

The Cicerone Project Inc.

PO Box 1593, ARMIDALE 2350
Phone 02 6778 3871, Fax 02 6778 3872

Newsletter Number 5

December 1999

Footrot Trial update

The Cicerone Footrot trail is well under way on our Big Ridge site, with close to 140 sheep in 14 different plots. Each plot contains 5 clean sheep selected from the flock of Sire Evaluation rams over CSIRO station ewes. Each plot also contains an additional 4 or 5 infected sheep from one of six district properties. Thus we can follow the development of the disease in the infected sheep as well as the rate of spread to the clean sheep.

The plots were assessed for clover and medic content and the sheep from each of the infected properties were given a 'good' clover plot and also a plot with low clover content.

Each Friday the sheep are inspected by RLPB rangers and given a footrot score for each claw. Please come along to these mornings, starting at 9.00am, if you want to learn more about the disease.... we will be doing this each Friday through January and February.

To avoid cross contamination between plots everyone wears rubber over boots which are washed in disinfectant between each plot. Even the dog has his feet washed before going into the next plot!

Daily temperature and rainfall readings are taken on site and we have access to all the data from the Chiswick meteorological station.

It is interesting to see the development of the disease in some plots, regression in others and spread occurring to the clean sheep.

One interesting result to emerge, even at this early stage, is the sheep with an 'open' foot conformation, where air can circulate between the claws, are far less likely to come down with footrot score 3 or more. The sheep who have developed footrot with score 3 to 5 have, in most cases, 'closed' conformation where the claws remain so close that air cannot circulate. Now we know there are significant differences, we will look more closely at this conformation idea.

We have already held two successful field days on the site, one for Cicerone members and one for RLPB rangers and vets who came from as far afield as Bombala to inspect the trial and discuss the results to date. We all have high hopes for the DNA work that Brian Cheetham is doing in conjunction with this field trial.

Wool really does grow with trees!

'If you want to grow more wool, then plant some trees' is the message coming from some Armidale research. Investment in windbreak development gives good economic returns on the basis of a more than 30% increase in wool production from New England pastures. This is the finding of Nick Reid (UNE) and David Thompson (CARE) who have just completed a study on the potential for windbreaks to increase agricultural production.

This potential increase in production, along with the ability of windbreaks to mitigate land degradation, has been widely promoted in Australia and overseas. Despite the widespread adoption of windbreak technology in other temperate locations (e.g. the Canterbury Plains, New Zealand), replanting of trees on Northern Tablelands properties has been less than spectacular until recently.

Revegetation in this area has been discouraged by :

- the severe level of dieback in the 1950s and 1970s
- the possibility of more dieback and difficulties in establishing native trees on the Northern Tablelands
- disdain for exotic trees
- scepticism that windbreaks actually provide production benefits
- the lag between windbreak investment and the expected financial return
- economic assessment of windbreak development is limited by the lack of data describing animal production benefits from windbreaks

The purpose of Reid and Thompson's research was to investigate the impacts of young

native windbreaks on sheep production in initially unfertilised native pastures. Most of the treatments were subsequently fertilised and amended with white clover in order to stock the experimental paddocks at commercially acceptable levels. On the basis of sheep production data obtained over two years in a grazing experiment, they modelled the likely economic returns from windbreak development on a hypothetical commercial property, assuming four different levels of production enhancement from windbreak development.

Windbreak effect

At low constant sheep numbers per hectare (2.1-2.2 sheep/ha) on recently amended wiregrass pastures, sheep in the windbreak paddocks finished the year 13% heavier than sheep in amended paddocks without windbreaks. The bodyweight differences through the year translated into a 12% higher stocking rate in the windbreak paddocks. Sheep in the windbreak paddocks also cut 13% more wool.

Increased animal production due to windbreaks was also evident when variable sheep numbers were used. On the basis of

pasture cuts and feed budgets in October 1996, the windbreak paddocks were stocked with 34% more sheep. The stocking rate based on fleece-corrected bodyweights in the windbreak paddocks was 42% higher over the year than the average due to the fact that the sheep in the windbreak paddocks maintained higher bodyweights through the year.

Windbreak sheep cut the same amount of wool per head as sheep in the amended unsheltered treatment (3.2-3.3 kg wool/head). However, the difference in sheep numbers carried meant that the windbreak paddocks cut 32% more wool in 1997 than the amended paddocks without windbreaks (16.5 kg/ha of greasy wool vs 12.5 kg/ha).

It is not yet known if these marked increases in sheep production in sheltered paddocks over a 5-year period are due to:

- reduced stress on animals and less energy expenditure for maintenance or

- increased pasture production caused by soil moisture conservation associated with reduced evapo-transpiration under sheltered conditions.

Whole-farm economic implications of windbreak development

The economic modelling for a hypothetical unsheltered grazing property of 1000 ha showed that investment in cheap (< \$2,000 per ha), north-south oriented windbreaks along subdivisional fence lines was attractive before tax and family expenses, at all except the lowest level (10.5%) of assumed stocking rate increase due to windbreaks. For a 10.5% increase in stocking rate in the sheltered zone, the Internal Rate of Return was a marginal 4.5% for the one-off establishment of 12 ha of windbreaks. In reality, the economic advantage of windbreaks would also depend on the existing level of shelter and topography on particular properties.

Two shelter studies on the Northern Tablelands, at opposite extremes in terms of pasture composition and development, have shown wool production increases of 31% (at 37.5 sheep/ha on sown fertilised pastures in an earlier study) and 32% (at 3.8-5.5 sheep/ha on lightly fertilised native pastures in this study). Investment in windbreak development would thus appear to be justified economically on the basis of increased wool production from New England pastures.

We were saddened to hear of the death of member Robert Pugh. Rob has been a great supporter of The Cicerone Project in his capacity as Agribusiness Development Officer with the Department of State and Regional Development. Our sympathy goes to his two children, his parents and fiancée Karen.

Attention Cattle Producers

New HGP System started 1st December

If your cattle are to be eligible for the EU market, there are new rules and accreditation schemes in force. Have a look at web site www.aqis.gov.au to get specific information or contact your local NSW Ag Beef officers.

Basically you must NOT use hormonal growth promotants on the property or have animals on the property that have been or may have been treated with HGPs. Your farm or feedlot also needs to be accredited

AQUACULTURE..... consider the basics first

According to Dr Rob Woodgate “aquaculture is the next big boom industry, there is an enormous amount of potential”. However he warns that it is vital that you understand the principles first if you are interested in setting up an aquaculture venture. He says it is important to think about the aquaculture pipeline”

Water
Species
Market
Farming System
Farm Design
Construction
Preparation
Stocking
Grow-out
Harvest
Processing
Marketing

Healthy water = healthy fish = healthy production

Good quality water in adequate amounts at reasonable cost and correct choice of species are two vital components

If you want more information please contact Dr Rob Woodgate on 0407 286 426

Taken from *Aquaculture, consider the basics first* by R Woodgate, The Future Farm - Diversifying Farm Business, seminar and workshop proceedings, Armidale May 8 -10 Armidale Showground

GRAZING Turning grass into dollar\$

To turn grass into dollars you either sell the grass to someone else in the form of hay or silage or agistment, or you run the animals yourself ... traditional graziers may find it hard to move into an alternative business when grazing is what they know best.

But what to graze? There are a couple of alternatives to consider if you are looking to diversify fat-tailed sheep for meat and goats.

There are a number of fat tailed sheep species which have developed in South Africa and are suitable to be grown in Australia. The Awassi provides an opportunity for diversification into the Middle East lamb market, the milk market to establish an export oriented sheep dairy industry and for carpet wool to replace current imports of carpet wool. The Middle East Muslim has a preference for fat tailed sheep and a trial consignment of Australian three quarter Awassi lambs has been very well received.

The Damara is another breed which can survive and breed under very poor nutritional conditions. It has a high fertility rate and strong maternal instinct. It is a low maintenance sheep which does not require shearing as it grows hair . It is a useful alternative for areas less suitable wool production.

But if you want to diversify your income from some of your merino flock, consider this..... Fat tailed rams over merino ewes can give you a lamb worth \$40 to go to the Middle East.

For more information check out the Agriculture Western Australia's web pages on www.agric.wa.gov.au/agency/Pubns/

Goats ... is your country suitable? What sorts of goats are there? What disease problems will I have to look out for? What chages will I have to make to fences or yards or my grazing routines? Will my dogs handle goats? Is there a market? Will it make money?

If you are interested in looking at goats, contact the breed societies who all have useful information.

Taken from *Back Creek Boers* by Will Cannington, The Future Farm - Diversifying Farm Business, seminar and workshop proceedings, Armidale May 8 -10 Armidale Showground

The BoardMembers and staff of the Cicerone Project wish you all a safe and happy Christmas and a healthy and prosperous New Year.

The Cicerone Farm

Progress has been made with sub dividing our land into the three farmlets and we have started to remove fence lines we no longer need and put up new fences to divide the land as we want.

A tremendous amount of ‘behind the scenes’ work has gone into this land sub division to ensure we have three equal farmlets where we really will be able to compare the results of three grazing management systems.

Warwick Browne from NSW Land and Water, Nick Rollings from UNE, Peter Vickery formerly with CSIRO and Matt Munro, a UNE student, have all been of great technical help to us, with Jim Scott keeping up our momentum, and Kim Barnet and Les Gallagher always reminding us of the practicalities! We thank you all for your input

The land has been surveyed for Electro Magnetic data which is now stored in the computer. We have also added the data from the Shaeffer soil map of CSIRO, the slopes of the area and the GIS data from the satellite images. All this has given us very useful information so the land can be sub-divided into three equal farmlets. Those of you who came to the Footrot workshop on 13th December would have seen all the coloured maps we had on display, showing how the work had progressed.

And finally , at long last, we are down to the practical end, with fences being removed and the material collected for re-cycling and the new fence lines already on the map..... it is going to be a busy time over the next few weeks.

New Farm Manager

Les Gallagher is our new farm manager taking over from David Wilkinson in November. Les has a wealth of experience in the sheep and cattle industry and we are delighted he is joining our team.

WETHER TRIAL UPDATE

All the teams for this year are on site and will have an even up shearing in January. The main shearing and field day will be held next September. Please remember there will be another intake next year, so start you planning now and don't sell all your wethers! We really need data from New England in that national data base.

Keeping Pastures Productive

by Clare Edwards, Agronomist NSW Agriculture

Keeping pastures productive over the long term is one of the biggest problems facing graziers today and it is made all the more difficult by the variable climate in which we operate. Recent research in Armidale by a team of 13 researchers led by **Jim Scott** from UNE, found that maintaining a productive legume in combination with a fertiliser-responsive deep-rooted perennial grass was the mainstay of a stable and profitable production system.

The trial began in 1994 with a series of paddocks originally sown in 1966 to Australian phalaris and Huia white clover. Adequate fertilizer has been applied since sowing but the plots had been subjected to different grazing pressures over the years leading to different pasture compositions.

The new trial selected three pasture types based on their grazing history and resultant pasture composition. Site one (degraded) had been subjected to continuously high stocking rates in the 1970s, had lost most of the phalaris and was dominated by Eleusine and Danthoinia. Site two (Phalaris) had been intermittently grazed and was now dominated by phalaris but with a little clover. This was left untouched. Site three (Phalaris / White clover) was the same as site two but was oversown with white clover at the commencement of the new trial in autumn 1994. The paddocks in the experiment were all grazed using weaner sheep.

The results showed that the phalaris/ white clover treatment made more efficient use of the rainfall. Whilst nitrates at depth were lower, more nitrogen was produced overall which led to greater vigour in the phalaris and other companion grasses. This more stable botanical composition had less weeds and produced more wool and meat than either the degraded or phalaris dominated pastures. This means a more productive and profitable system with few measured negative impacts.

In summing up the experiment Jim Scott stressed that “graziers must ensure that they maintain the presence of both a productive legume and a deep-rooted nutrient-responsive grass in order to keep their grazing enterprise profitable. The productive legume assisted in maintaining the grass component.

Summary of findings in degraded, phalaris and phalaris/white clover pastures 1994-1997

Measurement	Unit	Degraded	Phalaris	Phalaris/ White clover
Water extracted in 4 wk drought in autumn	mm	28.0	38.0	51.0
Mineral N (40 - 69cm) at Feb 97	ug/N/g soil	1.6	3.1	1.4
Stocking rate	weaners / ha	9.9	14.0	14.8
Liveweight gain	kg/ha/yr	54.5	140.0	222.0
Wool produced	kg/ha/yr	29.7	47.6	68.1
Gross return (\$1/kg live wt, \$6/kg wool)	\$/ha/yr	\$232.70	\$425.60	\$630.50