



**Monaro Farming Systems
2012 Annual General Meeting
18th Sept 2012**

Reports and Meeting Papers

Table of Contents

AGENDA	3
CHAIRMANS REPORT – Oliver Cay	4
FINANCIAL REPORT – Chris Blencowe	5
PROJECT REPORTS	
MFS Project 08-1- Grass Gro	8
MFS Project 10-5 - Perennial Pasture Trials (Legumes – their place on the Monaro)	11
MFS Project 10-6 – Genetic Comparison Evaluation Trial (Wether trial)	19
MFS Project 10-7 - Soil Club – Soil Fertility / Nutrient Management	20
MFS Project 11-9 - Building Resilience within the Family Farm Business	24
CSIRO / MFS Project Support 10-8 – Dual-purpose cropping project	25
MFS Project 11-10 - MFS Agricultural Traineeships initiative	28
MFS Project 12 – 11 Action on Ground - Soil Carbon Project	29
PROJECTS PENDING	
Woolworths / Landcare Australia – Soil Fertility	31
MFS EVENTS SUMMARY	31
SPONSORS PAGE	32



Photo courtesy of Hazealdeen, Litchfield

Agenda

“Knockalong”, Delegate, Sept 18th 2012

Program: *AGM and Wool Marketing & Genetics Field Day*

Presenters: *Doug Alcock & Phil Graham (NSW DPI) – Impact of Bloodline on Business Profit*
Rowan Woods (Jemalong Wool) – Minimising Risk
Robert Hermann (Ag Concepts) – Wool market opportunities
Tony Benson (Wool Trade & Auctions Plus) – Exploring market opportunities

8.00am – 10.45am	mid-side sampling
10.45am – 11.45am	MFS Board Directors Meeting
11.45am – 12.30pm	Monaro Farming Systems AGM, including reports
12.30pm – 1.00pm	Lunch
1.00pm – 2.00pm	<i>Minimising risk, exploring wool marketing alternatives & opportunities</i> Rowan Woods (Jemalong Wool) Robert Hermann (Ag Concepts) Tony Benson (Wool Trade & Auctions Plus)
2.00pm – 3.00pm	<i>Impact of bloodlines on business profitability, linking objective measurement with sire evaluation</i> Phil Graham, Doug Alcock (NSW DPI)
3.00pm – 4.00pm	Subjective ranking of teams by participants
4.00pm	Finish

Chairman's Report – Oliver Cay

2011/12 has seen MFS continue to consolidate by securing significant project funding, maintaining and increasing sponsorship and sustaining member numbers. There has been a gradual shift, initiated by the original Board, to move away from a focus on key speaker events and more towards designing field days around local trials ie. soil club, genetic evaluation wether trial etc.

Lisa Phillips leaves us this year after 3 years of committed support to MFS, including a concerted effort working with our sponsors. Thankyou Lisa for your time and insightful perspective over the last three years. We again acknowledge and sincerely thank our sponsors which include Incitec Pivot (Gold sponsor), NAB (Gold sponsor), Gordon Litchfield Wool (Bronze), Commonwealth Bank (Bronze), LambPro (Bronze), Jemalong Wool (Bronze), Virbac (Bronze) and Telstra Country Wide (teleconference support).

We welcome “Kydra Transport” as a new bronze sponsor for 2011/2012 as well as RB Sellars who kindly donated \$1300 worth of clothing for our trainees, Jake and Daniel. We also thank Boyce who continue to provide meeting and training rooms when needed in Cooma and help with financial and tax matters.

Thank you once again to all our Board members who volunteer their time and efforts consistently throughout the year both “in and behind the scenes”.

Ron Horton continues to lead the Soils Club Project, Alan McGufficke is competently managing the genetic evaluation trial, Lisa managed Sponsorship and Phil Graham, Chris Blencowe and Mike Stephens continually lend their professional expertise and considerable experience to all MFS discussions and activities. MFS also thanks Richard Simpson (CSIRO) who gives numerous hours every year to work with the MFS Soil Club and I think all would agree his analysis of the Monaro soil test results is an invaluable asset to MFS members.

Craig Mitchell has led the highly successful pilot “traineeship” program this year which is helping to address the labour force age structure issue in farm employment. Statistics show the number of farmers is declining over time, falling from 246,000 in 1996–97 to 192,600 in 2010–11.

In 2010-11, the median age of farmers was 53, compared to 39 for all employed persons. Seven out of ten (71%) farmers were 45 or over compared to four out of ten (39%) employed persons. MFS can help to address the ever increasing average age of farmers by continuing to support the MFS trainees. The program has gathered enough momentum to run again in 2013 thanks to Craig and Charlie Maslin for their coordination and all the MFS host employers who have helped train Jake and Daniel this year.

MFS also looks forward to the roll-out of the Soil Carbon project funded through DAFF, over the next three years. After much consultation with other stakeholders, MFS has a robust plan to look at any links between enterprise management / land use and changes in soil carbon levels. The project has been designed to gather and analyse information which will be able to help inform members when considering any potential future carbon farming opportunities.

MFS is again lucky to have Susan Orgill (NSW DPI) on-board with this project who is at the fore-front of soil carbon sequestration research both on the Monaro and NSW. Her work in this area will keep MFS linked in with National and Global Soil Carbon Research findings and the latest carbon farming initiatives.

Last but not least, thanks again to all MFS members who continue to support this organization and see the long-term benefits it can provide and to Nancy for continuing to coordinate MFS and its activities.

Oliver Cay

Financial Report – Chris Blencowe

Standard Profit & Loss – July 2011 to June 2012

June 2011			NOTES
	Income		
53500	Government Grants	116,507.00	1
20,000	SRCMA Project Officer Support	25,000.00	
17,698	Membership	18,585.45	
27487.43	Other Industry Grants	4,643.79	2
2727	Carbon Forum Registrations 2011		
8,000	Sponsorship	12,909.09	3
	Wool sales	6,566.90	4
392.00	4-0400 · Reimbursed Expenses	2,710.00	5
131,580	Total Income	186,922.23	
	Expense		
1,714	Advertising	3,232.23	
1,112	Board Meetings (Teleconference)	883.95	
7,952	Catering	1,209.11	
	Charitable Donation	1,000.00	6
18,446	Contract Work	87,407.69	7
10,491	Materials / Capital Items	4,458.91	8
	Office Operating Costs		
763	Internet	572.30	
1,356	Phone	1,405.34	
292	Postage	516.69	
426	Stationery	356.55	
	Office Operating Costs - Other	188.73	
2,837.00	Total Office Operating Costs	3,039.61	
720.00	Office rent	912.00	
177.08	Sundry	224.54	
912.28	Training	4,704.44	9
4,221.20	Travel, Accommodation & Meals	6,348.54	10
25,964.51	wages	33,465.68	
74,547.35	Total Expense	146,886.70	
57,032.53	Net Income	40,035.53	

Balance Sheet – July 2011 to June 2012

June 30, 2011

	ASSETS	
	Current Assets	
	Chequing/Savings	
30,548.29	Monaro Farming System-FarmReady	0.00
	Action on Ground Project	64,295.00
<u>93,618.14</u>	Monaro Farming Systems Inc	<u>92,461.85</u>
<u>124,166.43</u>	Total Chequing/Savings	<u>156,756.85</u>
124,166.43	Total Current Assets	156,756.85
	Fixed Assets	
	Computer	<u>1,375.63</u>
<u>124,166.43</u>	Total Fixed Assets	<u>1,375.63</u>
	TOTAL ASSETS	<u>158,132.48</u>
	LIABILITIES	
	Current Liabilities	
	Other Current Liabilities	
<u>3,762.95</u>	25500 · GST Payable	<u>-2,306.43</u>
<u>3,762.95</u>	Total Other Current Liabilities	<u>-2,306.43</u>
3,762.95	Total Current Liabilities	<u>-2,306.43</u>
<u>120,403.48</u>	TOTAL LIABILITIES	<u>-2,306.43</u>
	NET ASSETS	<u>160,438.91</u>
	EQUITY	
63,370.95	30000 · Opening Bal Equity	120,403.48
<u>57,032.53</u>	Net Income	<u>40,035.43</u>
<u>120,403.48</u>	TOTAL EQUITY	<u>160,438.91</u>

Financial Report Notes

- Note 1:** MLA Producer Demonstration Site \$18,420, FarmReady - Grassgro \$27, 292, Rural Development Association Southern Inland \$5000, AUSWIDE - trainee incentive payment \$1500, DAFF - Soil Carbon Project \$64,295
- Note 2:** Evergraze Perennial Pasture Trials – “Cobana” and “Bellevue”
- Note 3:** Incitec \$4000, NAB \$4,000, Kydra Transport \$1,000, LambPro \$1,000, Commonwealth Bank \$1,000, Virbac \$1,000, Jemalong Wool \$1,000
- Note 4:** Wool proceeds from even-up shearing of wether trial Oct 2011
- Note 5:** Incitec Pivot, soil test subsidy \$2,110, reimbursement % catering costs (Tonys Bistro) for 2011 Carbon Forum \$600
- Note 6:** 1st installment to Monaro Education Foundation (MEF), \$2,000 to be paid over next two years
- Note 7:** Project costs; Evergraze trial establishment, Project consultants/key speakers; Mick Keogh (AFI), Mike Stephens (MSA), Stuart Burge, Lingford Consulting - Geoff Prior, Rob Napier, GrassGro Project Contracts with NSW DPI & Col Langford and audit costs, shearing costs MFS wether trial, Incitec soil test costs for Soil Club & MLA Fertiliser trial (MLA PDS)
- Note 8:** CSIRO soil corers, chemicals & hay for wether trial, fencing materials & chemicals for MLA Fertiliser Trial
- Note 9:** GrassGro software, training allocation for MFS Project Officer
- Note 10:** Project Officer travel and accommodation costs for MFS Trainee

Out of a total bank balance at the 17th August 2012 of \$197,594, we have \$91,086 already committed to specific projects leaving a balance of \$106,508 in the operating budget.

Project Reports

MFS Project

08-1 - Grass Gro (Completed June 2012)

Project Leader: David Mitchell / Oliver Cay

Project Manager: Nancy Spoljaric

Project Collaborators: Doug Alcock (NSW I&I), Andrew Moore (CSIRO), Brett Miners (SRCMA), Stuart Burge

Project Funders: FarmReady, Dept. Agriculture Fisheries & Forestry

Project Story

This Project was initiated by a group of progressive and innovative Monaro farmers who saw the potential of decision support tools in playing an integral role in ensuring a viable farm management system in the face of continuing climate and global market uncertainty.

This project aimed to increase the number of landholders with the skills and knowledge to incorporate GrassGro® modeling as a management tool to examine strategic, operational farming decisions based on sound risk management principles.

GrassGro® is such a powerful tool which can be used to examine strategic decisions on farming systems or to look at the effect of anticipated weather conditions within a growing season. It provides powerful facility for analysing risk (climatic, economic and environmental) over both the short and long term.

This project was envisaged to create confidence in land managers and encourage ownership of the process by directly engaging individual producers to utilize their own climate and production records. Over time it was hoped trained individuals could run simulations unaided thereby becoming self-sufficient and increasing the skilled resource base for Monaro farmers.

Project Aims

(1) Develop and deliver interactive, educational sessions to Monaro landholders at critical/strategic times of the year (March and Aug/Sept) to analyse and evaluate GrassGro® simulations. These sessions will assist landholders to make opportunistic trading decisions, enterprise shift choices, and identify risk management strategies to plan for increased seasonal uncertainty as well as manage stock numbers and supplementation based on pasture growth predictions during these critical periods of the season.

(2) Deliver a public Climate Change Forum (Carbon Day Out 2) to explore carbon pricing and future climate change predictions at a local level as well as the possible consequences for production and management.

(3) Deliver training sessions to a “core producer group” to increase the number of landholders on a regional basis who are able to utilise this software directly into their farm enterprise systems and also then demonstrate the benefits of this technology to other landholders.

(4) During the final phase of the project, be able to electronically transfer relevant GrassGro® “farm system files” to members which will deliver relevant/targeted reports of predicted pasture growth curves and animal performance for the representative soil types, based on climate/weather data inputs.

Project Achievements

- ❖ Deep soil cores, collected and analysed for 10 strategic Monaro soil types (Nimmitabel, Mila, Bibbenluke, Kybeyan, Corrowong/Jimenbuen, Delegate, Little Plains, Bungarby, Berridale have been used to set up base farm systems for the 12 members of the “core group”.
- ❖ The core group have established robust “farm systems” for their enterprises and have moved into the stage of analyzing relevant farm management issues for the different representative localities of the Monaro. It was envisaged that the analysis of these common issues could then be distributed to the wider member base for the relevant soil types.
- ❖ Doug Alcock (NSW DPI) was contracted over the previous two years to conduct regular “Seasonal Outlooks” at strategic times of the year ie. Autumn, Spring and Summer to help producers make key, short term decisions. Stuart Burge also presented a seasonal outlook at Hazealdeen for the winter period 2011.

An unexpected positive outcome was the uptake of the “seasonal outlook” program (instigated by this MFS Farm Ready GrassGro Project) by NSW DPI to be extended across six other regions throughout NSW.

- ❖ A Carbon pricing / Climate Change Forum was held on June 29th in Cooma with 210 registrations for the event.

Feedback comments from members regarding overall effectiveness of the GrassGro Program.....

- ***Do you like the concept of using GrassGro® to examine your farming system and why?***
 - *Yes. It allows the user to run scenarios with immediate results that could take years to do in real time.*
 - *I understand the concept and can see how it would be useful IF you had the correct and quality information to put into the model SPECIFIC to your systems otherwise I think the outputs would be too generic and not tailored enough to make decisions (involving \$\$, time, resources) based on just general information. However I think it is very good to get farmers to start asking the right questions about their farming systems and examining profit drivers etc more closely.*
 - *Yes – Seasonal outlook, new enterprises, fine tuning current enterprises and look for profit drivers.*
- ***What difficulty is there in farmers using GrassGro®?***
 - *Main factor is having the TIME to familiarise with GrassGro® and also prioritising the time available to work on the model. I think it is a mindset, some farmers relate to the concept, others never will. Many farmers prefer the traditional way of gathering info and making decisions ie. consultants, attending info days, gathering information from other sources.*
 - *Time constraints and data entry accuracy. The complex wholeness of the information which makes up farming.*

- **Did you change any of your farm management as a result of the GrassGro® Project and what were the affects?**
 - *Changed to a much higher % of sheep making up the stocking rate and it has put a lot more pressure on management.*
 - *No, but I would be willing to change when using the model confidently.*
 - *No – as we are having maybe top 90% season and rebuilding stock numbers. It is hard to find a pressing need except to purchase more stock. We have kept our steer calves to grow out.*

Future for GrassGro® modeling

Future activities include the ongoing “seasonal outlook” sessions which will continue as a regular component of MFS operations.

The core group will continue to work with Doug Alcock on an informal basis to start using their farm systems to analyse relevant management questions and issues. The answers will be distributed to the wider MFS group. MFS will also continue to use GrassGro to analyse results from local MFS trials and distribute reports ie. genetic evaluation wether trial, soil carbon project, MLA fertilizer project.

Nancy Spoljaric - Co-Project Manager



MFS Project 10-5

Perennial Pasture Trials – completed June 2012

Site Producers: Brad Yelds (Cobana), Richard Taylor (Bellevue)

Project Coordinator: Nancy Spoljaric

Project Funder: CHAF (Central Highlands Agribusiness Forum), Caring for Country

Project Collaborators: NSW I&I (Luke Pope), Stuart Burge (Private Agronomist), Jim Shovelton & Andrew Daley (MSA), Lachlan Ingram (Sydney University),

Background

Pasture production on the Monaro is generally believed to be below potential targets based on average rain fall received. In particular, legume production is poor on some soil types.

This Project aimed to explore options for achieving the optimum perennial pasture mix for the basalt and granite soil types of the Monaro and to illustrate their differences in seasonal production and their potential to increase production in the southern Monaro.

Brad Yelds – “Cobana” trial site

Three pastures were established in autumn of 2010 including;

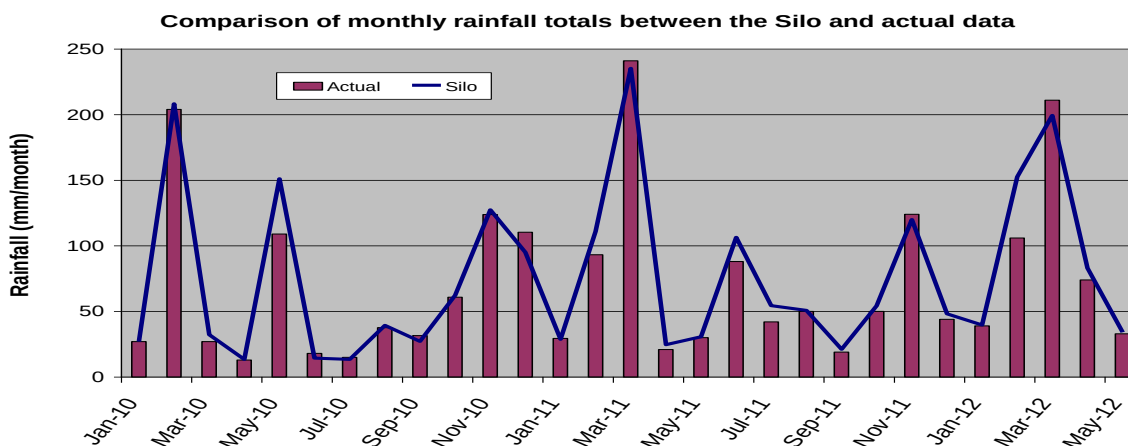
- Phalaris / Lucerne (2.7 ha)
- Perennial Ryegrass / Sub Clover (3.0ha)
- Tall Fescue / Sub Clover. (2.4 ha)

During the period between November 2010 and May 2012 the new pastures were grazed with lambs and the growth of these lambs measured across each grazing period. Herbage mass and digestibility were also measured periodically throughout the period from November 2010 to May 2012.

It was decided to use the GrassGro decision support tool to simulate the soil / pasture systems for each pasture type in order to then explore the performance of each pasture under conditions of equivalent grazing and over a much wider range of seasonal conditions.

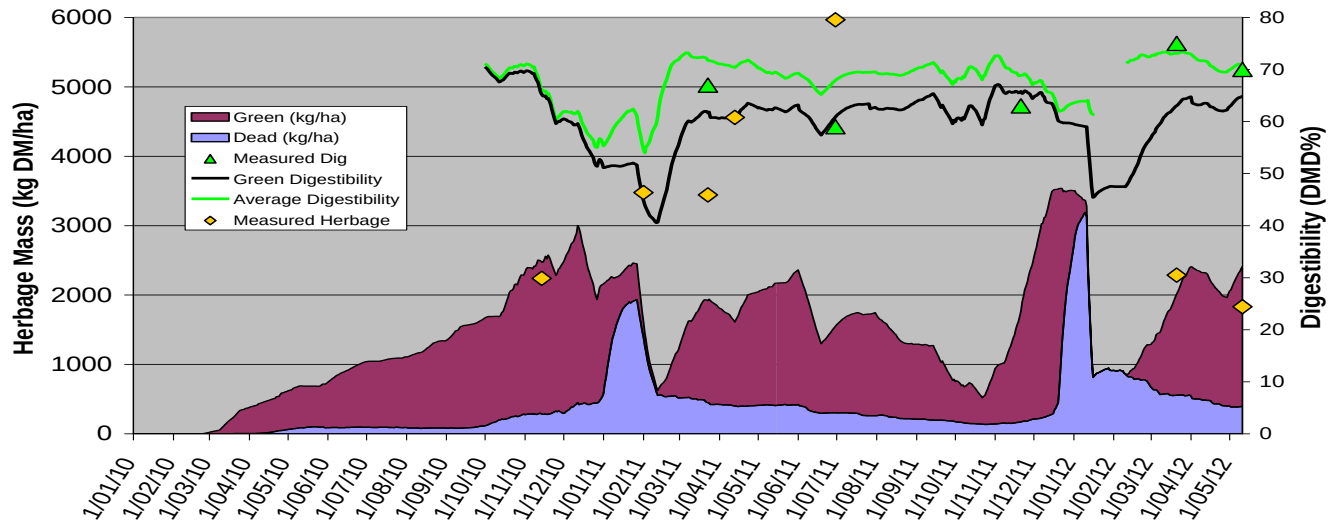
Results

Weather - The following graph shows a comparison between the Silo data drill and the actual monthly rainfall data at the site from 2010 to 2012.

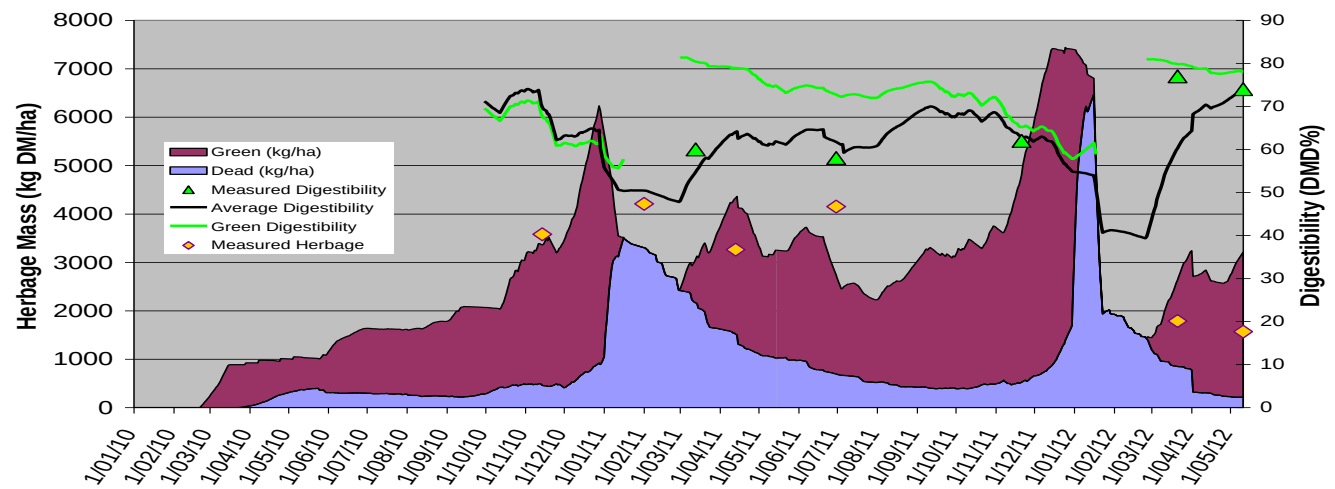


Pasture production

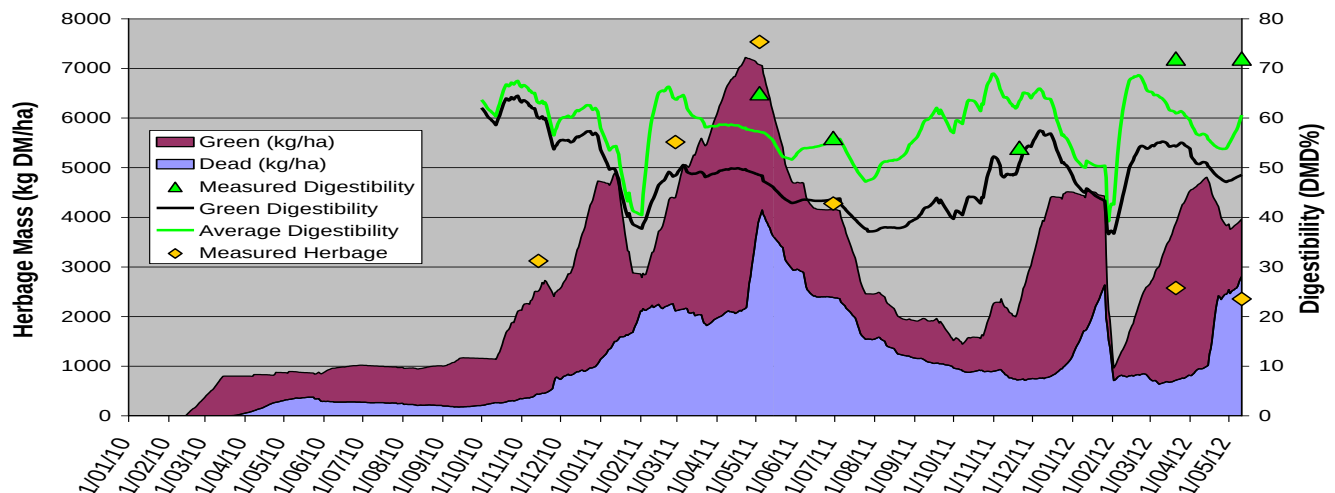
Phalaris / Lucerne Herbage Mass



Pasture data for the Ryegrass / clover pasture



Pasture Data for the Fescue / clover pasture

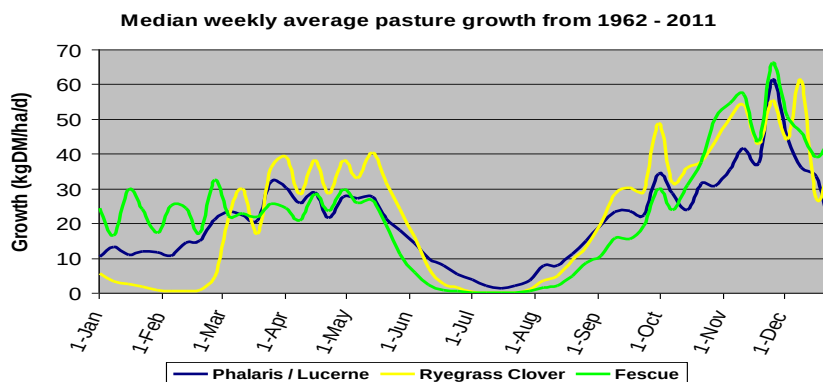


Long term median pasture growth

The fifty years of data was analysed to determine the median weekly average pasture growth rates for each of the three pasture types.

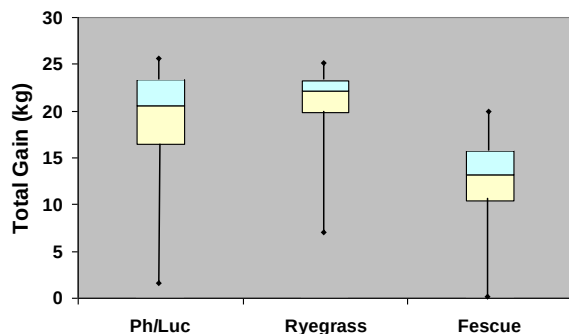
The most significant differences between pasture types occurred late in the summer and throughout the winter. In late summer the pasture giving the most active growth was the Fescue / Clover mix while the Ryegrass / clover mix was dormant through January and February. The pasture with the least winter growth was the Fescue while the most active was the Phalaris component in the Phalaris / Lucerne mix. This mix also gave mid range growth in the January - February period due to the Lucerne component.

This data bears out the observation that the Phalaris / Lucerne mix was able to generate extra growth of quality herbage in summer.

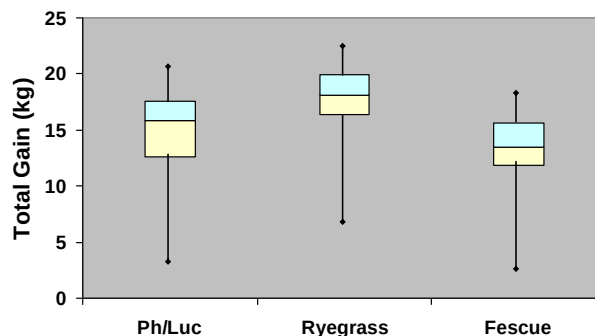


Animal weight gain

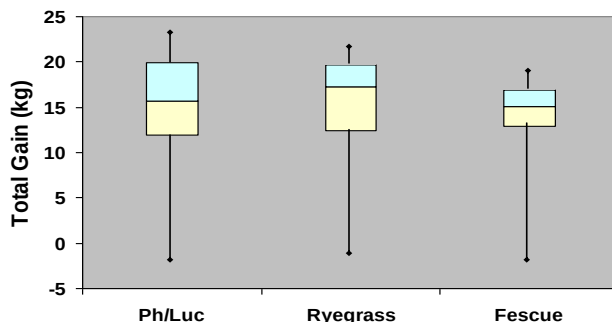
Boxplot of Spring Lamb Weight Gain



Boxplot of Summer Lamb Weight Gain

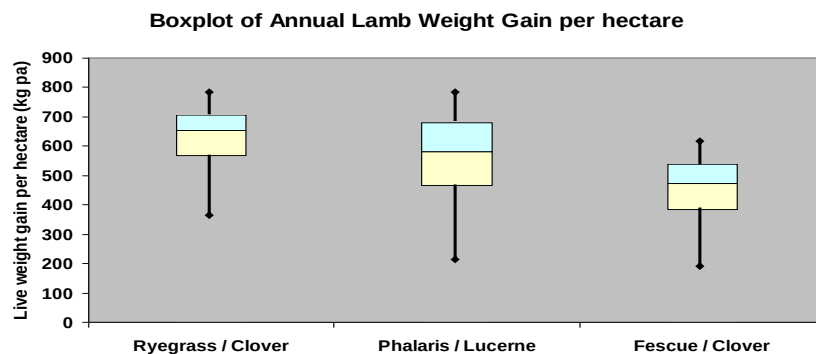


Boxplot of Autumn Lamb Weight Gain



Regardless of season the Ryegrass / clover pasture achieved the highest median gain (mid line between the blue and yellow) with generally lower variability between years. The Fescue mix gave the lowest output with the Phalaris / Lucerne mix intermediate.

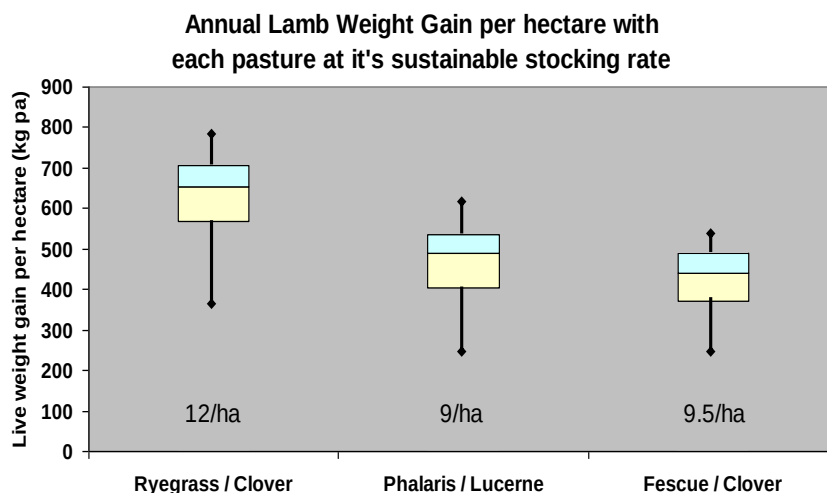
Taken on an annual basis the ranking in terms of total weight gained was in favour of the Ryegrass based pasture with the Phalaris a fairly close second and the Fescue based pasture significantly lower.



True carrying capacity

The initial historical runs were compared running the same number of livestock however an analysis of the ground cover from these runs suggests that that the true carrying capacity of the Lucerne / Phalaris and the Fescue pasture types is somewhat lower than the nominal 12 head/ha modeled.

A stocking rate analysis was run to determine the stocking rate at which these systems maintained ground cover above the 80% minimum in 70% of years. It was determined that the Lucerne / Phalaris pasture could carry only 9 head/ha and the Fescue 9.5 head/ha. This equates to a long term stocking rate of 16.3 dse/ha for the Ryegrass / Clover and 12.7 and 12.4 for the Phalaris / Lucerne and Fescue respectively.



Comments from host...

-the **lucerne/phalaris mix** is ideal to fill the summer feed gap as a perennial feed base and will continue to be integrated into the host producers farm system. It is ideally suited for merino weaners ie. growing stock who are weaned mid-to late summer. Visually this mix has performed higher than the other two treatments and also provided 2 more weeks of extra grazing in Jan/Feb due to the higher feed quality available.

Brad concludes that a Lucerne/phalaris mix (predominance of Lucerne) is most desirable in terms of production and environmental markers ie. ground cover, but it does require the highest level of management ie. this pasture does need a lot of timely, grazing pressure to restrain the phalaris and encourage the establishment and persistence of the lucerne. Brad is unsure if this mix, on a larger scale ie 200ha, would be

cost effective and manageable again because of the grazing pressure needed to manage the phalaris growth stages due to the over-riding dominance of this species.

-the **fescue mix** is only a spring performer and not suitable for Brads current system. This trial has confirmed for him, the unsuitability of fescue based pastures in his pasture systems, specifically when looking at a fat lamb enterprise. Also although pasture growth can be high, feed quality and digestibility are low when compared to the other two mixes and therefore weight gains in a fat lamb enterprise are not optimised. Possibility fescue would suit a cattle enterprise where digestibility is not as important.

-the **ryegrass pasture mix** does not persist well on the Monaro on his soil type (in Brads experience) as it only seems to persist for 3-4 years whereas the host is looking for a pasture that can persist for 10-15 years. Also the pasture does not respond or take advantage of summer rain with little to no leaf present over summer. A lot of this pasture has run up into stalks and dried off.

In conclusion, if a good autumn rainfall is received the rye grass performs well. Brad also favours rye grass in a crop rotation as after the 2-3 years when the rye-grass is starting to decline, it is timely and easier to then transfer into a cropping rotation.

Richard Taylor – “Bellevue” trial site

Questions being asked...

1. Which is the most appropriate spray regime, ground prep and grazing strategy to optimise lucerne establishment (legume cultivars) in a traditionally phalaris dominated pasture?
2. Address in an economic sense, the usefulness of sowing pasture mixes in traditional phalaris based pasture due to over-riding dominance of the phalaris and competitiveness characteristics of this perennial.

**trial sown 1st Sept 2010 using direct drill

**all three plots sown with 7kg/ha lucerne only (three treatments)

(a)Treatments & Paddock preparation

Total ha = 59.27

Total cost establishment = \$230.1/ha

Treatment 1 – Nth Paddock - 56.2 acres

- sown with straight lucerne (rate 7kg/ha) into a phalaris based pasture (sown 1996). Paddock was sprayed May 2010 with 3L glyphosate (round-up) and left fallow over the winter, re-sprayed just prior to sowing with another 3L glyphosate
- Very good soil moisture due to fallow period, very good lucerne establishment observed visually.

Treatment 2 – Middle Paddock – 41.9 acres

- sown with same rate lucerne (7kg/ha) into same base pasture but only sprayed once with 500ml glyphosate (round-up) and 200ml di-camba. Not fallowed over winter so soil moisture not as good. Lucerne establishment was much less and very obvious dominance of phalaris.
- The aim with this paddock was to set the phalaris back (not kill it) to try and allow lucerne to get going more successfully.

Treatment 3 – South Paddock – 48.3 acres

- sown with same rate lucerne (7kg/ha) into same base, using chemical called “sprayseed” which “browned” out the phalaris very quickly ie 48hrs but it came back very quickly. Long term there has been no phalaris kill at all and very little, if any lucerne establishment.
- **2011**; Spray followed 24th June 2011: 3l/ha 450 g/l glyphosate, 200 ml/ha dicamba, 100 ml/ha wetter, 100 ml/ha alphacypermethrin
- Pre sow sprayed 29th August 2011: 3L/ha 450 g/l glyphosate, 200 ml/ha dicamba, 100 ml/ha wetter, 100 ml/ha alphacypermethrin
- Sown 7th & 8th Sept 2011; 8 kg/ha L70 lucerne. Good establishment. First graze in Jan 2012. Lucerne establishment has been relatively successful.

Production (grazing days)

Nth Paddock (56.2 acres, 22.7 ha)

-Total Grazing Days = 118, Average SR= 30.4 DSE/ha

Middle Paddock (41.9 acres, 17ha)

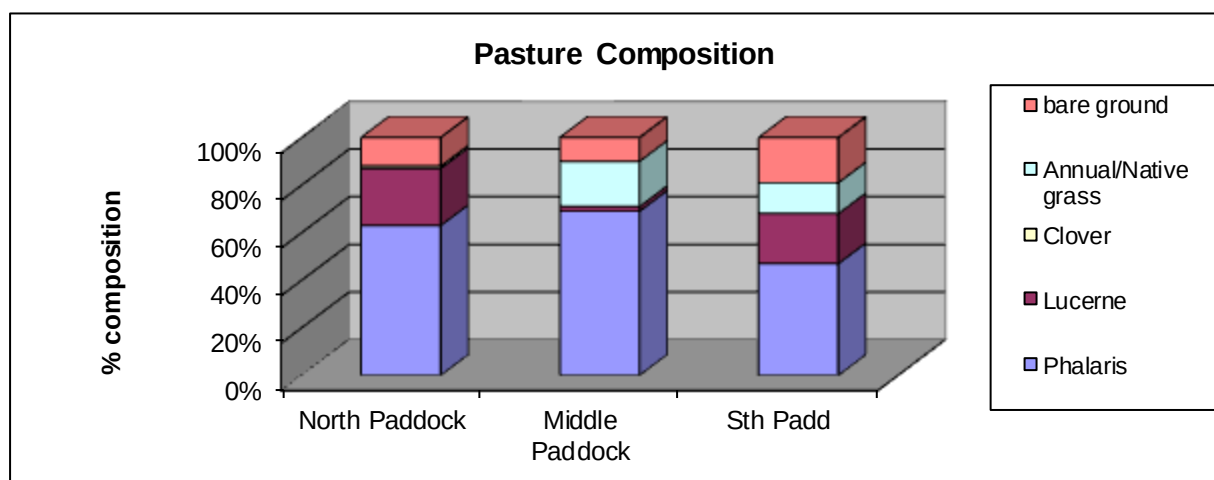
-Total Grazing Days = 150, Average SR =30.2 DSE/ha

Sth Paddock (48.3 acres, 19.5ha)

-Total Grazing Days = 84, Average SR = 32 DSE/ha (note info from 2012 only)

**Not stocked in spring 2011as pasture sowing/establishment taking place

Final Composition – estimates, 29th May 2012



Discussion and host comments (Richard Taylor)...

As the Lucerne is still pretty new, I think the value of the stock numbers is limited at this stage, but will become interesting over the next few years. It is hard to draw valid conclusions from stocking rates at this early stage, as they have only been measured for a short period, and in extremely good seasonal conditions.

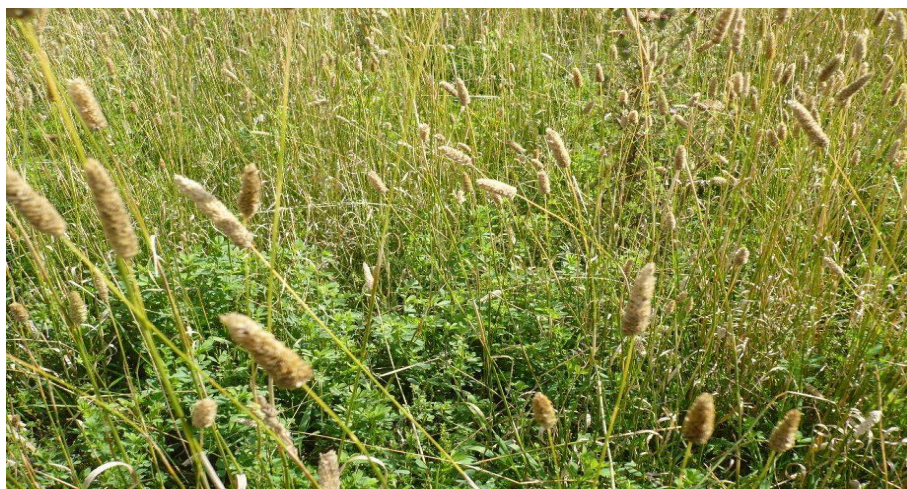
However, the data suggests that having a higher Lucerne component in pasture does increase dry matter production via the increase in nutrient recycling, nitrogen fixation and subsequent plant growth. This assumption is demonstrated by the higher dry matter yields measured in North paddock (20% higher) versus the middle paddock which had little to no Lucerne establishment. It would be good to continue these cuts over a longer period.

Successful Lucerne establishment has only occurred where we have done two full sprays – the single low rate of roundup or sprayseed were unsuccessful, partly due to fact there was no fallowing to accumulate moisture, partly because of competition. Even where we have sprayed 3 litres of glyphosate twice, approximately 50% of phalaris has survived.

Conclusion from this suggests that Lucerne can be introduced into existing phalaris pastures, but only with this two full spray program. However the amount of phalaris surviving meant final result was a mixed phalaris/Lucerne pasture, rather than a straight lucerne pasture. It is likely that the amount of surviving phalaris will depend somewhat on the timing of spraying, and growth stage of phalaris at spraying, so it therefore can be manipulated. The good news here is that the Lucerne content in mixed phalaris/Lucerne pastures can be topped up by this means, while maintaining much of the phalaris base.

Given one of our major issues on the Monaro is having a competitive legume component in our pastures to provide nitrogen, Lucerne is potentially an attractive legume component in our improved pastures, at least on the basalt. However, the serious shortcoming of Lucerne is that it is likely to only persist for 7-10 years, so older pastures will lose their lucerne component. This trial indicates a method whereby Lucerne can be reintroduced to a phalaris pasture while still maintaining a good stand of phalaris.

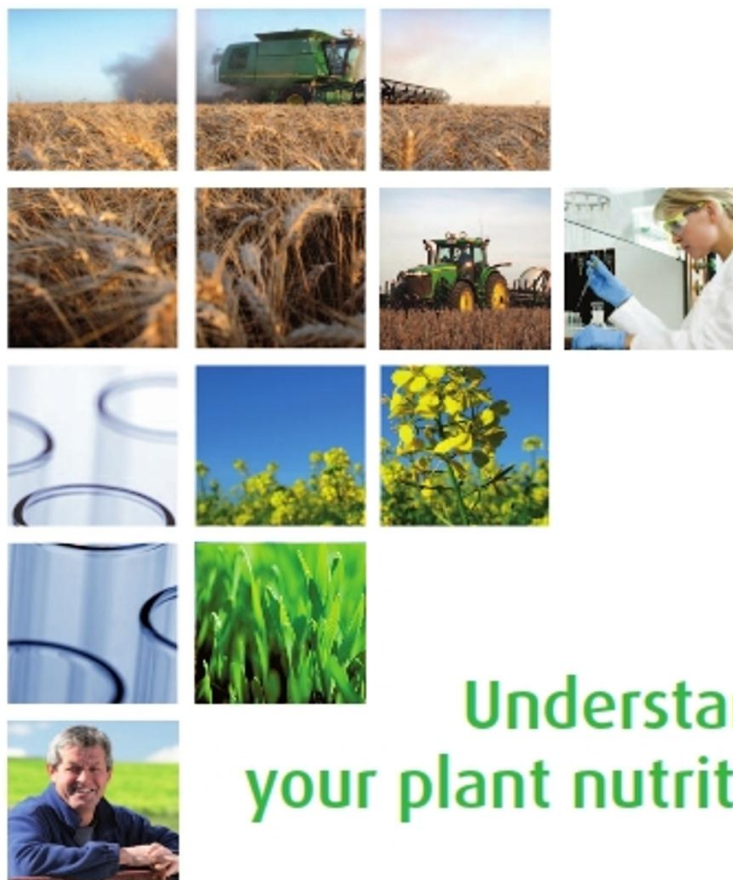
It will be useful to get good production and stocking rate information of the phalaris (middle) v phalaris/Lucerne (Sth & Nth) pastures over the next couple of years to see if these trends continue.



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AUGUST 2012

MFS Project 10-6

Monaro Farming Systems Genetic Comparison Trial

Project Leader: Alan McGufficke

Project Manager: Nancy Spoljaric

Project Funder: MFS with support from Gordon Litchfield Wool and Jemalong Wool.

Project Collaborators: Rowan Wright, Doug Alcock & Luke Pope (NSW I&I), Phil Graham (NSW I&I)

The MFS merino genetic comparison trial kicked off on Monday the 17th October 2011 at “Knockalong”, Tombong.

['Knockalong' is a 1612 Ha grazing property near Tombong via Delegate in the southern Monaro region of NSW. The property has a long-term average annual rainfall of 600mm and is situated on a shale derived soil]

These trials are designed to demonstrate the genetic variation to the participants and the wider sheep industry. It shows genetic variations that exist between our merino flocks which can lead to substantial differences in financial returns.

We are privileged to have several teams that participate in a number of trials across Australia which will give all entrants a direct link to other trial benchmarks and a benchmark as to where their flock is situated within the industry.

24 teams delivered 15 wethers per team to “Knockalong” for the “even-up” shearing. The teams included seven (8) from the Yass, Bookham, Crookwell region, and seventeen (17) teams originating from the Nimmitabel, Bombala, Jindabyne, Cooma, Bungarby, Berridale and Jerangle regions.

The trial runs for three years and **objectives** include evaluation of economic performance measuring traits including FD, GFW, yield, bodyweight, condition / fat score and carcass yield over a three year period. The 1st shearing will take place on **October the 16th 2012** and all wethers will be mid-side sampled on the 18th Sept 2012.

\$3000 of the wool proceeds from the initial even-up shearing will be donated to the local charity, the Monaro Education Foundation (MEF) over a three year period (\$1,000 per year).

Thanks go to the host of the trial Rowan Wright, all our entrants for donating the wethers, Alan McGufficke for all his time and coordination of the team delivery, Doug Alcock and Phil Graham (NSW DPI) for electronic tagging of the teams, Chris Haylock, local District Vet, for inspecting the teams as they arrived and Nancy Spoljaric for her coordination of random drafting and even up shearing. Also thank you to our sponsors Gordon Litchfield Wool as the main sponsor of the trial and continued support from Jemalong Wool.



MFS Project 10-7 -**Soil Club – whole farm soil fertility management**

Project Leader: Ron Horton

Project Manager: Nancy Spoljaric

Project Funder: Community Action Grants / Caring for Country, MLA – Producer Demonstration Site

Project Collaborators: Richard Simpson (CSIRO), Phil Graham and Luke Pope (NSW I&I), Andrew Speirs and Jim Shovelton (MS&A), Jim and Vicki Haylock, Bill and Sue Stephens and Dean and Anne Campbell

Background

The Monaro has contrasting soil types which differ substantially in their intrinsic fertility and fertiliser requirements.

MFS initiated a “Soil Club” in Oct 2010 to provide support for producers to start to critically analyse their soil fertility profiles and build a whole farm soil fertility management plan which facilitates better targeting of phosphorus (P) and sulphur (S) applications to underpin sustainable increases in stocking rates.

Bulk Soil Testing Program and presentations from Dr Richard Simpson (CSIRO)

2012 will be the third year of an annual bulk soil testing program which aims to build on a data base of Monaro soil tests and paddock histories. Dr Richard Simpson's (CSIRO) analysis of MFS member soils in Nov 2010 (107 samples) showed that approx. 50% of topsoil's were below optimum in P (phosphorus) on the granite and shale soils and a significant % of topsoils were below optimum in S (sulphur) (67% on the granite and 62% on the basalt).

This initiative has been very successful in engaging over 40 farm entities to start adopting a strategic, planned approach to whole-farm, nutrient management with specific fertility targets based on soil type and measured soil test results and the integration of decision support tools such as the “P-Tool”. The group now has a two year, data base of soil test information which totals over 400 soil test results (107 samples in 2010 and 340 samples in 2011) and a highly successful mentoring program involving Dr Richard Simpson, Soil Scientist CSIRO.

Soil type deficiencies have been identified, paddock trends have started to be mapped and nutrient targets set and with the help of this Soil Club program it is hoped producers will start moving towards “precision based strategies” ie. variable application rates of fertiliser to “land type” based on soil test results and nutrient targets rather than blanket applications across paddocks.

Conclusions from 2010/2011 data:

The data (see graph on next page) shows the proportions of soil tests that indicated sub-optimal levels of phosphorus (P), sulphur (S) and potassium (K) (i.e. levels that cannot support maximum pasture growth rates) in each of three soil categories: soils derived from shale (slate), from granite or from basalt.

Critical soil fertility levels for maximum pasture growth rates are shown as **solid lines** on the graph.

Although there is some clear soil fertility characteristics indicated for each soil type in this data, it is also clear that there is a lot of variability between paddocks. It is therefore important to know the fertility levels that apply to your own paddocks so that informed fertiliser investment decisions can be made.

Basalt soils

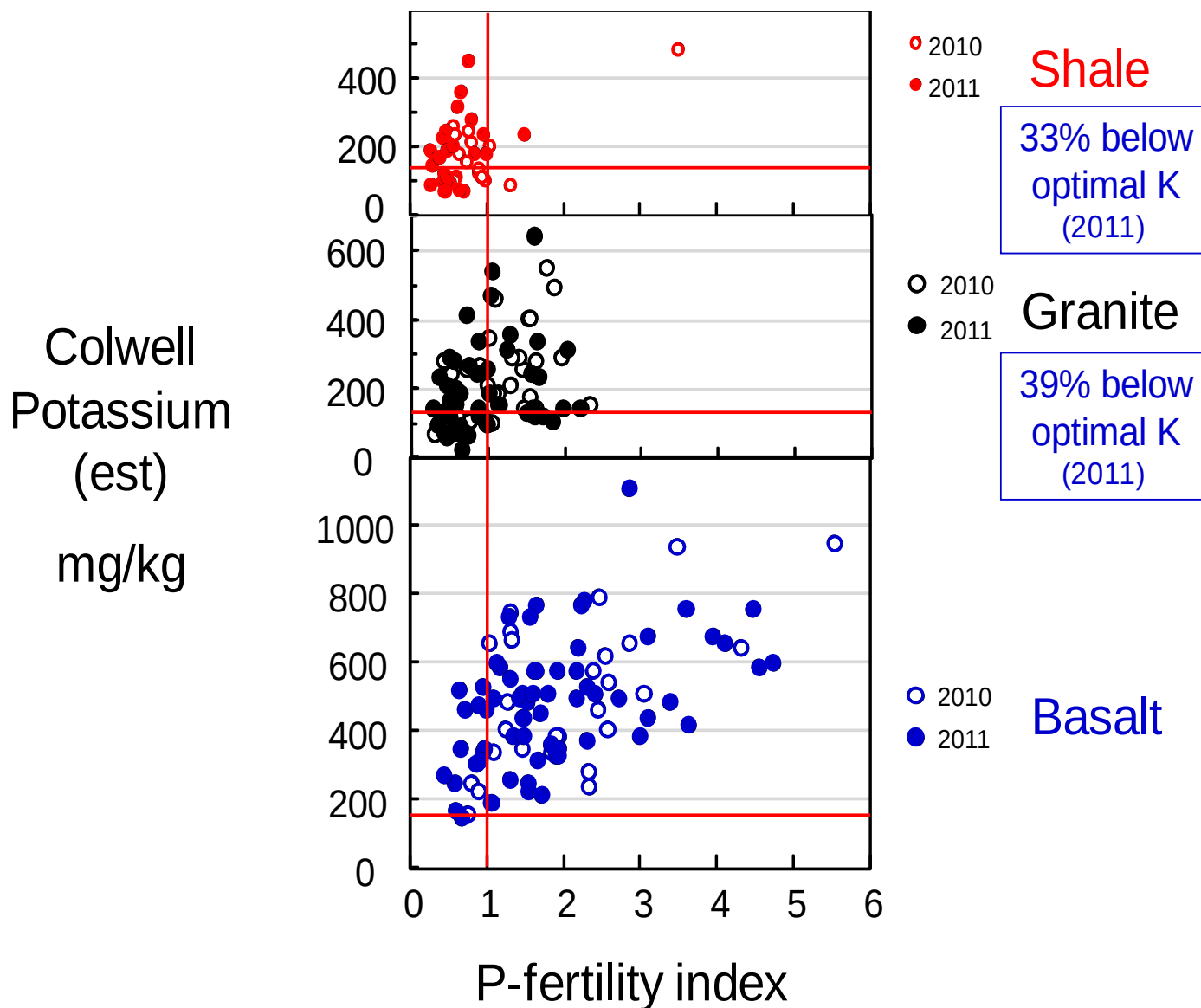
8-19% below optimum for P, 65-76% below optimum for S, Adequate to high K levels

Granite soils

46-59% below optimum for P, 65-84% below optimum for S, 33% below optimum for K
Some soils may benefit from lime

Shale soils

81-96% below optimum for P, 65-86% below optimum for S, 33% below optimum for K
Some soils may benefit from lime



Aim

1. Establish paddock trials on three soil types (granite, basalt and shale) to (i) investigate the impact of optimising S, P and K management on legume persistence and overall pasture production, and (ii) examine the use of alternative Sulfur fertiliser types to improve S retention in top soils.

Three trial sites;

- ❖ “Terrick Terrick” – Haylock – **Basalt Site** – Soil Deficiencies Identified – S only
- ❖ “Rye 1” – Campbell – **Shale Site** - Soil Deficiencies Identified – S and P
- ❖ “Swinglebar Super” – Stephens – **Granite Site** - Soil Deficiencies Identified – S,P and K (add Mo)

Activities to date.....

Main Trial

- ❖ trial sites on three soil types (basalt, shale and granite) were established in Oct 2011 based on “deficient paddock” soil tests taken as part of the 2010 Soil Club testing program. Appropriate rates and types of fertilizer were sown on each site in Oct 2011 based on agronomic advice to start the process of correcting the soil deficiencies and measuring the resulting pasture response.
- ❖ to date, two sets of soil tests have been collected along with feed quality measurements and two sets of pasture biomass cuts
- ❖ a second annual application of fertilizer will be considered to be applied in Oct 2012, based on soil test information

S Trial

- ❖ at the same sites, a **S Trial** was also fenced off, to trial up to 7 different types of alternative S fertilisers in smaller plots replicated 3 times. The S fertilisers being trialed include **Tiger90CR, Brimstone 90 Sulphur, triple super phosphate, single super phosphate, Superfect26S and Granulock S** at different rates and in various combinations
- ❖ to date 2 sets of soil tests have been collected to a depth of 30cm (0-10cm, 10-20cm, 20-30cm) to look at the S retention in the soil profile. their efficacy examined primarily by periodic measurement of the S concentrations in the soil profile (ie. 10cm, 20cm, 30cm). This will monitor movement of S over time and the retention properties of the different forms of S ie. elemental sulphur and sulphate. Sulphur based products to be included are single super against Granulock S, Tiger 90 and Brimstone 90.
- ❖ 2 sets of biomass cuts have been conducted to look at any differences in pasture growth between treatments

Legume Trial

- ❖ 3 annual legumes sown in May 2011 into all three sites which included;
 - Prima Gland Clover (6kg/ha)
 - Antas Sub Clover (4kg/ha)
 - Scimitar Burr Medic (3kg/ha)

Establishment counts were attempted at all three sites however due to the winter temperatures, was too early to get any accurate counts as germination not complete.

These counts will be done at the end of August 2012 and plans will be established for monitoring of the performance of these legumes.

-soil tests and pasture cuts will be continued for all trial sites throughout 2012 and 2013. Once a full data set is collected, the results will be analysed into a report.



Basalt Site, "Terrick Paddock"



Shale Site, "Rye One paddock"



Granite Site, "Swinglebar Paddock"



Basalt Site, "Terrick Paddock"

Comments on Soil Club from Ron Horton (Project Leader)...

With the very popular 2012 bulk Soil Testing Program fast approaching, Soil Club members will again be given the opportunity to monitor soil fertility levels and have their results analysed by Dr Richard Simpson. With most of the Monaro enjoying above average rainfall to date and massive pasture growth rates in Spring 2011 and Autumn 2012 it will be interesting to see how fertility levels are holding up.

The three MLA Producer Demonstation sites – basalt, granite and shale – are now well and truly established with Nancy undertaking regular testing and monitoring. Visual results on the main part of the trial, ie correcting P, S and K deficiencies to achieve maximum pasture growth have been hard to see due to the very favorable growing conditions. However, with some forecasters predicting a return to drier conditions I am sure both a visual and tested response will become apparent.

Following the above average rainfall to date, the Sulphur Trial measuring the various forms of applied Sulphur in the top soil, and how they leach, should prove to be very informative.

Project Leader: Kate Waldren

Project Manager: Nancy Spoljaric

Project Funder: Community Action Grants (Caring for our Country)

Project Collaborators: Rob Napier (Napier Agrifutures), Geoff Prior (Lingford Consulting), Andrea Mitchell, Skye Auer

Background

Rural farming families continue to face increasing challenges imposed by the constant exposure to market uncertainty, climate variability as well as continuing un-seasonal weather patterns and drought conditions.

This places increasing pressure on the family unit to ensure the farm business remains competitive and viable in the market place as well as maintaining the balance between family and business goals and values.

2nd Forum – Sept 2011

25 MFS producers engaged in a lively and interactive day which was co-presented by Rob Napier, Napier Agrifutures, a leading, international communications specialist and Geoff Prior, Lingford Consulting, a productivity specialist from Wodonga.

This was a follow-up day in Nimmitabel to a previous workshop in Bombala in February 2011 on the issue of making family farms more resilience and competitive in the face of an increasingly challenging global climate.

Rob Napier reinforced the “take-home” messages ie. looking for opportunities to grow your business, having clear goals with flexible strategies and thinking about energy use efficiencies, securing water quality and quantity (“get hold of it, control it, trade it”), precision farming, “targeting your phosphorus applications” and creating a cash rich balance sheet so you can position your business to grab more opportunities.

The day was complemented by Geoff Prior who took participants through a “Myers-Briggs” personality assessment and linked this with different ways farmers make decisions, plan their workloads, and manage people and their receptiveness to change within their business.

What was made clear is the over-riding importance of the family unit to any business but especially to a family farm where they often operate as a husband and wife partnership.

Other important messages to come out of the day included the importance of recognizing peoples different personality types and various ways people show leadership, plan and approach problem solving, adapt to change, make decisions and relate to others.

Main achievements to come out of the Project;

- Including the whole family in Strategic planning and goal setting and starting as early as possible
- Gaining a greater understanding of the personality differences within your team
- Understanding and appreciating why others do things differently
- Achieving that work-life balance
- Appreciation of the different approaches to work and working styles which helps people work more effectively together

MFS Project Support - CSIRO – High Rainfall Zone dual-purpose cropping project

Project Leader: John Kirkegaard (CSIRO)

Project Collaborators: John Jeffreys (Delegate Station), Nancy Spoljaric (MFS), Agritech,

Project Funder: Grains Research Development Corporation (GRDC)

Background

TRIAL 2011 – main focus is on disease control

- 1 sowing date (in between two dates from 2010) ie. early April, will be grazed Aug 10th to end Aug 2011
- trialing a boron spray on canola to look for response
- a lot of disease seed tmts in this trial ie. seed treated insecticides and fungicides to address disease problems
- Aug 2011, trialing an “in crop” fungicide spray on canola for black leg
- all trial is grazed this year, no un-grazed sections and all winter types

(1) Wheat disease control experiment

Aim: To investigate disease control measures for early-sown, grazed winter cereals

Background: In 2010 early-sown crops (March) suffered significant yield penalties compared with later sown crops (April) which offset the income derived from grazing. We are investigating the impacts of variety, insect control and fungicides on the performance of dual-purpose winter cereals.

Treatments:

Varieties; Mackellar, Revenue, CS170, Endeavour

Insecticide; Imidacloprid (Emerge seed dressing 240 ml/100kg)

Fungicide; Impact (on-fertiliser 400 ml/ha)

Grazing; 12 August – 28 August (lambs and wethers) = **1000 dse grazing days/ha**

Table 1; Biomass production (t/ha)

Treatment	Biomass 8 July	Biomass 8 August (Start graze)	Biomass 31 August (Lock-up)
Mackellar (untreated)	1.4	1.6	2.1
Mackellar + Impact	1.7	1.5	1.7
Mackellar + Insect	1.5	1.5	1.8
Mackellar + Impact/Insect	1.1	1.2	2.0
Revenue (untreated)	1.3	1.6	1.9
Revenue + Impact	1.2	1.5	1.5
Revenue + Insect	1.5	1.7	1.8
Revenue + Impact/Insect	1.3	1.4	1.8
CS170 + Impact/Insect	1.0	1.3	1.6
Endeavour + Impact/Insect	2.1	2.3	2.6

- No consistent effect of treatments on biomass available for grazing.
- Crops growing 8-12 kg/ha/day in winter; biomass maintained during grazing
- Triticale provided more grazing biomass (2.3 t/ha) than wheat (1.5 t/ha)
- Average cereal winter growth rates 8 – 12 kg dry weight /ha



+ IMIDACLOPRID

CONTROL



CONTROL

+ IMIDACLOPRID (EMERGE)

(2) Break crop experiment

Aim: To investigate the benefits of canola break crop for early-sown, grazed winter wheat

Background: In 2010 early-sown wheat crops (March) suffered significant disease levels and yield penalties despite being sown after canola. Is a one year canola break crop sufficient to control disease in early-sown HRZ crops?

Treatments:

2010 crops; Wheat (Mackellar), Triticale (Endeavour), Barley (Urambie), Canola (Taurus)
2011 crop; Mackellar wheat

Grazing; 12 August – 28 August (lambs and wethers) = **1000 dse grazing days/ha**

Table 1 - Biomass production (t/ha)

Treatment (2010 crop)	2010 crop yield (t/ha) (grazed)	April 2011 Take-all level (DNA)	Biomass 8 Aug 2011 (Start graze)	Biomass 31 Aug 2011 (Lock-up)
Wheat (weedy fallow)		66	1.5	1.1
Triticale (weedy fallow)		68	1.5	1.2
Barely (weedy fallow)		113	1.4	1.3
Canola (weedy fallow)	1.9	57	1.3	1.1
Canola (clean fallow)	1.9	19	1.8	1.8

- Volunteer cereals and weeds grew after harvest in summer
- Weedy summer fallow has limited break crop benefit even after canola
- More wheat biomass after weed-free canola

(3) Canola – varieties, disease control and boron

Aim: To fine-tune agronomy for grazed winter canola

Background: Early-sown winter canola (Taurus) has proven successful for dual-purpose in HRZ although the number of varieties tested and the management of blackleg and soil fertility are of interest. We are investigating the yield performance of new varieties, new blackleg control options (Presaro) and boron treatments.

Treatments:

Varieties; Taurus, Abakus, Rohan, Xenon, CBIW208, Brazzil (all with Impact and Boron)

Fungicides; Taurus only - Impact (fertiliser 400 ml/ha) or Jockey (20L/t) +/- Presaro (450ml/ha)

Boron; Taurus only – with Impact +/- Boron

Grazing; 12 August – 26 August (14 lambs) = **1000 dse grazing days/ha**

Table 1 - Blackleg and biomass production

Treatment	Blackleg % cotyl. 8 May	Blackleg 3 Aug	Biomass 3-Aug (pre-graze)	Biomass 31-Aug (post-graze)
Abakus + Imp (+ Boron)	8	30	1.8	1.1
Rohan + Imp (+ Boron)	10	19	2.0	1.4
Xenon + Imp (+ Boron)	6	28	1.7	1.2
CBIW208 + Imp (+ Boron)	6	32	1.2	0.8
Brazzil + Imp (+ Boron)	5	27	1.2	0.7
Taurus + Imp (+ Boron)	10	24	1.5	1.0
Taurus + Imp (- Boron)	-	-	1.7	1.2
Taurus (+ Boron)	41	42	1.0	0.7
Taurus (+ Boron + Prosaro)	-	-	1.3	0.8
Taurus + Imp (+ Boron + Prosaro)	-	-	1.3	1.1
Taurus + Jock (+ Boron)	33	40	1.7	0.8
Taurus + Jock (+ Boron + Prosaro)	-	-	1.1	1.1

- Impact has been effective in reducing blackleg infection compared to Jockey
- Some differences in early biomass between varieties (1.2 to 2.0 t/ha)



MFS Project 11-10**MFS Agricultural Traineeships initiative (on-going)**

Project Leaders: Craig and Susan Mitchell

Project Collaborators: AUSWIDE, Jillian Atkinson (TAFE), Phil Graham, Mike Stephens, Oli Cay, Charlie Maslin and Nancy Spoljaric

Project Funder: MFS, Regional Development Australia Southern Inland (RDASI), AUSWIDE (Government traineeship incentives), RB Sellars

Thanks to a promising show of support from MFS members for this initiative, Monaro Farming Systems offered two, full-time, paid traineeships to school leavers in 2011.

The two trainees employed for 2012 as part of the MFS traineeship program are working across member properties on the Monaro. Jake Goodlock (Bemboka) and Daniel Rowson (Berridale) were selected from 48 applicants and both are local boys, with a keen interest in the livestock industry and in gaining invaluable experience on the Monaro.

Jake is working in the Bombala district across approximately 9 properties and Daniel is working in the Cooma district rotating around a further 8-9 properties.

As part of the traineeship, both are completing a Certificate 4 in Agriculture at the Cooma TAFE. Feedback from the host producers has been very positive and MFS hopes to make this a long term initiative with advertising for at least two trainees for next year commencing soon.

Thank you to RB Sellars who have donated clothing for both Jake and Daniel (value of \$1300) as well as the Rural Development Assoc. of Southern Inland (RDASI) who have donated \$5000 towards the initiative.

Thank you also to Craig Mitchell who has put a huge amount of his own time and effort into getting this program up and running as well as Oli Cay, Lisa Philips and Alan McGufficke who conducted the interviews. Thank you also to Charlie and Anne Maslin for providing a cottage on "Gunningrah" for trainee accommodation and Charlie who is the coordinator for Jake's work timetable.



MFS Project 12-11	Monaro farm management strategies and their effects on soil carbon
Project Leaders:	Charlie Reynolds / MFS
Project Manager	Nancy Spoljaric
Project Collaborators:	NSW DPI (Susan Orgill, Luke Pope, Doug Alcock), Sydney University (Lachlan Ingram), SRCMA (Brett Miners, Tim Fletcher, Sue-Ann Nichols), MFS members, EAL (Environmental Analysis Laboratory)
Project Funder:	DAFF (Dept. Agriculture, Fisheries and Forestry – Carbon Farming Futures - Action on the Ground Program)

Background

MFS has secured \$276,989 through the Dept. Agriculture, Fisheries & Forestry (DAFF) “Action on the Ground” Program for a three year Project to measure soil carbon under different land use systems.

The following systems are going to be compared in terms of soil carbon levels and potential changes, nutrient profiles, grazing practices and gross margins;

1. **Pine** plantation versus **improved pasture** versus **cropping** - Delegate Station
2. **Cropping** versus **native** pasture - Delegate Station & Corrowong
3. **High fertiliser** native pasture versus **low fertiliser** native pasture - Idaho, Bungarby
4. **Limed** improved pasture versus un-limed – Springvale, Mila
5. **Aspect**, west versus east facing slope — Quinburra, Craigie
6. **Pasture Age**, 40yr old versus 5yr old phalaris pasture – Sth Bukalong, Bombala

Variograms at five of the sites will also be done which will measure spatial variation of carbon across a paddock demonstrating the inconsistency and unpredictability of soil carbon levels within a small sampling area.

Weather stations will be installed at the aspect sites (east and west slope) and a third site to measure differences in Max and Min temp., daily rainfall totals, relative humidity, and solar radiation (Wm^2), wind speed & direction, soil moisture and temperature. This climate data will enable the project to use production models, such as GrassGro and will better inform soil C models such as RothC and CENTURY. And will give the ability to model each systems carbon sequestration potentials and project the likely differences over larger time frames

Questions the project will address

1. How does land management affect carbon stocks in the Monaro region?
2. Does minimum disturbance cropping influence carbon stocks over a 3 year period?
3. What is the effect of “parent material” ie. shale, deep granite and basalt (ascending texture, fertility and structure) on carbon stocks in the Monaro region?
4. What influence does “aspect” have on carbon stocks in a system with optimum sequestration potential ie. fertilised, permanent, perennial pasture system?
5. Does liming improved pasture increase C sequestration?
6. What effect does soil fertility have on C stocks in the Monaro region? Support current research work that suggests fertility has a significant effect on C sequestration potential of soils.
7. What effect does pasture age have on the potential of a phalaris perennial pasture to sequester carbon, does age create a “ceiling” on sequestration potentials?

Project Objectives

- develop soil carbon data base
- compare the influence of soil type, rainfall and land management on carbon stocks
- assess spatial carbon variation at a paddock scale for three soil types
- model changes in soil carbon pool structure for both the lifetime of the project (3 years) and predictions over much longer time frames using the Roth C model for all land use systems being compared
- model soil carbon profiles and predicted pasture systems under all land-use comparisons using GrassGro software
- develop fact sheet on project outcomes and co-author peer reviewed paper for publication
- host field day with key speakers



Projects Pending.....

- ❖ **Woolworths/Landcare Australia – Project Title;** *“Targeting fertiliser to fertility”*, \$14,580, To continue building on Soil Club activities and addressing the management of soil nutrient deficiencies and their impact on pasture production and stocking rates on the Monaro.

MFS Events Summary 2011 / 2012

- ❖ **8th Sept 2011** - *Building Resilient Families & Businesses in a Time of Volatility & Change*, 2nd Forum speakers Rob Napier, Napier Agrifutures and Geoff Prior, Lingford Consulting
- ❖ **17th October 2011**– Even-up shearing, genetic evaluation, wether trial, Knockalong, Delegate
- ❖ **29th November 2011** – Soil Club 2nd Session and Evergraze pasture walk, Cobana shearing shed, Presenters Dr Richard Simpson & Jim Shovelton MSA
- ❖ **20th Dec 2011** – CSIRO Dual Purpose Cropping Trial – Crop Walk, Delegate
- ❖ **21st Dec 2011** – GrassGro Summer Seasonal Outlook report, Doug Alcock, NSW DPI
- ❖ **January 30th 2012** – MFS Traineeship Program commenced
- ❖ **March 20th 2012** – GrassGro Autumn Seasonal Outlook, Doug Alcock, NSW DPI (cancelled due to wet weather face-to-face, report emailed)
- ❖ **May 4th 2012** – GrassGro core-group meeting, Nimmitabel
- ❖ **Sept 18th 2012** – MFS AGM and Wool Focus Field Day
- ❖ **Oct 16th 2012** – 1st Shearing – MFS Genetic Evaluation Trial
- ❖ **Nov 27th 2012** – Soil Club 3rd Session planned



****Richard Simpson – 2011 Soil Club presentation, Cobana Woolshed**

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