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Integrating sheep and goats

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Benefits are derived from the farming of goats in a pastoral system.

The major benefits are:

- 1) Pasture management - particularly late spring summer
- 2) Weed Control - soft weeds and hard weeds
- 3) Income derived directly from goats - fibre - mohair cashmere or cashgora - Meat -Chevon - the most widely eaten red meat.
- 4) Income derived indirectly from farming goats.

These benefits have to be balanced against the disadvantages of integrating goats with sheep.

These being:

- 1) Stock control
- 2) Worm burden management
- 3) Additional management complexities and the corresponding labour inputs required.

The majority of farmers will not readily diversify into different forms of agriculture unless there are economic benefits in doing so or some other objective is achieved.

Today most properties have reached their stocking rate - labour input equilibriums and the additional costs and hassles do not warrant major changes to their systems.

I believe, however, given the right reasons and attitudes, the introduction of goats onto Otago and Southland's pastoral farms can give real benefits. Both financial and physical. On our property the introduction of Cashmere goats at an initial stocking rate of 1 goat/acre in 1983 rising to a peak of 2 goats/acre in 1989/90 has provided real and lasting benefits.

- 1) Virtually eliminating a severe Californian thistle problem.
- 2) Savings of \$10,000/year in gorse spray - 200 litres of Tordon/year was applied up until the introduction of goats. No spray has been used since 1985.
 - Gorse controlled not eradicated.
 - Pulling spray hoses is time consuming and becoming increasingly frowned upon, a really character building job.
- 3) Increased grazable area for sheep
 - Gullies have been cleaned out and fertility returned with goats camping and grazing habitats.
 - Sheep numbers have varied over recent years but total farm production has not dropped.
- 4) Improved per head production from sheep specifically lamb slaughter weights at time of sale.

These benefits have not come without cost. Before we go any further lets set the ground rules.

They are:

- 1) Stock control
- 2) Stock control
- 3) Stock control

Before the introduction of goats is even contemplated a recognised standard of fencing is required.

- specialised goat netting
- 5 wire electric fencing

- functional stock proof gateways

The use of electrics to control goats is most effective. High voltage is required (minimum 4 K volts) and must be functional 365 days of the year. Goats that beat they system must be destroyed - no second chances.

- Remember, as a rule goats crawl rather than jump so keep bottom wire close to the ground and watch those gateways.
- Yarding facilities have been upgraded but considering the numbers handled this has been relatively inexpensive.

The other major problem is worm control.

Goats currently are being used as a scape goat for the recent awareness of resistance problems being faced by many farmers.

Remember it is we the farmers that administer the drench. My theory is, give them plenty when they need it, that is don't over dose and don't dose too often, in particular adult stock.

Goats have many natural habits that differ to sheep. These have to be recognised and understood prior to being integrated with sheep so the best performance can be obtained from both.

- 1) Goats preferentially browse the pasture:

- being selective in their diets goats can be used to benefit other livestock.
- will preferentially graze taller grasses and seed heads leaving shorter clover for other livestock (lambs).

- 2) Goats will actively sort major weeds at particular stages of growth. If a plant is in short supply it will be targeted - a varied diet is preferred:

- Scotch thistle - December
- Californian thistle - January February
- Cutty grass late February - April
- Gorse leaf and flowers - winter
- Gorse bark June and October
- Young shelter belts, Kowhai's and other ornamentals, anytime
- Broom all year round
- Bracken fern - unknown

- 3) Food intake is rapidly reduced and may stop if pasture is spoiled, even if there are high pasture levels remaining:

- necessitates rotating goats during winter.

- 4) Goats become bored if confined in a small area too long. They will be easier to manage and perform better if rotated around several blocks.

- 5) Goats will naturally seek shelter and flourish when it is available. Includes natural and artificial shelter.

- 6) Goats are inquisitive and intelligent so they learn quickly:

- useful when containing behind electric fences and moving through yards
- works in reverse if there is a hole through or under a fence, they will find it.

Goats have their own personality. If it is bad don't try and change it - destroy it.

- 7) When alarmed, goats will naturally mob up and follow dominant animals:

- a real bonus when mustering rough paddocks
- allows separation of goats from sheep if you are patient.

If you can control the leaders or dominant animals you can control the mob.

- 8) Goats will stress easily:

- keep mob size down
- stress abortion is a real problem for the industry although little is known about its causes or remedies.

When considering the introduction of goats to a property it is important to first define your objectives. They may be:

- 1) Weed eradication
- 2) Weed control
- 3) Goat breeding

1) Weed Eradication

- By this I mean an all out assault on a specific weed problem. (Usually hard weeds).
- Use only adult dry stock.
- It is a numbers game - don't try to do too much with too few.
- Target a specific area with the required number of goats.
- I currently have wethers stocked at 40/ha on a gorse eradication programme. This will be reduced going into the winter to match goat numbers with pasture.
- Area to be controlled should be subdivided to allow for rotation if possible.
- Remember goats cannot live on gorse and broom alone - their staple diet is grass - poor conditioned goats will be less effective and will return you less in fibre and meat.

2) Weed Control

- The control of soft weeds and its allied benefit of pasture grooming.
- Can be achieved with wethers and does during their dry summer period.
- Effective control can be achieved by targeting weeds when they are vulnerable as previously mentioned.
- Target an area you can handle. Don't expect say, 100 goats to make a big impression on say 400 acres of thistles.
- As a rule it takes 2 years for control to be achieved. Don't think the job is done after one year, no matter how impressed you are by the results.
- When controlling grass seedhead (topping), start rotating goats around control area prior to seed head formation. A weed controlled mob of goats is as effective as mechanical topping.
- As a rule of thumb 1 goat to the acre will control most soft weed problems and is unlikely to effect stocking rate.

Our basic yearly calendar to control soft weeds and to a lesser degree hard weeds is:

- a) October to December either
 - i) set stock with ewes and lambs, allow plenty of scope
 - ii) rotate behind ewes and lambs
- b) January to March
 - Rotate behind lambs and in front of ewes targeting problem areas
 - Set stock with lambs, but this requires large numbers of goats - better to target specific areas with large numbers for short time.
- c) April to May
 - Peak period for fibre production so feed well.
 - Build up body weight for winter.
- d) May to August
 - Rotate around hard weed areas or difficult gullies.
 - Hay can make up a major portion of diet. Spread hay out as much as possible to get good utilisation, hayracks are undesirable.
 - It is during winter - spring goats compete directly with sheep!!
- e) August to October
 - Provide shelter and quality feed post shearing.
 - As little fibre being produced at this time you can hold goats relatively tight until spring flush is sufficient to free up goats for weed control.

3) Breeding - kid production

- Goats do best on long grass 3-6 inches.
- Emphasis is to get kids on the ground and weaned to maximum weight.
- Requires optimum feeding during autumn and post shearing to ensure high birth rates from a high fertility flock.

- Milking does require good quality feed and will preferentially eat high quality pasture species at this time, e.g. clover. Rotate as soon as kids can be mobilised where possible.
 - Wean kids onto grass dominant pasture and rotate to give maximum growth rates.
 - Autumn liveweights to have a high correlation with future production in both fleece weights and fecundity.
 - Young stock produce the highest fleece value, fine and higher yielding fibre so it is worth looking after them.
 - Health requirements are paramount.
 - Worm control - give plenty when required only.
 - Mineral requirements need looking into. We know goats will show deficiencies before any signs are shown in sheep. Iodine good example.
 - Stock do better in small mobs - never more than 250/mob.
 - Does and kids are well suited to pasture improvement and limited weed control. Will complement rather than compete with sheep during late spring, summer.
- October - set stock kidding mobs 50-100
 - some artificial shelter
- November-December - Goats drenched at same time as lambs 3 weeks prior to lamb weaning moved onto sheep and lamb rotation in front of the sheep, help control pasture boost kidding paddocks shut for silage main concern is to slow down build up of worm eggs on pasture.
- Late January-March - weaning
 - kids rotate in front of ewes and drenched at the same time as lambs
 - does used for weed control in front of ewes

Calendar

April	-	rotate long autumn pasture mobs no larger than 250/mob drenched worms selenium, iodine
May	-	set stock mating
June	-	rotate gullies - 1 week per block - 1½ bales/100 - 2 - grain if dry - avoid stress leading to an abortion
August-September	-	shearing - rotate around kidding paddocks pre kid drench if required

Remember goats do well on longer pasture and will delay seeding of grasses providing excellent lamb pastures.

SUMMARY

Given the right attitudes the integration of goats and sheep can increase overall farm profitability. It is important to define your requirements, are the predominantly weed control or maximising returns from goats.

I believe a balanced mix between the two are achievable. The complimentary roles of sheep and goats during the late Spring Autumn period provides real advantages increasing sheep performance and controlling soft weeds.

It must be stressed the goat industry is still in its infancy but the results being achieved by some farmers integrating sheep and goats is most encouraging.