



LUCERNE FOR THE 80s

M. Brosnan 1980

Hakataramea Valley.

Paper presented to Farming Beyond The 80s Conference at Lincoln College, 1980

Paper 16: LUCERNE FOR GRAZING – A FARMER'S VIEW

INTRODUCTION

I am not sure it's fashionable to defend lucerne these days so I won't do that. I'll just tell you about my property which revolves around lucerne, and what Lucerne has done for me. The humble lucerne plant took my eye while working around the Maniatoto, especially on the property of the late Jim Patterson of Gimmerburn.

THE PROPERTY

In 1965 I was a young man with a wife, four children, and not much capital, having just sold a small dairy property, (our start off farm) and wanting to become a sheep farmer. So, how to buy a farm with the potential of quick development to give my family and I a comparable standard of living to that of my counterparts in town, where I started from as a boy?

When we bought "Riverside" 570ha on the dry side of the Hakataramea Valley, we gambled on it growing lucerne well, as it didn't grow much else. The property was carrying 1,100 motley Corriedale ewes, had 25 ha of lucerne, and the rest left like a dust bowl, after the ravages of cropping and rabbits. Eighty hectares were in wheat stubble when we took over.

With my low capital and other interests in life, low labour, low cost farming was my aim. I have always felt a farmer should get off the farm quite a lot, or he starts to look like the place – or to put it another way – you run the business, and not let the business run you.

Within five years, 200 ha of lucerne was established which brought the stock numbers up to 3,000. This fast increase in stock numbers induced the moneylenders to allow us to build a new house in our second year. At this stage the lucerne plant had done us proud.

Lucerne sowings have continued to 365 ha (or 64% of the property) today. Stock numbers were not increased much for nine years, as I questioned that the nation deserved the extra productivity, with all its attendant problems of labour, getting stock killed etc. I did concentrate on production per stock unit, though. Our lambing percentage went up from 85% to 110% and wool yields went up from 4,000 to 18,000 kgs. With this large area of lucerne we got a great peak of growth in spring, early summer, which we can't handle with stock, so we cut this peak off by making 10,000 to 25,000 bales of hay, most of which is sold.

There is a conflict within me here, as my basic beliefs are in organic farming, and selling hay does not tie in with this. I would be pleased if anyone here could tell me how to profitably handle this surplus any other way (see 1988 paper in this publication).

Up until a year ago, I worked the farm alone apart from casual labour for hay, contractors and some family help. Last year, my son came home, so we bought another 100 ha, carrying 250 ewes and by next year, 60 ha will be sown down in lucerne and stock will go up to 750 ewes on this dinky little property.¹

MANAGEMENT

"Riverside" has an average rainfall of 457 mm which varies between 178 and 635. Soils are droughty with a moderate amount of stones. The biggest problem, lack of organic matter.

Lucerne is sown in January with a light rate of turnips after a cleaning crop of turnips and tama the previous year. Winter feed consists of turnips and 3-4,000 bales of lucerne hay. Double this amount is kept in case of drought, and sold off from the barn in winter.

¹ Note from 2012: Later we ran the two farms as one with big advantages. Eg wearing the sheep's feet down flat whilst driving all 5000 between farms. Beats hand trimming!

Ewes go out to lamb on the 10th September. Latest method of lambing is to set a few ewes in each paddock where they eat mostly the weeds along the sunny sidelings, as they don't really like green, fast growing lucerne. Once the lucerne growth gets ahead, about tailing time, we box into mobs of about 700 and shut a big area up for hay. On pure, sprayed lucerne stands, red-gut causes deaths round early November. Many good people spent years trying to isolate red-gut in our sheep. I always felt it was just too much of one plant, and that if we lived on a rich mono-diet for a month (even if it was good whisky) we wouldn't feel too good either!

The property now consists of:

- 365 ha lucerne on terraces
- 60 ha grass/clover, dark faces
- 37 ha border dyke irrigation

The rest is unimproved sunny faces subdivided into 12-20 paddocks.

The answer on our place is a balance of feed, being either; cocksfoot/ lucerne mixtures, weed/ lucerne mixtures (barley grass has its uses!), irrigated grass, or top dressed dark faces, which improve rapidly as the fertility of the whole farm improves under lucerne. The ewes will start to die after about 21 days on pure green lucerne. At this stage, they must be shifted. Once the lucerne matures a little, they can go back on. Very few deaths occur with this method. This problem usually only lasts for about two weeks, over the fast growing period in the spring.

Lambs are weaned mid December – approximately 500 go fat to the works then and the rest are fattened on lucerne. No other fattening crops are grown. The ewes are then run in one large mob cleaning up weeds and lucerne stalks after the young sheep.

Mob stocking with rotational grazing, is essential for lucerne health. (We have a stand of lucerne 30 years old, still producing two cuts of hay a year – under dryland conditions). Stock thrift, especially in fine-woolled sheep, has to be watched, though, with these heavy concentrations.

Topping is done on grass if available, but mostly on lucerne, which must be young with no leaf damage.

PROBLEMS

Pests and Diseases

In my opinion, most of these develop as a result of environmental conditions. The blue-green aphid is the only one that has us on the hop in our climate. We have tried, in our area, not to spray and let nature take its course, but the Piramor 50 comes out in some years. There's no question that if the aphids are bad and can't be controlled any other way, spraying pays well, both from the point of view of immediate production and the retarded future growth. (Ref : Mixed herb leys.)

I would never use anything to kill the ladybirds, though sometimes I wonder, as they are so slow to build up. I believe Warren Thomas at DSIR may be working on a super ladybird. Just hope they don't dislike people! I do wonder if three wet growth seasons have favoured this pest, as they tend to leave when the lucerne hardens.

We are moving into mixed herbal leys which, being more natural, manages this problem

Drought

Standing lucerne can carry through from spring to autumn, and still have quite good feed value for ewes. We have a small private irrigation scheme which is now all in grass as lucerne won't last and I feel the cost of trying to keep it there is too great. The scheme helps but as the river gets low in drought years, the water is often not there when we want it. So, it's the dryland lucerne that gets us through. We have never sold or sent stock off the property because of drought.

Weeds

We used to spray every second or third year, often for hay but due to costs, stock health and possible wind blow, we have extended this from three to six years. Grazing management controls a lot of weeds and lambs are shorn in January to combat seed problems.

Stock Health

We are starting to look closely at trace elements, as we take them out of the soil and don't put them back. The pH is about 5.9 and calcium levels are relatively high, and we have not used any lime but may do so.

Selenium and sodium levels are very low in our lucerne and we are looking at the new Selina Super. The more we develop the more we have to watch stock health it seems.

Footrot

This has become a problem in Corriedales as one develops the land. For this reason, we bought 600 Coopworths. Their feet do cope so much better, but we still need some dry seasons to test their performance. We feel that, with this area of Lucerne, we may be able to handle the change of breed even with the dry climate.

Conservation

While this isn't a problem, it's a continuing saga, especially on dryland, and is one of my main interests at this stage. We are custodians of the land for the short span of our life, and have a great responsibility in this field.

We have a Conservation Farm Plan with the Waitaki Catchment Commission which works as well as finance will allow. Conservation fencing, river and creek control, and most importantly shelter planting, are the aims. I'm not convinced that lucerne does much for soil structure on dryland, and wind blow of litter and soil from between plants on sprayed stands also concerns me.

POINTS FOR FUTURE

Soil Structure and Wind Blow

Shelter planting and complementary plants with more fibrous root structure and the introduction of worms where possible, are our aims to improve soil structure and reduce wind blow. On the lower, damper terraces where worms abound, soil structure is not a problem.

I've been lucky enough to have had two periods wandering around Europe and the top of North Africa; all financed by the lucerne plant. On one of these trips, I studied lucerne and looked for other dryland plants to complement it. Wherever I went in the drier countries, lucerne was the dominant fodder plant, and was often grown with two or three tier farming. I came home with two strains of lucerne from Spain, which were top producers there, but they didn't compare favorably with ours. All that exercise did was to strengthen my faith in lucerne generally.

New Lucerne Cultivars

We are now growing Rere and, as yet, aphids have not troubled either cultivar.

Irrigation

The N.Z. Institute of Agricultural Engineering is currently doing an irrigation survey of the Valley, mainly centered on water harvesting. I did a water harvesting study in Australia back in the seventies, and mostly found it was too expensive.

Lucerne has not lasted under irrigation for us, but we're a bit spoilt here with our 20-30 year old dryland stands. New cultivars could be the answer here.

This survey must be of value to the Valley.

Leaf Cutter Bees

We're involved with these bees for lucerne seed production. It would also appear that a viable export market could open up for the bees.

Sheep Breeds

While the Corriedale is the ideal breed for this country in its natural state, under extensive lucerne I feel we must look at the coarser breeds. Life is too short to spend one's time foot rotting sheep.

Protein Extraction

I feel sure that one day we'll be squeezing the protein out mechanically, and using the residue for stock or energy. There must be a way of making this protein acceptable for human consumption and more cheaply than meat. Protein extraction from lucerne was first brought to my notice by the late Dr R. M. Allison of DSIR Lincoln, who presented a paper on it in 1971 at this conference.

Could this not be a way of shortening the processing chain and perhaps trading with our protein hungry Asian neighbors.

CONCLUSION

Lucerne has done everything I have asked of it. We've a 4,000 stock unit property, plus a good income from hay sales that is still able to be run by one man; as my son is finding out! (Though I think he's found time to get to this conference). I'm just the boy around the place and enjoying it.

If the economic climate was more favorable, there would be no problem raising the stock numbers. Apart from our new 100 ha block, we're happy to stay as we are.

Lucerne is a plant that requires a high degree of management.. The balance between stock health and lucerne health is critical. Hence, I've always felt, if you can grow good grass, do so. In my view if drought and light soils are a limiting factor, lucerne is well worth the trouble.

DISCUSSION

Davidson: Why are you using herbicides less frequently now?

Brosnan: I disagree with Mr. Palmer. I think we get higher lucerne production from spraying out the winter annuals, but I have reduced the frequency of spraying, in spite of this to reduce wind blow and improve stock health. Percival: Do you take into account the fact that you sell hay when determining fertilizer use?

Brosnan: Yes, we do but we also think that winter grazing is important in terms of nutrient return.



Mixed Herbal Ley.



Official Website: www.semiaridagriculture.com
E-mail: mike@semiaridagriculture.com