

Northland Pastoral Extension: Popular Summary

Opportunities for Sheep and Beef Production

Part 2



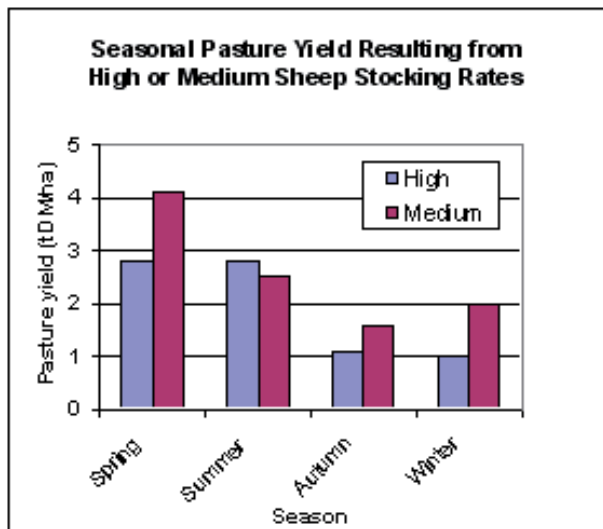
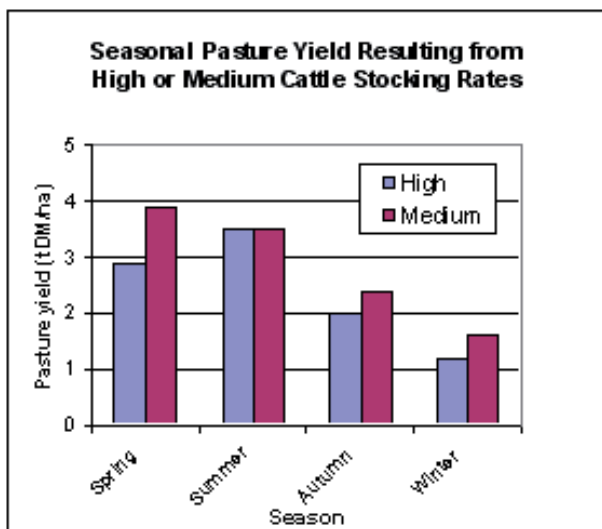
Summary of Key Findings

- Kikuyu and cattle – The right stock for the pastures
- Benefits from twice-yearly shearing
- No effects from trace elements
- Good responses to drenching

Grazing management on Kikuyu-dominant pastures

In the 1970s MAF researcher Garry Gould compared performances of sheep and cattle over five years on a typical Northland kikuyu-dominant pasture on the Dargaville research farm. He found that pasture production under cattle (Angus steers) was 18% mean annual average higher than under sheep (Romney wether hoggets). These animals were grazed at high and medium stocking rates, an 18-day rotation and received no supplements.

Animals were replaced each spring and monthly live weight recorded, along with fleece weights. The advantage to cattle occurred during summer/autumn months when kikuyu growth was active.



Pasture species in the spring was strongly affected by grazing treatment. Sheep grazing resulted in pastures with a higher component of perennial ryegrass and annual poa but less kikuyu compared with cattle grazing. The increase in ryegrass component occurred within the first year. White clover was variable through the years. Stocking rate had a major impact on the kikuyu and ryegrass component, with the higher stocking rate resulting in more kikuyu and less ryegrass (Table 1)

Table 1: Pasture Species (% of pasture) in the final year of the experiment

	Stocking Rate	Pasture Species (%)			
		Ryegrass	Kikuyu	Poa annua	White Clover
Cattle	High	4	24	42	13
	Medium	13	10	45	19
Sheep	High	7	12	57	12
	Medium	22	5	48	13

This experiment demonstrated how the balance of a perennial rye, kikuyu and white clover pasture can be altered by the type and stocking level of grazing animals:

- Cattle grazing encourages kikuyu and reduces ryegrass in pasture
- Very high stocking rates result in more kikuyu and less ryegrass



This change in pasture species gives cattle grazing a comparative advantage during summer and autumn, increasing overall pasture growth by 18% over sheep grazing.

For cattle, the high stocking rate (9 steers/ha) resulted in around 20% less liveweight production per hectare than the medium stocking rate (6 steers/ha). The medium stocking rate generated liveweight gains of 1200 kgLW/ha, demonstrating

high production can be obtained from well managed kikuyu pasture.

In contrast to cattle, sheep stocked at the higher rate produced slightly more than sheep at the medium stocking rate. This demonstrates how sheep grazing can be put more grazing pressure on kikuyu pasture than cattle.

Both species achieved good production from kikuyu pasture, with the ability to adjust stocking rate to suit pasture growth. This trial also highlights the need to time livestock policies to fit both the pasture growth curve and seasonal trends in livestock prices.

To maximise the yield advantage of kikuyu dominant pastures under cattle grazing some management changes, such as later calving, may be appropriate. Stocking rate appeared to have

little effect on pasture growth rates over the summer when kikuyu was actively growing, with the high stocking rate actually increasing pasture growth rates over this period. The greater sheep production/ha under the high stocking rate suggests that sheep may be able to exert greater grazing pressure on the mixed pastures than cattle.

This trial also demonstrates the high production which can be generated on kikuyu pasture with the ability to vary stocking rate through the year. Farmers need to allow for seasonal trends in livestock prices as well as pasture growth when planning their livestock policies.

Changes in shearing

Many Northland farmers have moved toward twice yearly shearing for easier management such as ease of mustering and shepherding, less dagging and crutching, improved control of fly-strike, fewer cast ewes and improved cashflow.

Twice yearly shearing on four Northland farms around the Kaiwaka district showed greater clean wool production, less discolouration but less revenue from wool when compared with annual shearing. There was no effect on ewe survival, reproduction rate or lamb weaning weight.

Each farm randomly allocated 400 ewes into either once-yearly or twice-yearly shearing mobs. Different farms had different shearing times.

Farm	Breed Twice-Yearly	Shearing Treatment	
		Once-Yearly	
1	Coopworth	Feb/Oct	Oct
2	Romney	May/Nov	Nov
3	Coopworth	Oct/Feb	Feb
4	Romney	Dec/Jun	Jun

Breed and shearing time on each farm

Key Points

- All farms showed a significant increase in clean fleece weight in ewes shorn twice per year
- There was no effect on reproduction rate, weaning weight or total ewe deaths over the three years
- There was no impact on ewe survival, lambing percentage or lamb weaning weight
- Colour measurement showed 2/S wools to be brighter and less yellow
- Wools shorn between May and October were brighter and less yellow than wools shorn between November and February
- Wools shorn between October and December were finer than wools shorn between February and June
- Once yearly shearing increases net wool returns compared with twice yearly shearing due to the price of the longer wool
- Average net wool return for the four farms was \$11.57/head
- All the farmers chose to remain with twice yearly shearing because of management advantages
- However with increasing shearing costs and low wool returns some farmers are considering shearing every 8 months to optimise returns.

Other options:

Trace elements are generally not effective as a tool to increase liveweight gains

Many trace element trials have been carried out in Northland since the 1960s, and few trials have indicated a response to trace elements. For further information refer to the *Mineral Responses in Northland* research summary.

Animal health. Drenching for parasite control has been found to consistently increase liveweight gains and wool production regardless of drug and frequency. With the emergence of drench resistance the choice of product, active ingredient and frequency of drenching is more important, but farmers can use a variety of tools to help delay drench resistance.

Results of Anthelmintic Drenching Trial in Sheep 1968

Treatment	Waiuku (March-August)		Whitford (March - August)	
	Weight Gain kg	Wool Weight kg	Weight Gains kg	Wool Weight kg
Control	1.0 B	1.8 B	1.1 B	1.1 B
Thiobenzazole	3.6 A	2.0 A	5.8 A	1.4 A
Pyrentalartrate	3.2 A	2.0 AB	6.3 A	1.4 A
Tetramisole	3.4 A	2.0 A	5.6 A	1.4 A

Means with different letters are significantly different ($p < 0.01$)

This trial confirmed previous findings that drenching produces good liveweight gain and wool production responses. There was no significant difference between drench treatments, although levamisole may be more effective against lungworm.

While drenching did increase animal growth rates, ewe hoggets still only gained liveweight at 25 – 50g/head/day, indicating other factors were affecting growth rates

Subsequent trials have indicated that autumn ill-thrift is often associated with poor quality feed and parasites, while the role of fungal toxins remains unclear.



Compiled by Gareth Baynham, edited by Hugh Stringleman
A project co-ordinated by the Northland Pastoral Farming Development Group.
The complete research stocktake on Opportunities for Sheep and Beef production
in Northland is on the Enterprise Northland website: www.enterprisenorthland.co.nz