finalreport

Project code: **SUGR.402/ B.SGS.0402**

Prepared by: **South East Prime Lamb Young Achievers**

Date published: **November 2006**

ISBN: 9781741914467

PUBLISHED BY
Meat & Livestock Australia Limited
Locked Bag 991
NORTH SYDNEY NSW 2059

Economics of Successful Pasture Renovation Techniques

SOUTH EAST PRIME LAMB YOUNG ACHIEVERS

FINAL REPORT

Meat & Livestock Australia

Project: SUGR.402

"Economics of Successful Pasture Renovation Techniques"

Contents:

Project Summary

The South East Prime Lamb Young Achiever's gained the following outcomes from this Pasture Renovations Techniques trial despite the exceptionally dry years in which the trial was conduct having a huge impact on the quality and relevance of the results.

The group learnt a lot about valuing feeds of different qualities, and that a higher quality feed, which is capable of supporting a class of stock with a higher nutritional requirement, should be more highly valued and as such grazed with an appropriate stock class to maximise this. They also concluded that the feed produced out of the normal growing season, for this region that produced in autumn/early winter and summer, should be valued more highly as it negated some of the supplementary feeding requirements undertake at these times of year.

The trial also provided valuable in sight into the affect of different renovation treatments on weed control and the subsequent establishment of the new pasture.

Drought condition in 2006 despite damaging the trial, provided an interesting in sight into the survival of perennial species compared to that of annual species under these extreme conditions in a region prone to waterlogging.

Overall the trial "was valuable for group members looking to renovate pastures and improve productivity".

Project Outline: As pasture renovation is a major cost to a grazing enterprise with an estimated average cost of $309 per ha, the importance of the success of the pasture establishing and persisting is critical in order to gain an economical benefit of pasture renovation.

Through on farm trials the group wished to evaluate different methods of establishing new pastures, assessing the effectiveness of the different varieties, and management techniques and the economics of each option.

Trial Outline:

Year 1. – The aim of year 1 was to implement strategies to control weeds and prepare the paddock for sowing of a permanent pasture in year 2. To achieve this the 16ha paddock was split into 4 sections of 4ha each. In each section a different treatment was trialled.

Section 1. : Control, will remain in current pasture

Section 2.: This will remain in the current pasture and will then be spray topped and have a dryland summer crop sown. The summer crop will be a mixture of rape, chicory, plantain and millet. Sown 27/9/05.

Section 3.: Variety sown will be Winter Star ryegrass, this will be strategically cut for hay as a means of grass seed control and then let go to obtain further grazing. Sown 26/6/05

Section 4.: Feast II ryegrass, this will be grazed continuously as a means of weed seed control. Sown 26/6/05.

Measurements were taken throughout the growing season and costs were recorded. There were field days conducted throughout the season and at the end of the year the data was compiled and presented to the group for discussion.

Activities undertaken included:
YEAR 1.

- Pasture Workshop April 2005, 10 attendees. The aim of this workshop was to gain a better understanding of different pasture varieties, how to successfully renovate pastures, the values of different pasture varieties and mixes and grazing of the pastures. At the end of this activity the group visited the pasture trial site and discussed what renovation techniques they wanted to trial and what pasture varieties they wanted to use both in year 1 and year 2. This workshop had technical support from Tim Prance, Rural Solutions SA.
- Pasture Monitoring Techniques Demonstration October 2005, 8 attendees. This was a monitoring day that was opened up to the group if they wanted to come along and learn how to take pasture cuts, pasture counts, estimate ground cover percentage and some soil characteristics. This workshop had technical support from Tim Prance, Rural Solutions SA.

- In conjunction with the groups end of year wind up, attendees visited the site to see how it was performing and were given a briefing on the trial to date.
- Pasture Field Day May 2006, 12 attendees. The aim of this workshop was to present back to the group the results collated from the site for year 1. The group discussed the results in addition to doing an exercise that saw them identify the feed gaps on their own properties and with the information gleaned in the trial work on ways to improve their grazing systems. This workshop had technical support from Jamie Tidy pasture adviser and Paul Smith agronomist specialising in soils and amendments.

Year 2 – The aim of year 2 (2006) was to successfully establish permanent pastures over the previous years preparation treatments.

- To assess the success and economics of the different pasture preparations treatments
- To evaluate different pasture mixes in their establishment

In order to achieve this the paddock has been split into 4 sections running horizontal to year 1's fence lines, refer to diagrams below.

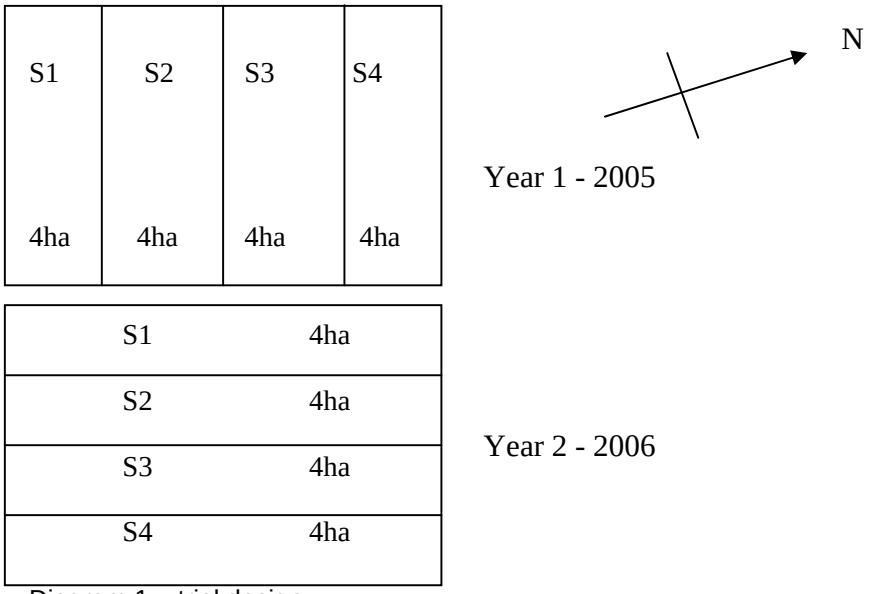


Diagram 1 – trial design

This will ensured that each of the year 2 treatments covered an area of each of the year 1 treatments. Treatments were sown on 20/7/06.

The treatments in 2006 were:
Section 1: Perennial Ryegrass and Subclover
Perennial Ryegrass is an alternative to phalaris, that is used instead of phalaris to prevent the condition know as phalaris staggers. Perennial ryegrass will give winter and spring feed, however will persist throughout summer, and given summer rain will continue to grow. Subclover is an annual legume, as such it will fix nitrogen, clovers are also a high protein source.
Section 2: Fescue, Phalaris, Cocksfoot and Clover (there will be two treatments in this section, one where the mixture is sown at 10kg/ha clover and the other

with clover seed at 4kg/ha, to see if better perennial species establishment will occur at the lighter clover seed rate)
Fescue is a perennial grass selected to fill a winter feed gap. Phalaris and Cocksfoot are also perennial grasses, which gives growth during winter and spring and will still persist into summer giving extended grazing as compared to annuals. Clover is an annual legume, as such it will fix nitrogen, clovers are also a high protein source.
Section 3: Lucerne, Chicory and Plantain. Lucerne is a perennial legume and Chicory a perennial herb so these species will give the length of grazing in the pasture and will persist well through summer rainfall. Plantain is a perennial herb that has strong cold season growth. The use of perennials should also assist in water use during winter as this country has the ability to get waterlogged.
Section 4: Subclover and Balansa Clover, this is the current pasture mixture that is sown on the property and will act as a control.

Results from Year 1.

Number of Grazing Days during the different seasons for each of the paddock preparation treatments in 2005

(DSE/ha for the 8 month period trial has been monitored)

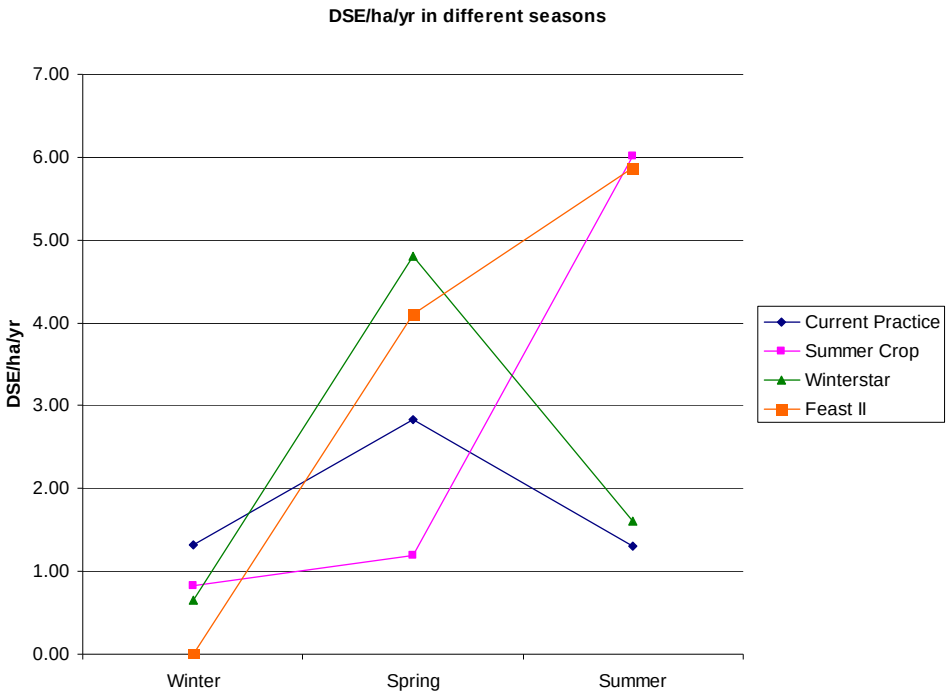
	Winter	Spring	Summer	Total DSE/ha for 8 months	Years DSE Rating
Current Practice	1.98	4.25	1.96	8.18	5.4
Summer Crop	1.24	1.79	9.03	12.06	8.0
Winterstar	0.98	7.21	2.41	10.60	7.1
Feast II	0.00	6.16	8.83	14.99	10.0

Table 1.

NOTE: A grazing value was calculated for the Hay cut in order to compare like values for each crop.

The assumptions made were the pasture utilisation was 30%, and the stock grazing the other plots at the time, dry XB ewes would be also grazing this at a DSE rating of 1.2.

Table 1 shows the total grazing (in DSE/ha) that was achieved for each treatment during the 8 month period that the trial was monitored. It also shows the breakdown of what grazing was achieved in each of the seasons.



Graph 1.

Graph 1 illustrates the grazing DSE/ha at the different seasons of the year for which grazing days were recorded.

The graph highlights the late start to the season with very little grazing during winter.

Feed test results taken throughout the trial for each treatment.

Current Practice			
	MJ/kg DM	Crude Protein	DM Digestibility
18/10/2005	11.5	18.9	71.3
6/01/2006	7.2	8.5	50.4
24/04/2006	8	20.6	54.2
Summer Crop			
	MJ/kg DM	Crude Protein	DM Digestibility
6/01/2006	14.1	16.3	84.1
24/04/2006	12.2	31.8	75.1
Winterstar/Hay			
	MJ/kg DM	Crude Protein	DM Digestibility
18/10/2005	12.5	12.4	76.2
6/01/2006	7.3	7.5	50.7
24/04/2006	6.3	7.7	45.7
Feast II			
	MJ/kg DM	Crude Protein	DM Digestibility
18/10/2005	12.6	20.9	76.7
6/01/2006	8	8.1	54.3
24/04/2006	7.7	8.5	52.8
Sheep Class	Min MJ/kg DM	Min Protein %	DM Digestibility
Dry Mature	5	6	>60
Pregnant (last 4 wks)	11	8	68
Ewe & Lamb	10	10	75
Weaned Lamb	12	10 to 12	68

Table 3.

Table 3 shows the feedtest results for each of the treatments at different times throughout the monitoring of the trial. These can be compared to the Sheep Class table that appears the bottom of the table to determine what class of stock the pastures were capable of supporting during a particular time of the year.

Pasture Cost and Estimated Income

Current Practice

Income (prime lamb per DSE, from benchmarking)

DSE Rating	Income/DSE	Enterprise Cost/DSE	Total Income/ha
5.4	63.3	16.85	250.83

Expenses - pasture

Treatment	Rate		Cost(inc GST)		Total
DAP	110	kg/ha	$ 0.54	$/kg	$ 54.40
Roundup	1	L/ha	$ 8.33	$/L	$ 8.33
Spreading	1	pass	$ 5.00	$/pass	$ 5.00
Spraying	1	pass	$ 10.00	$/pass	$ 10.00
Total Renovation Cost					$ 82.73
Gross Margin/ha					**$ 168.10**

Table 4.

Summer Crop

Income (prime lamb per DSE, from benchmarking)

DSE Rating	Income/DSE	Enterprise Cost/DSE	Total Income/ha
8	63.3	16.85	371.60

Expenses - pasture

Treatment	Rate		Cost(inc GST)		Total
Roundup	1.5	L/ha	8.33	$/L	12.49
MCPA	1	L/ha	11.55	$/L	11.55
Goal	0.1	L/ha	34.00	$/L	3.40
Seed	6	kg/ha	10.24	$/kg	61.44
DAP	80	kg/ha	0.54	$/kg	43.20
Spreading	1	pass	5.00	$/pass	5.00
Spraying	1	pass	10.00	$/pass	10.00
Working Up	1	pass	40.00	$/pass	40.00
Seeding	1	pass	30.00	$/pass	30.00
Total Renovation Cost					217.08
Gross Margin/ha					**154.51**

Table 5.

Winter Star/Hay

Income (prime lamb per DSE, from benchmarking)

DSE Rating	Income/DSE	Enterprise Cost/DSE	Total Income/ha
7.1	63.3	16.85	329.79

Expenses - pasture

Treatment	Rate		Cost(inc GST)		Total
Roundup	1.5	L/ha	8.33	$/L	12.49
Hammer	0.05	L/ha	188.10	$/L	9.40
Di Kamba	0.2	L/ha	38.19	$/L	7.63
Alphmax	0.15	L/ha	11.28	$/L	1.69
Seed	40	kg/ha	3.14	$/kg	125.60
DAP	110	kg/ha	0.54	$/kg	59.40
Urea	75	kg/ha	0.51	$/kg	38.25
Spreading	2	pass	5.00	$/pass	10.00
Spraying	1	pass	10.00	$/pass	10.00
Seeding	1	pass	30.00	$/pass	30.00
Total Renovation Cost					304.48
Gross Margin/ha					**25.31**

Table 6.

Feast II

Income (prime lamb per DSE, from benchmarking)

DSE Rating	Income/DSE	Enterprise Cost/DSE	Total
10	63.3	16.85	464.50

Expenses - pasture

Treatment	Rate		Cost(inc GST)		Total
Roundup	1.5	L/ha	8.33	$/L	12.49
Hammer	0.05	L/ha	188.10	$/L	9.40
Di Kamba	0.2	L/ha	38.19	$/L	7.63
Alphmax	0.15	L/ha	11.28	$/L	1.69
Seed	40	kg/ha	5.45	$/kg	218.00
DAP	110	kg/ha	0.54	$/kg	59.40
Urea	75	kg/ha	0.51	$/kg	38.25
Spreading	2	pass	5.00	$/pass	10.00
Spraying	1	pass	10.00	$/pass	10.00
Seeding	1	pass	30.00	$/pass	30.00
Total Renovation Cost					396.88
Gross Margin/ha					**67.62**

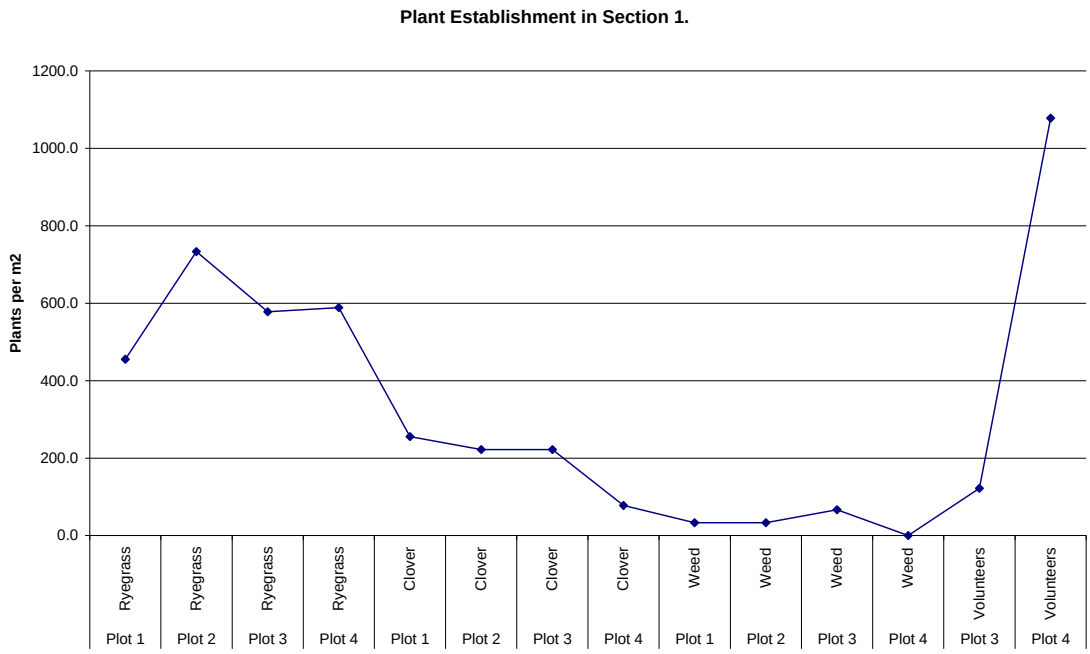
Table 7.

Tables 4, 5, 6, & 7 show the estimate gross margin for each of the treatments. This has not taken into account the required need to supplementary feed stock during summer on some of these treatments, the nutritional value of the feed and valuing out of season feed higher.

Results from Year 2.

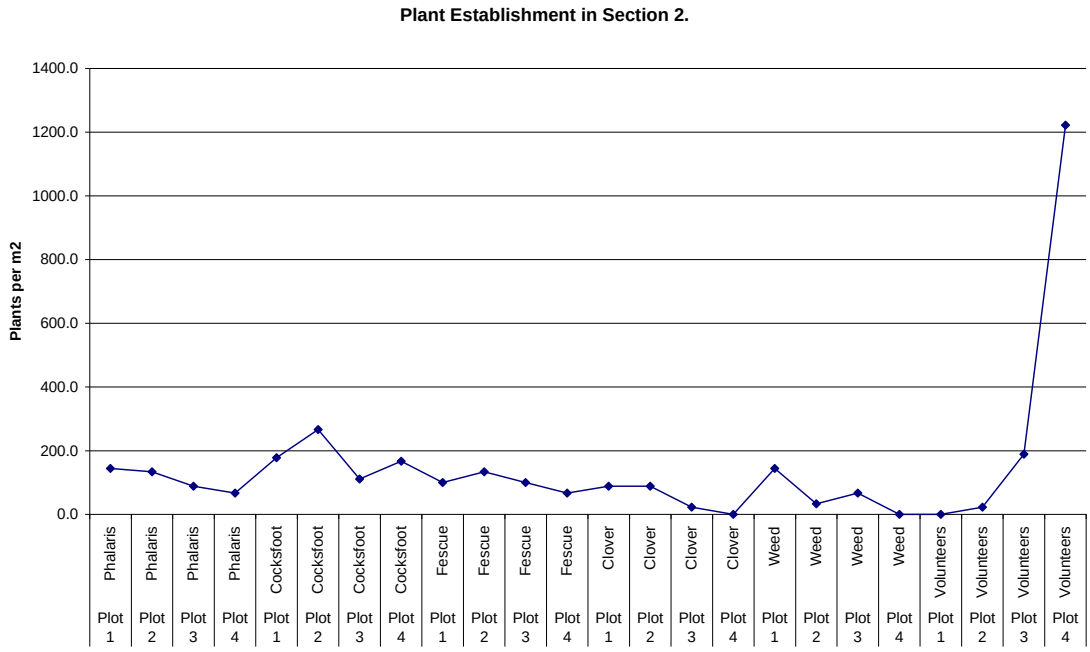
Plant Establishment Counts (taken in September 2006)

Graphs 2 to 5 show the plant establishment counts taken in September 2006 (taken by counting plant number in 1/10th of a m^2, taken three times and averaged for each plot). The plants were very small at this stage and struggling with the dry seasonal conditions, however were still alive (most plants perished shortly after these measurements were taken).
Each graph shows one of the four treatments sown in 2006; it also shows plots 1 to 4 which are the preparation treatments of 2005.



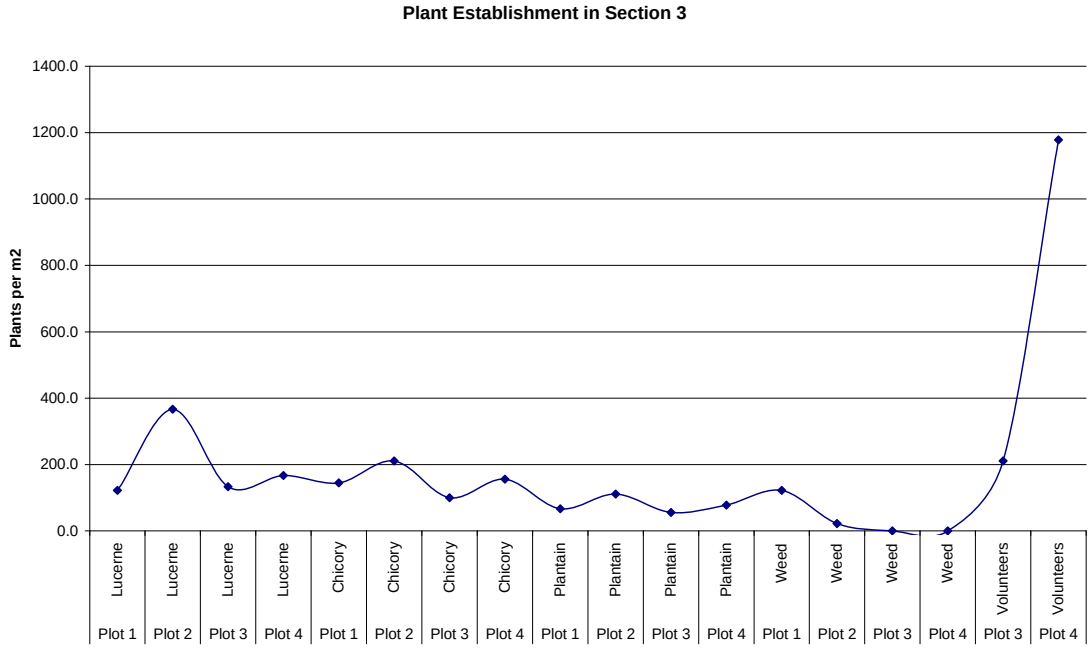
Graph 2

Graph 2 shows that the best perennial ryegrass establishment was in plot 2 (the summer crop treatment), followed by plots 3 and 4 (the ryegrass treatments). Clover establishment was even for plots 1, 2 and 3 and reduced in plot 4. Weed counts were quite low for all treatments. Volunteers however in plot 3 and most significantly in plot 4 were very high. The high number of volunteer ryegrass plants did have a negative impact on the establishment of clover.



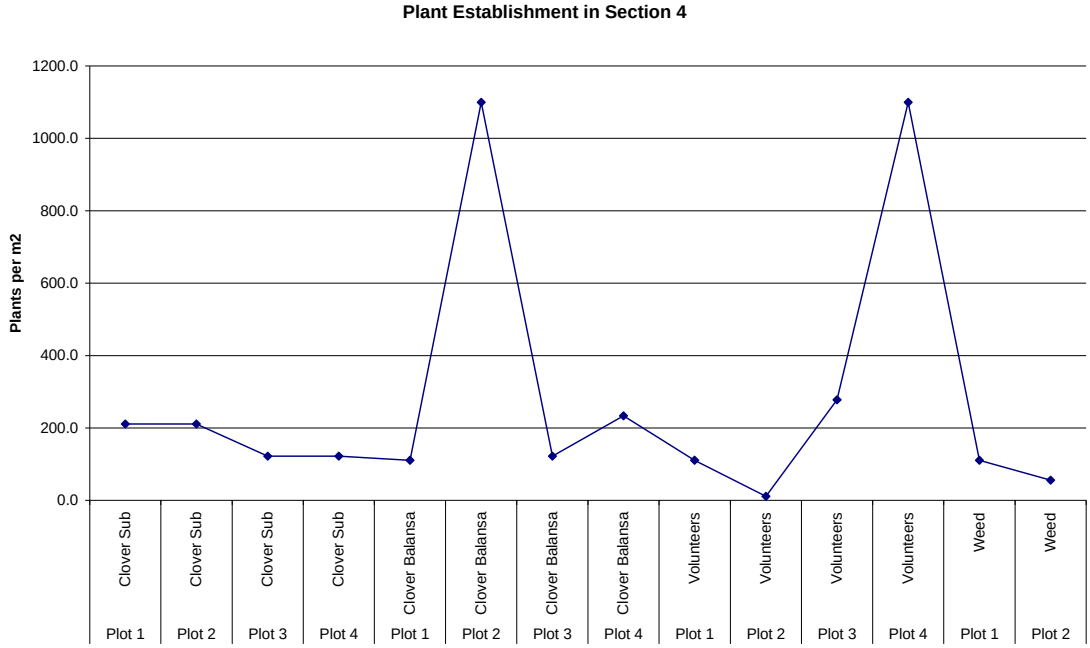
Graph 3

Graph 3 shows that the species sown in 2006 were affected by the previous years treatments. Phalaris established best in plots 1 and 2, with the numbers dropping off in plot 3 and again in plot 4. Cocksfoot established best in plot 2 followed by a drop in plots 1 and 4 and plot 3 had the poorest establishment of cocksfoot. Fescue establishment didn't vary greatly, however the numbers did drop off slightly in plots 3 and 4. The clover established well in plots 1 and 2, dropping off significantly in plot 3 and with no establishment in plot 4. Weed numbers varied with numbers significantly high in plot 1 and still quite high in plot 3. As with section 1 the volunteer numbers in plot 4 where very high, appearing to impact on the establishment of the 2006 sowing.



Graph 4

Graph 4 shows that all the species sown in 2006 did establish in all plots however the numbers did vary between the plots. Plot 2 had the highest plant establishment, with plot 3 the lowest plant establishment. As with all other sections the volunteers were very high in plot 3 and exceptionally high in plot 4. As with section 2, plot 1 in section 3 had the highest weed numbers.



Graph 5

Graph 5 shows similar establishment of sub clover across treatments, although slightly lower in plots 3 and 4. Balansa clover established well in plot 2. Plot 4 was slightly higher than plot 1 and 3. Volunteers were again high in plot 3 and very high in plot 4. Weed numbers were up again in plot 1, plot 2 also had a few weeds although half that of plot 1.

Plant Establishment (taken 9th January 2007)

Section 1.	Observation
Plot 1	An occasional green perennial ryegrass plant ~1/m2
Plot 2	Occasional green perennial ryegrass plant ~2-3/m2. Regenerated plantain and chicory also present in small numbers.
Plot 3	Nil plants survived from sowing. There is slightly more litter/ground cover in this plot than plots 1&2.
Plot 4	Nil plants survived from sowing. Slightly more litter/ground cover in this plot than plots 1&2.
Section 2.	
Plot 1	An occasional green fescue and cocksfoot plant ~3/m2
Plot 2	An occasional green fescue and cocksfoot plant ~2-3/m2. Regenerated plantain and chicory also present in small numbers.
Plot 3	Nil plants survived from sowing. There is slightly more litter/ground cover in this plot than plots 1&2.
Plot 4	Nil plants survived from sowing. Slightly more litter/ground cover in this plot than plots 1&2.
Section 3.	
Plot 1	Good plant survival and establishment, with lucerne, chicory and plantain all present. Plant count is 266 plants/m2.
Plot 2	Some plant survival, with very small lucerne, chicory and plantain plants present. Plant count is 30 plants/m2. Without good rains the survival of these plants is unlikely.
Plot 3	Some plant survival, with very small lucerne, chicory and plantain plants present. Plant count is 28 plants/m2. Without good rains the survival of these plants is unlikely. There is slightly more litter/cover in this plot than plots 1&2.
Plot 4	Nil plants survived from sowing. There is slightly more litter/cover in this plot than plots 1&2.
Section 4.	
Plot 1	Nil plants survived from sowing.
Plot 2	Nil plants survived from sowing. Some regenerated chicory and plantain plants.
Plot 3	Nil plants survived from sowing. There is slightly more litter/cover in this plot than plots 1&2.
Plot 4	Nil plants survived from sowing. There is slightly more litter/cover in this plot than plots 1&2.

Table 8

Table 8 shows the notes taken on plant establishment in early January 2007. With no real significant rainfall recorded in October, November and December, the in growing season rainfall total (April to November) being ~160mm, most of the plants died. While a few plants did survive in some plots, with the exception of plot 1 in section 3, the numbers are not high enough to negate the need to resow the plots in 2007. The exceptional plot is plot 1 (2005 control) section 3 (sown to lucerne, chicory and plantain in 2006). The reason for this survival is likely to be a combination of plot 1 storing more water over summer as it had been spray topped and that lucerne, chicory and plantain (which are deep rooted perennials) are more ideally suited than the other species sown in 2006 to drought conditions. While there was some plant survival in plots 2 and 3 of section 3 also the plants were very small and almost dead.

The litter cover in plots 3 and 4 was better than that of plots 1 and 2. Erosion is not considered a problem in this area, however the drought conditions has meant that wind erosion is a potential problem in some paddocks. To reduce cover in plots 1 and 2 does make this paddock a potential wind erosion risk. To reduce the chances of this occurring very little grazing has occurred and none since the last observations were taken in January 2007.

Discussion

2005 Results

Whilst the 2005 year was exceptional in that the break in the season was unusually very late and a lower rainfall was received than average, so interesting results and group discussion resulted.

The grazing results of the trial showed that the current practice were the least productive followed by Winterstar (cut for hay). The best grazing was produced by Feast II followed by the summer crop.
The results also showed that the bulk of grazing varied depending on the treatment, with the major grazing of Feast II and the summer crop occurring in the summer. The group discussed the importance of feed produced out of season and agreed this feed was more valuable than that produced during spring as it may negate the need to supplementary feed during these times.
The quality of feed also varied greatly between treatments. This was another point the group discussed and concluded that feeds that were capable of supporting a high stock class (ie are higher nutritional value) should be valued more highly.

The gross margins calculated on the results of the first year showed that all treatments returned a positive gross margin, whilst the current treatment followed by the summer crop had the greatest returns, with Feast II followed by Winterstar the least.
On discussion the group felt that this did not accurately value the out of season feed and quality of feed produced, and if this had been taken into account than the three treatments would have performed better as compared to the control particularly the summer crop.

It is important to note that year 1's results focused on production from each trial with the overall aim of the trial to successfully control weeds and establish new pastures in 2006 to determine the effectiveness of each of the paddock preparation techniques.

2006 Results

The aim of the second year of the trial (2006) was to successfully establish permanent pastures. To then assess the success and economics of the different paddock preparation treatments, and evaluate the suitability of the different pasture mixes and species sown in 2006.

The ability to achieve this aim was hampered by, on the back of a poor year in 2005, a drought in 2006 in which the region received its lowest rainfall on record. Due to this many of the measurements could not be taken. There was however some data taken and results recorded.

Section 3 of the trial which was sown to lucerne, chicory and plantain was the most resilient pasture sown mixture to drought conditions, in contrast to the clovers that none of the species used managed to survive.

In the drought conditions the preparation treatment of plot 1 was the most effective, likely to be due to this being spray topped during spring 2005 so would have conserved soil moisture over summer.
The best weed control was achieved by paddock preparation treatments 4 (continuously grazed Feast II) and 2 (Summer Crop). The worst weed control was by treatment 1 (the control, spray topped in spring) and 3 (Winterstar cut for hay).

The issue of volunteers was a large one in plot 3 (Winterstar cut for hay) and plot 4 (Feast II continuously grazed). This appears to have affected establishment of the pasture species sown in 2006, particularly the clovers. Volunteers that came up in plot 2 were considered desirable as they were sporadic and small and did not appear to have an impact on germination.

Conclusions

If looking at establishment of pastures in dryer conditions the most favourable response from this trial was that of the current practice of spray topping in the previous spring, conserving soil moisture over summer and then direct drilling into the paddock in the establishment year.
However in wetter (average/normal) years, this may not be the case, when having conserved soil moisture maybe detrimental as waterlogging then becomes a potentially bigger issue. In this case the theory would be that the paddock preparation treatments that utilised the greatest amount of soil moisture would provide an environment that would be better able to store more water in the soil profile before waterlogging becomes an issue.

In order to most successfully control weed problems this trial showed the most effective treatment were continuously grazing Feast II ryegrass over summer, however it is important to note that the volunteers that germinated in 2006 impacted negatively on the establishment of the permanent pasture sown in that year. The other very effective treatment shown in this trial was the summer crop.

From economics point of view the control and summer crop provided the best returns in this trial.

Reflections of Producers Involved

Why being a part of the SEPLYA's pasture establishment trial was beneficial for me.

This trial was of great benefit to me, as it let me see how different paddock preparations influenced plant germination and persistence in my soil type. Also, it exposed me to using various plant species, which I would probably not have tried to use otherwise. And having used these species, with (I think) great success, I will definitely use them in the future.

In particular the use of Italian Rye's to improve winter pasture availability and summer crops to help fill in the summer feed shortfall. Also the use of perennials in pasture mixes, which help to make use of out of season summer rains.

Having seen trials on a smaller scale in the past, and on other's properties. I realise this trial was useful, as it was on more of a commercial scale (4ha/plot) and being on my property increased its relevance for me.

Most of all, the trial gave me the confidence to go out and trial a few of these new pasture species and establishment methods on my own.

Chris Rowe,
Trial Site Owner.

Reflections of producers involved:
"From viewing all the pastures it has given me an in sight into some of the things that I am already doing and some things I would like to take and incorporate into my own farm."

"I felt it was valuable for group members looking to renovate pastures and improve productivity"

"The results from the feed test taken gave me a better understanding of feed values that different pastures had and how this is important in balancing stock nutrition."

"It gave me a better understanding of how different species establish and persist."

"Seeing the results of the trial has inspired me to conduct trials on my own property."

"As a result of the trial I have changed some of the management practices I was going to undertake."

"It was good to see the four different renovation methods side by side and to assess the affect on the weed population and the different establishment rates of the pastures"

"I was interested in how the different perennial species performed on that soil type and to also compare the productivity/presistance of the annuals vs the perennials"

Acknowledgements

The South East Prime Lamb Young Achievers (SEPLYA's) would like to acknowledge the support of Meat & Livestock Australia, both in supporting this project with funding and with the understanding displayed regarding the two very poor seasons that occurred during the running of this trial.

Thanks to Chris Rowe who provided an immense amount of support for the trial, in providing his land, his labour and half of the inputs at his own cost, his generosity for the benefit of the groups learning is gratefully appreciated.

Thanks to the companies who provided support to the trial:

- Gallagher for generously donating the solar electric fence equipment for the duration of the trial
- Naracoorte Agricultural Services for their technical support on the soil aspect of the trial
- Naracoorte Seeds for their technical and extension support on the pasture aspect of the trial
- Solly Business Services who supplied coordinators and extension support staff during the running of the trial.
- Craig Altmann for pasture assistance during the initial phases of the project

To the extension staff who conducted training throughout the trial. Tim Prance, Rural Solutions SA and San Jolly, Productive Nutrition we thankyou as well.

Finally, thankyou to the SEPLYA's group members for their support, assistance and enthusiasm throughout the trial.

Photos of Trial

SEPLYA's Pasture Trial

INITIAL PHOTOS

Wednesday 13th April 2005

POST SOWING AND PRE-GRAZING
(after this the two current pasture plots were grazed, the two sown ones left ungrazed)

July 26th 2005

Plot 1. - 1300kgDM (Control)

Plot 2. - 1300kgDM (Summer Crop)

SEPLYA's Pasture Trial Continued

Plot 3. (Winter Star Ryegrass, cut for hay)



Plot 4. (Feast II Ryegrass, continuously grazed)



GRAZING STARTED

August 12th 2005

Plot 1. - 1100kgDM (Control)



Plot 2. - 900kgDM (sprayed out 26th Aug) (Summer Crop)


SEPLYA's Pasture Trial Continued

Plot 3. (Winter Star ryegrass, cut for hay)



Plot 4. (Feast II Ryegrass, continuously grazed)



GRAZING

September 22nd 2005

Plot 1. - 750kgDM (Control)



Plot 2. - (sprayed out 26th Aug) (Summer Crop)


SEPLYA's Pasture Trial Continued

Plot 3. - 1800kgDM (Winter Star Ryegrass, cut for hay)



Plot 4. - 1000kgDM (Feast II Ryegrass, continuously grazed)



GRAZING

January 7th 2006

Plot 1. – kgDM (Control)


Plot 2. – kgDM (Summer Crop)


SEPLYA's Pasture Trial Continued

Plot 3. – kgDM (Winter Star Ryegrass, cut for hay)

Plot 4. – kgDM (Feast II Ryegrass, continuously grazed)

GRAZING

March 10th 2006

Plot 1. (Control)

Plot 2. (Summer Crop)

SEPLYA's Pasture Trial Continued

Plot 3. (Winter Star Ryegrass, cut for hay)

Plot 4. (Feast II Ryegrass, continuously grazed)

September 27th 2006 (Perennial Ryegrass & Subclover)

Left:
Section 1.
Plot 1.

Right:
Section 1.
Plot 2.

Left:
Section 1.
Plot 3.

Right:
Section 1.
Plot 4.

SEPLYA's Pasture Trial Continued

(Fescue, Phalaris, Cocksfoot & Clover)

Left:
Section 2.
Plot 1.

Right:
Section 2.
Plot 2.

Left:
Section 2.
Plot 3.

Right:
Section 2.
Plot 4.

(Lucerne, Chicory & Plantain)

Left:
Section 3.
Plot 1.

Right:
Section 3.
Plot 2.

Left:
Section 3.
Plot 3.

Right:
Section 3.
Plot 4.

SEPLYA's Pasture Trial Continued

(Subclover & Balansa Clover)

Left:
Section 4.
Plot 1.

Right:
Section 4.
Plot 2.

Left:
Section 4.
Plot 3.

Right:
Section 4.
Plot 4.

January 9th 2007
(Perennial Ryegrass & Subclover)

Left:
Section 1.
Plot 1.

Right:
Section 1.
Plot 2.

Left:
Section 1.
Plot 3.

Right:
Section 1.
Plot 4.

SEPLYA's Pasture Trial Continued

(Fescue, Phalaris, Cooksfoot & Clover)

Left:
Section 2.
Plot 1.

Right:
Section 2.
Plot 2.

Left:
Section 2.
Plot 3.

Right:
Section 2.
Plot 4.

(Lucerne, Chicory & Plantain)

Left:
Section 3.
Plot 1.

Right:
Section 3.
Plot 2.

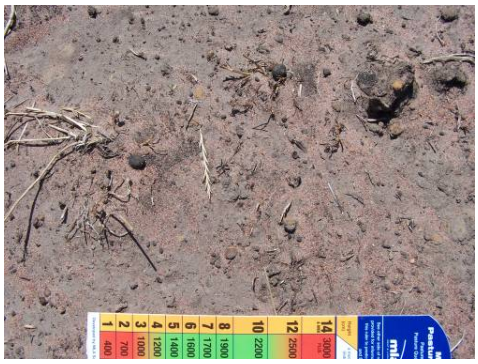
Left:
Section 3.
Plot 3.

Right:
Section 3.
Plot 4.

SEPLYA's Pasture Trial Continued

(Subclover & Balansa Clover)

Left:
Section 4.
Plot 1.



Right:
Section 4.
Plot 2.

Left:
Section 4.
Plot 3.

Right:
Section 4.
Plot 4.

Workshops and Field Days

Pasture planning, management and variety assessment workshop
Wednesday 13th April 2005

Program Outline:

- Pasture Renovation Planning
- Prior Paddock Management
- Species Selection
- Weed and Pest Control – pre and post sowing
- Successful Sowing of Pasture
- Initial and Subsequent Grazing of Pasture
- Pasture Varieties and Recommendations

We were fortunate to have been joined by Tim Prance, Senior Consultant for Rural Solutions SA and Craig Altmann, Agronomist/Sales South East Seeds for a day where we focused on pasture renovation and pasture varieties.
The presentation of information was very interactive with the group leading a lot of the discussion, enabling the information to be relevant to each member's own situation. It also gave the ability for the participants to share knowledge on successes and failures whilst still having the technical information support from both Tim and Craig. The topics covered were pasture renovation planning, prior paddock management, species selection, weed and pest control, successful sowing techniques and initial and subsequent grazing. We also went out and inspected the pasture renovation trial site, planned the lay out of the trial and discussed the trial design.
Participants come away with new ideas to try, with a few of the participants changing their pasture renovation plans for this year to implement some of the ideas that came out of the workshop particularly in the area of prior paddock management.

Pasture Renovation Techniques and Pasture Varieties Field Day
Tuesday 18th October 2005

Program Outline:

Practial demonstration of a range of pasture health assessment techniques including:

- Pasture species counts & determining proportion of productive species
- Evaluation of percentage ground cover
- Pasture sampling for feed tests
- Determining the amount of litter
- Soil surface penetration

The field day also included a discussion about the different pasture grazing techniques, the advantages and disadvantages of the methods.

Participants to the pasture renovation techniques and pasture varieties field day were provided with a practical demonstration of pasture assessment techniques that they are able to take home and use on their own properties. Participants were actively involved in taking and calculating all of the measurements.
The event also provided a great opportunity for the group to discuss different pasture grazing techniques and the advantages and disadvantages of each of these methods. There was also the opportunity to ask questions of the guest agronomists and pasture experts present at the event.

Inspection of pasture trial site
Thursday 8th December 2005

Program Outline:

In addition to the inspection of the pasture trial site and discussion of progress to date the afternoon included a trip to some trials on summer forages. These trials were looking at different varieties, species and include Gaucho (seed treatment with a residual for red legged earthmite) treatment trials.

This afternoon provided participant to inspect the progress of the pasture trial, discuss the results to date and what will be happening to the trail over the next 12 months. In addition the group had the opportunity to visit another trial site on summer forages that was focusing on different varieties and species. The trial also include plots in which the seed sown had been treated with Gaucho. This was of great interest to the group as some of the plots are showing up to a 25% difference at this stage, so there will be a lot to see and take in.

Pasture Renovation Techniques and Pasture Varieties Field Day
Tuesday 2nd May 2006

Program Outline:

- Presentation of results of last years paddock preparation techniques and an evaluation of the performance of the different pasture varieties
- Discussion on the significance of the results and a practical discussion on how to put these results into practice on participants own properties
- Participants will do an exercise in which they will plan for paddock renovation on their own properties

The feedback session for the 2005 results gave the group involved a chance to discuss how the results could be incorporated into their own enterprises, how it could be made better and a chance to discuss with others in the group their individual pasture mixes and how they will make changes to this to improve the productivity of their systems. The session was a success and developed a great deal of interest from those involved to see what results we get from the trial this year.

Pasture Field Trip
Tuesday 12th September 2006

Program Outline

- Presentation from Andrew Craig, Senior Research Scientist SARDI on the current pasture research and new varieties available in the short term.
- Inspection of trial sites that include pasture species, lucerne, chicory, plantain, cooksfoot, phalaris, fescue, perennial ryegrass and clovers
- Inspection of the Pasture Trial Site
- Interactive presentation on fencing equipment from Gallager/Ruddweigh

One of the most important parts of the livestock production system is having food for the livestock, the cheapest form of which is dryland pastures. Despite less than favourable conditions for many this year a group of SEPLYA's and Young Beef Group members spent half of a day learning and looking at pastures on the 12th September. To start the day the group heard from Andy Craig, pasture Senior Research Scientist, SARDI. The group was given a background in where SARDI are currently focusing their research in the area of plant breeding/selection and what new products they could expect to see in the short and long term. The information gave a great background for the rest of the days activities. The first property the group visited was Nathan Craig's at Apsley where the group looked at trials in conjunction with Naracoorte Seeds on summer active species including, chicory, lucerne and plantain that despite the lack of rain through winter were establishing well. The group also took the opportunity to look over the recently constructed containment feeding area, one of the strategies on the property to manage the stock through the dry conditions.
From here the group travelled to the SEPLYA's Pasture Renovation trial site, which is concentrating on establishing permanent pastures. There are 4 different pasture mixes that have been used, with each of these crossing over the paddock preparation treatments from the previous year. One of the obvious things when inspecting the site was the affect on the previous year's treatment on weed control, there where some marked differences, these differences also appear to be having an affect on the establishment of the permanent pastures.
The group also had the opportunity to hear from and ask questions of Gallagher representatives Girard Williams and Mark Bennett, who had kindly donated the electric fencing power unit required for the pasture renovation trial.

Beef and Lamb Nutrition Workshops
17th & 18th October 2006

Program Outline

- Finishing weaners
- Feeding strategies for dry conditions and summer
- Sheep nutritional requirements
- Complimentary feeding strategies
- Understanding your feed test results and using this information to design feeding strategies
- Ask your questions

Livestock nutrition is always a very valuable topic to have an understanding of but in light of the seasonal conditions this year the knowledge the SEPLYA's and Young Beef Group had access to in the one day workshops on sheep and beef nutrition was extremely valuable in planning for the rest of the season. The two workshops were run on the 19th and 20th of October. The first workshop focused on sheep nutrition, the second on beef nutrition. San Jolly from Productive Nutrition provided the group with a great deal of information starting with a understanding of the fundamentals of nutrition, then building on this to cover, nutrition and reproduction, weaner management, body condition scoring, nutritional requirements vs availability, complementary feeding, understanding feedtest results and using these to determine livestock feeding requirements, feedlotting and much more. The interactive style of the workshop allowed participants to ask questions relevant to their own businesses. A great deal of learning was had by all, with everyone coming away with ideas and new skills to implement into their business.

Appendix 1. – Handout material

Handout material from:

- Pasture Workshop on the 13th April 2005
- Pasture Field Day on 18th October 2005
- Pasture Field Day on the 2nd May 2006
- Pasture Field Day on 12th September 2006
- Nutrition Workshop on the 18th & 19th October 2006

Appendix 2. – Media Article