

Managing rangeland goats in western New South Wales

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Abstract: *Properly matching livestock numbers with the available supply of feed and water is the fundamental challenge of all extensive grazing management systems. This is especially true in environments like the semi-arid regions of western New South Wales where the rainfall is highly variable and not strongly seasonal. Farming goats in such environments heightens this challenge because stock numbers may be difficult to control for several reasons such as their capacity to reproduce under low feed availability and uncontrolled reproductive process. This paper reports on a project being undertaken to develop grazing management guidelines for rangeland goats. The study has three components: review of the available scientific literature on goat biology and management, collecting local knowledge on rangeland goat management and field and laboratory experimentation to quantify the grazing behaviour, diet selection and digestive efficiency of goats in relation to sheep.*

Key words: goat management, digestive efficiency, diet selection

Introduction

Feral goats have been harvested in Australia for export of meat since the early 1950s (Restall 1982), either by conventional mustering or, increasingly, by use of trap yards or self-mustering facilities on watering points. The majority of goats sold from the Western Division of New South Wales (NSW) are still opportunistically harvested rather than farmed commercially.

However, in recent years landholders have started to fence a portion of their property into a 'goat paddock' that may be used either to hold small animals until they reach marketable weight, or to hold all harvested animals so that larger, more uniform lines can be selected for sale at a higher price. Furthermore, farmed goat enterprises are emerging, involving retention of a selection of harvested feral does which are subject to commercial standards of management, including infusion of exotic breeds (e.g. the South African Boer goat) to improve productivity (Pople and Froese 2012).

Currently, the knowledge base on goat management in rangelands is limited to their control as a pest or use in controlling some woody species within a traditional wool production system and little attention has been directed to their management as livestock.

This project aims to combine information from laboratory experiments and field studies in a range of environments in the Western Division of NSW with local producer experience. The information will be used to develop management strategies that are widely acceptable to landholders and supportive of regional and national ground cover targets aimed at reducing wind erosion and maintaining biodiversity values.

Methods

A review of literature and a consultation process with landholders helped to define available knowledge of the grazing ecology and management requirements for domesticated feral goats. Three goat producer forums, each comprising 3–5 land holders, were convened to share their knowledge and experience.

Field observations of the grazing behaviour, diet selection and ground cover impact of farmed goats are being undertaken and will be compared to that of Dorper and Merino sheep. An animal house experiment to compare the digestive efficiency of goats with that of Dorper and Merino sheep fed high and low quality roughage is underway.

Workshops of landholders, Catchment Management Authority (CMA) and agency staff will be convened to help develop best practice guidelines for management of farmed goats.

Results and discussion

Field and laboratory studies are still in progress and no results are available at the time of writing. However, a key issue to emerge from discussions with landholders and from the review of literature is the risk of population explosion as numbers may be difficult to control for several reasons. First, goats have a remarkable capacity to reproduce under low feed availability. Second, the reproductive process is generally uncontrolled. Finally, although goats can maintain reproduction under poor seasonal conditions the growth rate of young animals may restrict turnoff because of the market preference for animals above 24 kg liveweight. Graziers farming goats may thus quickly find they are carrying too many animals for the feed available, the consequence of which could be overgrazing of paddocks leading to degraded landscapes.

Knowing the dry sheep equivalent (DSE) rating of the various classes of goats is essential to allow their exchange for sheep on country where safe stocking rates for sheep are known from experience, or for feed budgeting. Animal house and field experiments are underway to compare the digestive efficiency of goats with that of Merino and Dorper sheep so that the DSE rating of goats can be established. Producers agree the goat DSE rating could be as low as 0.5 in paddocks that are normally used for goats.

The wider selective range of goats relative to traditional livestock carries both opportunities and risks for rangeland condition. Less selective grazing may reduce pressure on key species but their capacity to survive and reproduce under a wide range of vegetation may promote resource degradation (Fletcher 1995).

Data collected from a range of environments, combined with local producer experience and knowledge from scientific literature will be used to develop management strategies that are widely acceptable to landholders and supportive of regional and national ground cover targets. The strategies will be promoted through CMA and agency field days, media releases, the Western Division Newsletter and by incorporation into 'Tactical Grazing' short courses.

Conclusions

To reduce overgrazing and degradation of the environment, well planned strategies are required to ensure that the risk of imbalance between population growth and off-take is minimised.

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