

THE ECONOMIC POTENTIAL FOR BETTER
PASTURE UTILIZATION IN NSW BY
GOATS

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Introduction

Pastures are dynamic, they change in composition in response to fertiliser, seasonal conditions and grazing management. In many of our non-arable high rainfall pasture areas we continue to manipulate pastures by the use of fertiliser, herbicides and introduced plant species, all in the pursuit of higher productivity.

The maintenance of stable plant communities under these conditions requires continuing inputs such as fertilisers, herbicides or grazing practices. Within each are a range of individual treatments that are more or less effective, selective or expensive. Goats are another option that is a cost effective aid to improve pasture management, increase productivity and diversify income.

Many graziers on the tablelands and slopes have begun running goats, some for weed control, some as another livestock enterprise. Similarly, more graziers in the semi-arid areas of the state are now running goats.

The main thrust of this paper is to look at the value of goats on the slopes and tablelands.

Weed control

There are many excellent examples of the usefulness of goats for the control of different weeds on the slopes and tablelands. The widest reported include blackberry, briar, variegated and saffron thistles and suckers and seedlings of native trees. There are many other 'pasture weeds' that are controlled by goats such as cape weed, purple top, scotch thistle, skeleton weed and poa tussock.

This aspect of the value of goats is obvious, it can be readily seen and its value in terms of herbicide costs saved can be easily calculated. Other aspects, such as ease of use, environmental safety and income earning ability, are often not well recognised, except by those actually involved in such a programme.

Vere and Holst (1979a and 1979b), reported partial budgets that compared the cost of using goats or herbicides to control blackberry and briar. They concluded that goats were a cost effective way in which to control those weeds; they also pointed

out that, at that time little attention had been given to the economics of running goats as an enterprise in its own right. More recently, Harradine and Jones (1985) reported on the effective use of Angora wethers to control gorse in Tasmania. Similar reports have come from New Zealand, for example Clark, et al (1982) and Radcliffe (1984).

The effect of goats on the control of other weeds have been researched by Campbell et al (1979), with variable results. Wider observations (Mitchell and Miller, 1986), show goats to have a varying level of effect on the control of many weeds, dependant on their relative palatability.

Pasture management

Observations, reported by graziers, show that goats have a beneficial or renovating effect on some pastures. In our recent past, goats taken to the Central Tablelands to control blackberry in a long established phalaris and sub. clover pasture were effective not only in controlling the blackberry, but also preferentially grazed the phalaris allowing the clover to increase in vigour and resulting in a balanced pasture mixture. The overall productivity of the pasture was increased as sheep, cattle and goats could be run all year where sheep could only be run for eight to nine months because they get caught in the blackberry and cattle can bloat during summer from excess white clover growth.

McGregor (1984), reported that on a Mediterranean annual pasture, the combined stocking of Merino and Angora wethers resulted in higher per head production than if either were grazed alone. Also, pasture composition was improved, that is, it became more balanced where both sheep and goats were run together than where either were run alone.

It is claimed by some goat proponents that a certain percentage of goats can be added to existing stock numbers without any untoward effect on other stock or pastures. This claim is difficult to support, except in general terms, where for example, there is a dominance of shrubs or perennial grasses that are more palatable to goats than to other stock. Under these conditions it is likely that some goats can be run, in addition to other stock, but the ratios will vary from one site to another.

Observations are currently being made on St John's Wort infestations growing on basalt soils in the Coolah district and on the effect of an integrated control programme that includes the establishment of improved pastures, use of fertilisers, grazing management with goats and cattle and opportunistic attack by Chrysomelid beetles. An interesting observation is that seedlings of phalaris, cocksfoot, lucerne and clover have established, following aerial sowing, while goats have run in the paddock. Although this is an isolated observation, it is of potentially great value.

Economics

The returns to goat production under tablelands and slopes conditions varies with their prime use and the type of enterprise chosen. If the prime use is for the control of weeds, then it is in order to consider the cost of herbicides foregone, as income favouring goats in a partial budget. Similarly, any additional costs, such as improvements to fencing and the cost of purchase, need to be debited against the goats. It is worth remembering that improvements in fencing will benefit all livestock enterprises and enhance the capital value of a property, while the initial purchase price of goats is not a recurring cost to be met each year for three years. Also, in most shrub weed situations, the addition of goats does not result in a reduction in other stock.

Carberry and Davies (1983), describe a situation in the Coolah district, where the number of stock able to be run in a blackberry infested paddock increased from 330 ewes with 218 lambs at foot plus 18 cows and calves in 1976, to 360 does plus 540 kids at foot, 213 yearling goats and 35 cows and calves and 35 yearling cattle in 1982. A later report in the Land (21.3.85) by Sue Neales, about the same producer, described how he had made "a clear profit of \$27,000....., saved at least \$3,000 a year in spraying costs" over a four year period.

Gross margins analyses (Mitchell, 1986), show that returns to goat production ranges from \$13.98/dse for cashmere breeding up to \$31.59/dse for Angora/mohair breeding. The choice of enterprise will depend on prime use (eg. weed control versus income generation), environmental factors (eg. the presence of spiny growth or burrs) and capital cost of entry (eg. cheap feral goats versus expensive selected goats). In almost all situations, breeding goats are recommended as they are self replacing and produce a higher income than a wether flock. In a purely weed control venture the cheapest type to begin with are domesticated feral does. These can be mated to breed a meat, cashmere or Angora cross-bred; the actual type chosen is dependant on many factors such as personal preference, the presence of shearing sheds or freedom from burrs. It is generally considered that Angoras are not as suitable for weed control as are ferals because they can become tangled in spiny growth, are not as large and do not browse as heavily. The presence of burrs that cause vegetable fault in wool, cannot be tolerated in mohair as it can not be satisfactorily carbonised.

Management

Contrary to popular opinion, goats are not difficult to contain. Fences that are adequate for cross-bred sheep are suitable to control domesticated goats, if they are in good repair. Goats will usually go through the bottom third of a fence rather than jump over, so it is important to ensure that the lower portion is sound. Typical methods of upgrading existing fences include running one electrified wire about 27 cm out from the fence and

up from the ground or, on netting fences to place new foot netting along the bottom. It is important that the fence be in good repair, i.e. it be well strained and the fence line cleared. Further information is available in Mitchell and Kearins (1982).

With intelligent handling, goats can be worked in sheep yards, particularly those with a bugle feed into the drafting race. If feral goats are purchased they will need to be domesticated and taught to respect fences and the handling system used. In the short term, the use of cattle yards or shearing sheds can be useful, until the goats become accustomed to handling. When working goats in yards it is good practice to tie-up working dogs, open the gates in front of the goats and let them find their way through without too much bustle.

Conclusion

There are now many examples of the effectiveness of goats for the control of weeds, management of pastures and increasing farm income in the tablelands and slopes of NSW. The greatest effect in all these areas is seen where goats are integrated into a pasture management system that utilises agronomically sound use of fertilisers or other inputs such as fire, introduced plant species and stocking practices. It is certain that goats have a much wider grazing preference than either sheep or cattle and that this can be used to advantage in the control of some important weeds. This is seen as being cost effective, increases capital value and increases farm income.

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