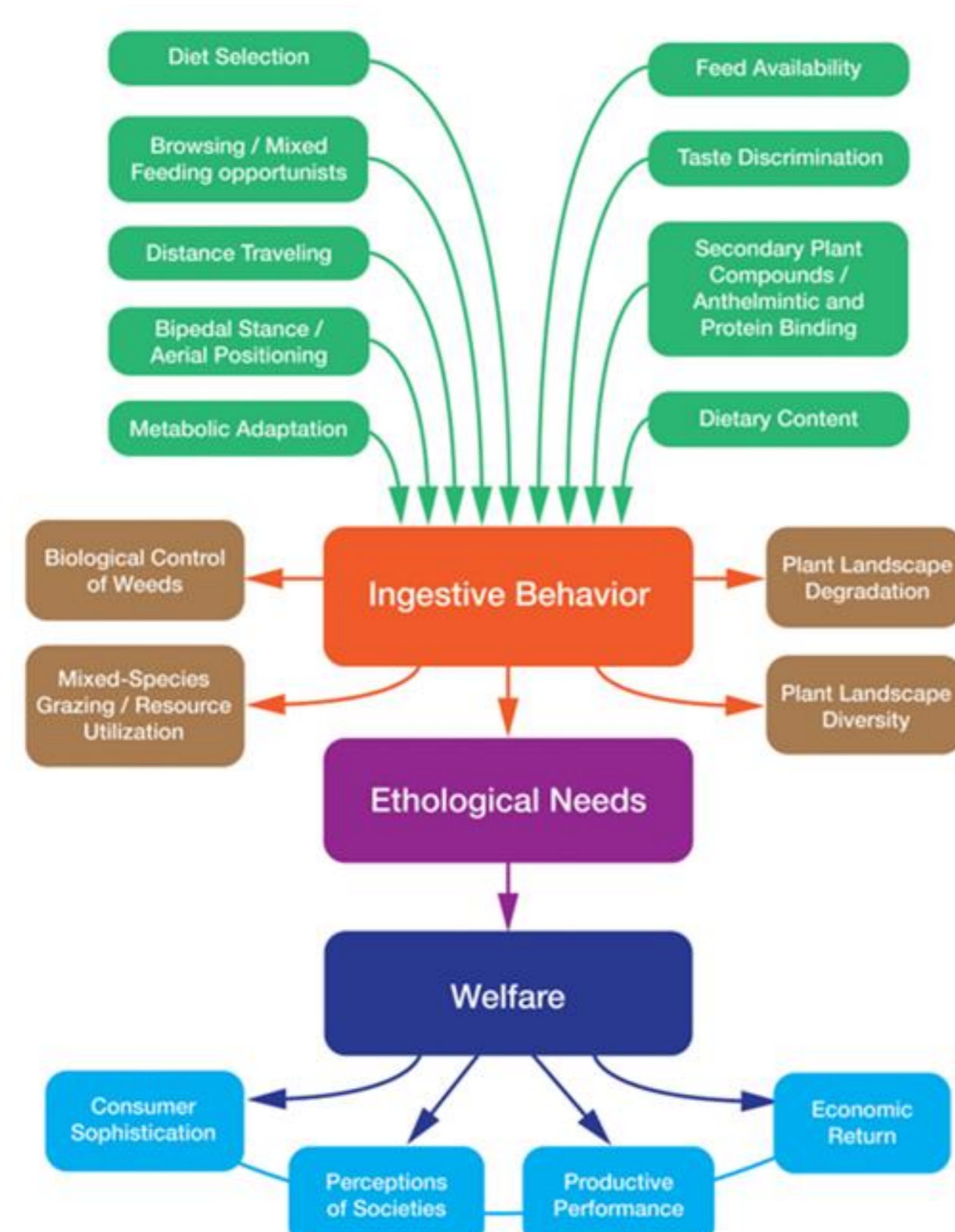


Figure 1. Ingestion behaviours, plant landscape, resource integration, and animal welfare in goats

• Material and method

The material used by the authors in this paper consists in articles on exploitation of poor pastures and woody vegetation by goats published between 1989 and 2005. The research method used is the bibliographical one. It aimed at presenting the evolution of the approaches of this topic, as well as the main trends in the research in the field.

• Results and discussion

Probably the most important advantage of goat farming from an environmental perspective is its low contribution to global emissions of CO₂



Figure 1. Greenhouse gas emission by livestock species

To use goats sustainably on poor or woody pastures, sheep farmers should:

- Breed selection because it limits overuse of low-tannin species;
- Combine sheep with other livestock because mixed grazing (e.g. sheep + cattle) can balance pressure on grasses vs. browse;
- Diet supplementation because it protects sensitive plant species;
- Match stocking rate to vegetation regrowth, i.e. avoid goats exceed the natural recovery capacity of shrubs and trees;
- Monitor plant species (i.e. ensure safe species composition) because some woody plants may be toxic;
- Rotate grazing / browsing areas because short, targeted browsing periods can reduce fuel loads or unwanted shrubs without long-term damage;
- Sylvopastoral systems because they enhance carbon sequestration and reduce erosion;
- Targeted browsing because it involves low costs of fire management.

• Conclusions

Goats exploiting poor pastures and woody vegetation matters because they impact biodiversity, hydrology, seed dispersal, soil health, vegetation structure, wildlife habitat, and wildlife risk.

The presentation above show that the advantages / benefits of the exploitation of poor pastures and woody vegetation by goats are from far more numerous than the disadvantages.