MONARO FARMING SYSTEMS

Monaro Farming Systems

2016 Annual General Meeting

13th September 2016

Reports and Meeting Papers

Table of Contents

Agenda

Start: Lunch 12.00pm

1.00– 2.00 pm - Georgia Twomey (wool) and Matthew Costello (red meat) analyst
Rabo Bank

2.00 – 2.30 pm – Spring Seasonal Outlook – Doug Alcock, ***GrazProphet***

2.30 – 2.45 pm - Afternoon tea

2.45 – 3.45 pm – Sandy McEachern – ***Holmes & Sackett*** – Comparative Analysis Report

- Key profit drivers for the Monaro
- Business focus points
- 3 years of Monaro specific data, for over 15 farms benchmarked

3.45 – 4.30 pm – Fat Lamb Finishing Systems – Doug Alcock, ***GrazProphet***

- Quantify the relative profitability of "finishing pasture systems" in sheep meat production enterprises on the Monaro in the context of historical seasonal risk as compared with traditional store lamb production
- Identification of the most profitable "pasture type" for finishing in these farm systems (lucerne, phalaris, brassica)

4.30 – 4.40pm - Worm Club Update – Richie Taylor

- Likely worm burdens going into spring and expected worm populations
- Alerts based on data base worm test results
- Management recommendations

4.40 – 5.15pm – **Monaro Farming Systems AGM**

Finish: 5.15pm

Chairman's Report 2016 – Richard Taylor

With another year of reasonable seasonal conditions, and strong livestock prices, there really is no better place to farm than the Monaro. However, no one doubts the challenges of operating in our unique environment. We have not had the knowledge and information base that farmers in larger agriculture regions take for granted. The role of MFS is to help fill this information gap, and allow our members to develop the most profitable and sustainable farming systems for their operation.

MFS has continued to develop relevant projects and information days for members, as well as looking at how we can appeal to a wider membership base of Monaro farmers.
Our key focus remains on the core programs of the soils club, seasonal outlooks, benchmarking and our trainee. These have been detailed in the pages that follow, but a few key points are:

- Soil test options have been increased to allow more monitoring of key nutrients, and we are also encouraging local agronomists to bring their clients into the program.
- A summary page has been included in the seasonal update for those who want the key points without getting bogged down in detail.
- The third benchmarking session has been opened up to all members with a farm walk and discussion about the lessons of benchmarking to the operation.

Not all has been smooth sailing, and it was most unfortunate that the wether trial contracted footrot. The only positive was that the flock had been kept quarantined, so could be destocked without risking other producers. It is planned to replace the wether trial with a merino sire evaluation at "Pineleigh" in 2017, so MFS can continue to be involved in genetic comparisons.
MFS has also launched a number of new projects, many of which have been driven by the member response to our survey. While it may take a number of years for the value of these to be realised, all will contribute to knowledge about how to improve our farming systems on the Monaro. The new initiatives include:

1. Two successful farm transition forums held in conjunction with DPI
2. Finishing systems project. This has commenced with modelling profitability of systems, with a view to extending this to on farm trials of finishing pastures etc.
3. Moisture Probes installed at Bungarby, Bombala, Delegate, and Muniong (LLS).
4. Worms Club launched, and 171 samples submitted to date.
5. Weather Stations. Four sites selected, with stations to be installed by the end of 2016.
6. Established association with Fenner School at ANU, with intentions to develop farm business modelling.

Due to the sound financial position of the Board, we are in a position to continue to fund some of these new initiatives, as well as our core projects, though funding is always challenging. We must acknowledge LLS who continue to provide financial support, and to Jono Forrest who makes sure we stay on track financially. Many thanks also to the partners and sponsors of MFS, who help make these projects possible.
I would also like to thank Nancy who continues to do a mighty job in organising and keeping the wheels of MFS turning, and who has been a major factor in the success of the group.
Stephen Rolfe steps down from the Board, and is replaced by John Murdoch. It is essential the MFS Board has the input of successful farmers, and Steve has made a terrific contribution to the Board, including driving the farm transition forums over the last year.
One of the conditions of my taking on the Chairman role was that Oli stayed on the Board for a year as outgoing Chair, which he kindly agreed to do. On behalf of MFS I thank him for the enormous contribution he has made to the group.

Financial Report – Jono Forrest

MFS Statement of Profit & Loss – For the Year Ended 30 June 2016

2015		2016	Notes
	Income		
63,544	**Government Grants**	30,809	**1**
60,018	**LLS Support**	57,500	**2**
19,975	**Membership**	19,849	
	Non-member registrations	-4	
37,656	**Other Industry Grants**	29,700	**3**
7,000	**Sponsorship**	13,010	**4**
1,000	**Training Income**	299	**5**
11,569	**Wool sales**	-	
2,723	**Bank Intrest**	2,927	
29,789	**Reimbursed Expenses**	18,299	**6**
233,275	**Total Income**	172,390	
	Expense		
1,052	**Advertising**	1,930	
-	**Bank Charges**	198	
1,083	**Board Meetings**	1,824	
5,421	**Catering**	3,226	
5,000	**Charitable Donation**		
131,013	**Contract Work**	67,955	**7**
586	**Depreciation (20%)**	469	
4,005	**Materials / Capital Items**	9,575	**8**
	Office Operating Costs		
873	**Phone and internet**	1,151	**9**
520	**Postage**	752	
445	**Stationery**	563	
-	**Other**		
1,838	**Total Office Operating Costs**	2,466	
-	**Reimbursement 2015 wether trial**	9,246	**10**
-	**Office rent**		
1,144	**Subscriptions**	577	**11**
609	**Sundry**	595	**12**
2,214	**Training**	3,015	**13**
9,284	**Travel, Accommodation & Meals**	3,943	**14**
50,382	**Wages**	46,885	**15**
1,912	**Insurance**	2,198	**16**
215,540	**Total Expense**	154,101	
$ 17,734	**Net Income**	**$ 18,289**	

MFS Balance Sheet – As At 30 June 2016

2015		2016
	ASSETS	
	Current Assets	
	Bank accounts	
25,858	**Action on Ground Project**	-
17,918	**Monaro Farming Systems Inc**	89,272
52,641	**NAB Business Cash Maximiser**	30,562
87,434	**NAB TERM DEPOSIT**	89,939
	Accounts Receivable	- 410
183,851	**Total Current Assets**	209,364
	Fixed Assets	
1,376	**Computer**	1,376
1,555	**Electronic Equipment**	1,555
- 586	**Less: Accumulated depreciation**	- 1,055
2,344	**Total Fixed Assets**	1,875
186,195	**TOTAL ASSETS**	**211,239**
	LIABILITIES	
	Current Liabilities	
1,527	**GST Payable**	8,283
1,527	**Total Current Liabilities**	8,283
1,527	**TOTAL LIABILITIES**	8,283
$ 184,667	**NET ASSETS**	**$ 202,956**
	EQUITY	
166,933	**Opening Balance Equity**	**184,667**
17,734	**Net Income**	18,289
$ 184,667	**TOTAL EQUITY**	**$ 202,956**

Financial Report Notes

Note 1: Department of Agriculture (DoA) - MFS Soil Carbon Project $10,000, DoA repayment unspent funds - MINUS $4,736, DoA / Landcare "Soils for Life" Project $25,545

Note 2: Includes support for executive officer salary, seasonal outlooks, soil testing, moisture probes and finishing systems modelling

Note 3: MLA Legume project

Note 4: Cooma Rural $1,000, CB $1,000, NAB $1,000, Rabo $2,000, LambPro $1,000, Elders $1,000, Incitec Pivot $1,200, Incitec Pivot $3,310 rebate on soil tests, NSW Farmers $500, AWI $1,000

Note 5: MLA National Workshop Participatory Research Projects Attendance (Melbourne)

Note 6: Includes $9,575 proceeds wether trial sheep (off sets expense of reimbursement to participants of $9,246), $1,450 reimbursed by NSW DPI for farm transition forum (Nov 2015) costs, $5,223 reimbursed by members for 2015 soil test costs above the "credit" offer

Note 7: $7,996 - MLA Legume Project assessments
$26,277 - MFS Soil Carbon Project - consultancy modelling work, audit, E-publication
$17,532 - MFS Soils Club - Incitec soil testing costs, field day costs
$9,440 - H&S Benchmarking Consultancy Costs

Note 8: $5,445 - Soil Moisture Probe, $1,905 - VHR Worm Kits

Note 9: Includes $50 per month for phone and $30 per month for 4G Wi-Fi Modem

Note 10: All 28 participants were reimbursed $363.22 (inc GST) from sale proceeds of trial sheep (total amount of MFS share from sale was split equally amongst participants)

Note 11: Website annual hosting costs

Note 12: Venue hire, gifts, NAB connect monthly fees

Note 13 Project Officer Training Allocation

Note 14 Travel reimbursements for executive officer to manage various projects and for CEO to attend annual face-to-face Board meeting

Note 15 Majority wages for executive officer and small amount for position support and trainee to attend MFS Field Days

Note 16 MFS Board Directors Liability Insurance

Total bank balance's on the 2nd September 2016 = $12,632 (main operating account), $95,682 (cash maximiser account), $90,190 (term deposit).

Out of a total of $198,504 we have $69,231 already committed to specific projects leaving a balance of $129,273 in the operating budget to continue delivering our core projects (seasonal outlooks, moisture probe reporting, soils and worm club, traineeship program) as well as new initiatives.

Project Reports

MFS Project	**08-1 - Grass Gro – Seasonal Outlooks**
Project Leader:	Oliver Cay
Project Manager:	Nancy Spoljaric
Project Collaborators:	Doug Alcock (Graz Prophet Consulting)
Project Funders:	South East Local Land Services, MFS

GrassGro® modeling – Seasonal Outlooks

Producers are constantly challenged with making timely decisions about stock and pasture management in response to variable and volatile seasonal conditions. These decisions cover investment in pasture improvement, feeding rates, fodder purchases, destocking or buying trading stock. The timeliness of these decisions is critical given short term market fluctuations and productivity implications of any action. A lack of confidence in producers' decision making often leads to delayed or stagnant action which can have negative business, production and environmental payoffs.

MFS has continued its program of delivering Grassgro® seasonal forecasting at three critical, decision making times of the management calendar (Spring, Summer and Autumn) to support producers with their management choices.

It is hoped by continuing this program it helps our members achieve the following;

- make more proactive decisions versus reactive decisions;
- make more informed decisions regarding stocking pressures on landscapes;
- identification of "land capability" and areas with different management limitations;
- enable more timely destocking and re stocking strategies;
- encourage the setting of ground cover targets and resultant grazing pressures;
- enables producers to capitalize on market opportunities and short term trading strategies.

MFS received $5,000 through the South East Local Land Services (SE LLS) Landscapes & Industry Fund in June 2016 to help continue this contract. MFS plans to potentially extend the number of farm systems modelled to be able to represent a larger area of the Monaro in the future.

Examples of the 2016 GrassGro® generated graphics….

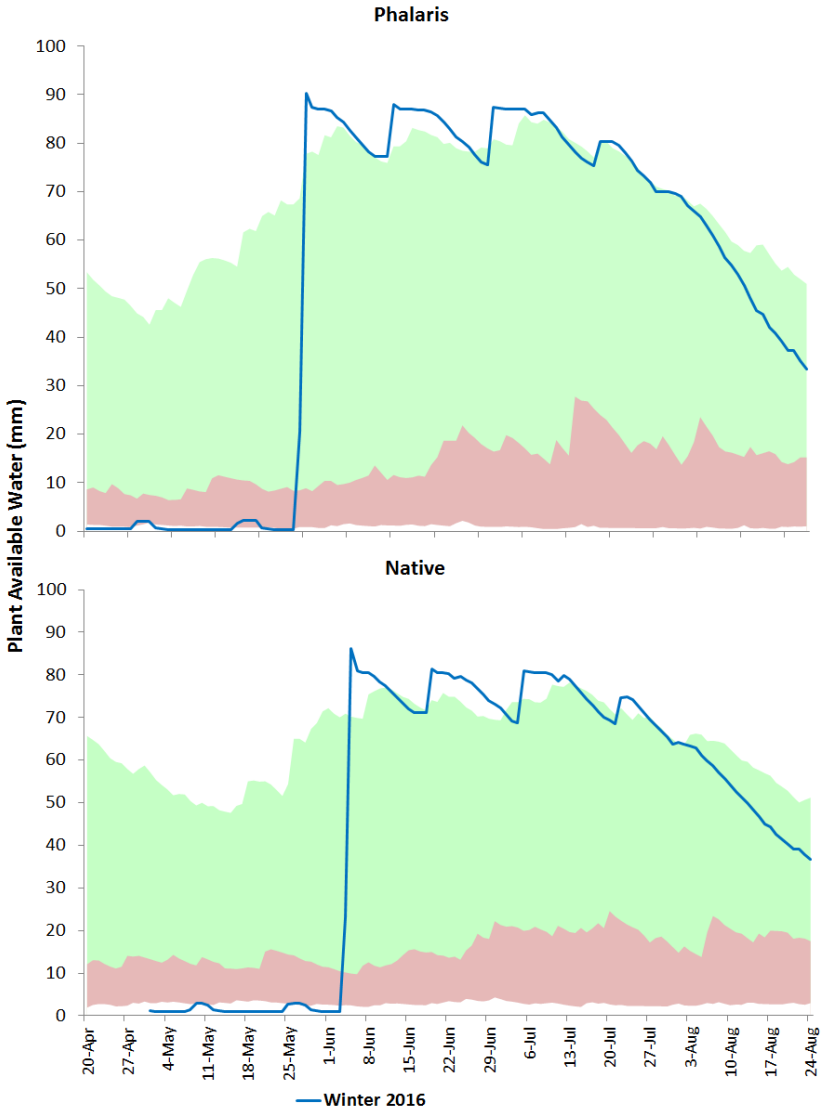


Figure 4. Daily plant available water (mm) for the 2016 winter (blue lines) compared to the long term 10th, 50th and 90th percentiles under improved pasture and native pasture

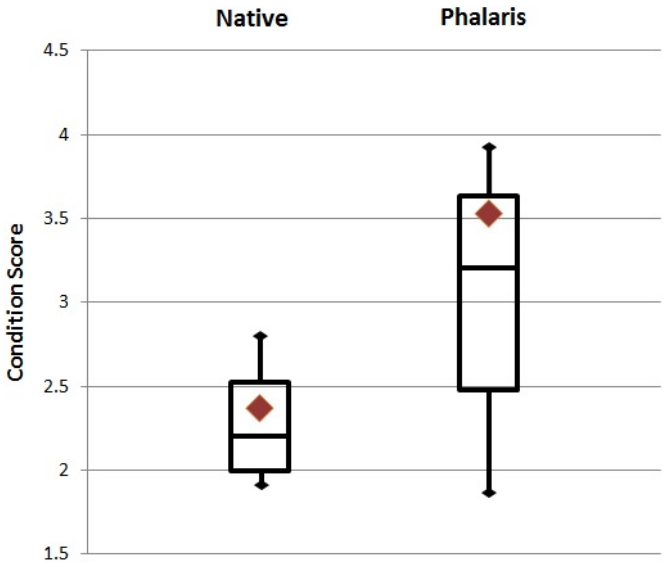


Figure 5. Ewe condition score on 24th of August (brown diamond) relative to historical distribution for that date

Soil Moisture Probes

MFS in 2015/16 committed $17,000 ($7,000 from operational funds and $10,000 from SE LLS funds) to the purchase and installation of ***three soil moisture probes.*** These have been installed at Idaho (Bungarby), Bukalong (Bombala) and Delegate Station (Delegate). The soil moisture information will be accessible via 24 hr website access. A common website is planned which will host the entire network of MFS, SE LLS and Tablelands Farming Systems probes allowing producers to log-in and view soil moisture at any of these locations 24 hrs a day. Each probe link will include a site description and an interpretation report.
It takes approximately three (3) months for the soil to settle around the probe and for the data to be relevant and accurate. The Bungarby probe was installed in April 2016 and the other two probes on the 31st of August 2016.

MFS plans to establish an "interpretation report" for the probe data to add another level of confidence to decision making in terms of feed budgeting and grazing rotations.

Additional benefits of soil moisture probe data include;

1. Assessing the effectiveness of rainfall in regards to pasture yield potentials and carrying capacities;
2. Enabling a better understanding of the different water use efficiencies of crop and pasture systems;

Paul Hudson from Cropsol installs the moisture probe on Idaho at Bungarby in April 2016

Probe at Bukalong, situated in a permanent improved pasture

Moisture probe at Delegate Station located in a paddock at the start of a crop rotation

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

Project Leader: Angus Hobson

Project Manager: Nancy Spoljaric

Project Funder: SE LLS / MFS

Project Collaborators: Richard Simpson (CSIRO), Luke Pope (SE LLS), TFS, HLN

Background

Soil health remains a major environmental threat for all agricultural Industries.

A low number of producers are "managing land to capability" and a low number of producers undertake regular soil testing / monitoring to map paddock trends over time (fertiliser decisions are often made on one test at one point in time or a "blanket approach" is used). A poor understanding of individual property and district soil deficiencies ensues low numbers of producers are adopting a targeted approach to fertiliser inputs based on identified "soil fertility zones". Monaro soils are unusual to the extent they are deficient in sulphur, and regular soil monitoring will also help us ascertain the best product and application frequency to deal with this identified Sulphur deficiency.

A continuation of the MFS Soil Club Activities will achieve the following benefits;

- Documentation of soil fertility trends and nutrient deficiencies on the main soil types across the Monaro region;
- Encourage & engage more producers to adopt a long-term, strategic and targeted approach to soil fertility management by assisting more producers to soil test more of their paddocks and develop whole-farm, soil fertility maps;
- Annual, Soil Club discussion workshops assist members to identify "fertility zones" across a landscape based on soil types & set individual nutrient targets for paddocks which can be monitored over time and underpin sustainable increases in stocking rates (a property that is optimally stocked puts less stress on the human and natural resources);
- Enables matching of fertiliser inputs to actual deficiencies ensuring fertiliser investment is targeted and strategic;
- Greater understanding of soil variability, not just between soil types but within paddocks and between paddocks.

Activities for 15/16 and the future

In 2015, MFS continued to coordinate an annual bulk soil sample submission to Incitec for approximately 50 land managers on the Monaro to build on 6 years' worth of soil test data. Approximately 333 soil tests were submitted for 2015.
This program offered a soil testing credit of $250 per membership as well as extending this offer to the wider community via the private local agronomists. MFS has now set up four (4) customized testing options with Incitec to give producers more targeted and cost effective options;
Individual property paddock "reports" for critical nutrients to map fertility trends over time were distributed to all members who participated in 2015.
A district wide analysis session open to all producers on the Monaro was conducted in November 2015.

MFS has secured funding through SE LLS ($5,000) and Department of Agriculture (DoA) ($28,100 inc GST) to continue this program for 2016 & 2017. For the 2016 program, private agronomists will be offered $1,500 to use for soil tests to be distributed amongst their interested clients to encourage greater uptake of regular soil testing.

MFS members will again be offered a “credit” for soil testing.

As a result of engagement in this program since 2010, 25% of farm businesses participating have been able to reduce their fertiliser usage by mapping nutrient trends over time while 30% of businesses have made cost savings of between $10,000 and $150,000 in fertiliser inputs by adopting a more strategic and targeted approach (variable rate spreading).

The soils club database is a valuable management and benchmarking resource for Monaro producers. The short-term goal continues to be to maximise the value for producers so they can log-in to access their individual data, create graphs, identify trends and generate prescriptions.

The data base now holds **1599 samples, representing 1050 paddocks from 50 participating producers**.

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

Project Leaders: Craig and Susan Mitchell

Project Collaborators: Tabma, MFS Host Producers, Nancy Spoljaric

Project Funder: MFS, AWI, NSW Farmers (Cooma Branch), RB Sellars

Emma Tangye of Cooma, was the unanimous choice for our 2016 traineeship program. We received approximately eleven (11) applications of which five (5) were shortlisted and interviewed by our panel (Denham Williams, Malcolm Pearce and Karen McGufficke). Emma presented as an energetic and motivated young local girl with a "passion for the Agricultural Industry".

She had a strong work ethic having worked part time for Percy's newagency in Cooma for the past four years and was very involved in the Cooma community in sporting and otherfeedback pursuits.

When asked why she applied for the traineeship Emma replied "To gain as much experience as I can with all the different techniques used for farming on the Monaro. I am prepared to work hard as I have a willingness to learn the Industry." Emma is now into the final stages of the program and feedback from farmers includes;

"Emma is another fine recipient of a wonderful program run by MFS. She is hard working and loves to learn "out in the paddock". She is easy to work with and asks relevant and sensible questions to ensure that she does the job to the best of her ability and gets the most out of her experience." Lisa Phillips

"I found the questions that Emma asked on Friday afternoon very inspiring. For a young person really wanting to know WHY and HOW." Alan McGufficke

"Emma has always been willing, enthustastic, concientious and asks question." Malcolm Pearce

Thank you to Boyce for allowing us to use their rooms once again for interviews and to **Karen, Denham and Malcolm** for considering the applicants and conducting the interviews. Thankyou to **RB Sellars** who donated clothing in 2015 and **AWI** who put Emma through the shearing school in May 2016 and Kelsie in 2015.

Thanks also to **NSW Farmers Cooma** Branch who donated $500 towards the program in 2015.

Last but not least thankyou to all the host producers who continue to make this program possible by employing our trainee / s and taking the time to supervise and share their knowledge and experience with the next generation.

Emma helps in the cattle yards at Lisa Philips property “Slap Up”

Emma at her induction January 2016, Boyce offices, Cooma.

MFS Project 14-12 **Establishing persistent and productive new legumes**
MLA Participatory Research Legume Project

Project Leaders: Oliver Cay, MFS

Project Manager Nancy Spoljaric

Project Collaborators: Doug Alcock (Graz Prophet consulting), Luke Pope (SE LLS), Belinda Hackney (NSW DPI), MFS members

Project Funder: Meat and Livestock Australia – Participatory R & D

Project Background

This project finishes in July 2017. By this date we hope to have achieved the following;

1. Identified the value of alternative legumes (based on establishment, persistence and production) compared with traditional legumes used in the Monaro region of NSW.
2. Evaluated the role of sowing time on legume performance and persistence.
3. Investigated how alternative legumes can be sown into existing pasture swards to increase pasture and animal production.
4. Completed a survey to quantify nodulation status and occupancy of the Southern Monaro and identify a baseline for this region. - **NEW**
5. Evaluated the role of associative factors that affect nodulation such as soil pH, Soil P and S, root pathogens, chemical applications, pasture age etc and consider further trial work to assess methods to manipulate legume nodulation of existing pastures to drive increases in pasture production. - **NEW**

In August 2015, Trial Site 1 (Sth Bukalong) was disbanded due to lack of legume establishment and a replacement trial site was established on a neighboring property (Kyleston).

The main aim at the Kyleston Site was to compare the impact of sowing time on legume performance and persistence. The three sowing dates being compared include Spring (scarified seed), Summer (hard seed) and Autumn (scarified seed).

A decision was made in consultation with MLA Researchers and Coordinators (phone teleconference 29th January 2016) to also discontinue any further measurement at Trial Site 2 (Gaerloch) and reallocate resources to conducting a legume nodulation survey on the Monaro in Spring 2016.

Revised TRIAL SITE 1 – Kyleston, Bombala

Compare seven (7) legume varieties at 3 sowing dates;

- spring (scarified seed) - 16th September 2015
- summer (in-pod/un scarified) - 2nd February 2016
- mid-autumn sow (scarified seed) - May 4th 2016

Spring Sowing

- The spring sowing with scarified seed took place on the 16th Sept at 10kg/ha with DAP and alosca (10kg/ha).
- Species in the "spring" sowing included A*rrowleaf clover, Santorini Yellow Serradella, Casbah Biserrula, Prima Gland* and *Bartolo Bladder clover.*
- The site was sprayed out with powermax (glyphosate) @ 1L / ha the day prior to sowing.
- The site was prepared using a rotary hoe.
- The seed was weighed, bagged and pre-mixed with the relevant group alosca rhizobium innoculant prior to spreading by hand
- Fertiliser was also weighed and bagged per plot and spread by hand.
- The sown plots were then lightly raked.


Casbah Biserrula


Arrowleaf


Gland

Summer Sowing

- The summer sowing with hard seed (un scarified) took place on the 2nd February 2016 with sowing rates ranging from 15 – 30 kg/ha with DAP @ 100kg/ha and alosca innoculant (10kg/ha).
- Species in the "summer" sowing included A*rrowleaf clover, Avila Yellow Serradella, Casbah Biserrula, Margurita French Serradella, Prima Gland* and *Bartolo Bladder clover.*
- The site was sprayed out with powermax (glyphosate) @ 1L / ha on the 3rd of December 2015 and the 31st January 2016.
- The site was prepared using a rotary hoe.
- The seed was weighed, bagged and pre-mixed with the relevant group alosca rhizobium innoculant prior to spreading by hand.
- Fertiliser was also weighed and bagged per plot and spread by hand.
- The sown plots were then lightly raked.

Autumn Sowing

- The autumn sowing with scarified seed took place on the 4th May 2016 with sowing rates 15 kg/ha with DAP @ 100kg/ha and alosca innoculant (10kg/ha).
- Species in the “autumn” sowing included A*rrowleaf clover, Santorini Yellow Serradella, Casbah Biserrula, Seaton Park Sub Clover, Margurita French Serradella, Balansa Bolta* and *Bartolo Bladder clover.*
- The site was sprayed out with powermax (glyphosate) @ 1L / ha a week prior to sowing.
- The site was prepared using a rotary hoe.
- The seed was weighed, bagged and pre-mixed with the relevant group alosca rhizobium inoculant prior to spreading by hand.
- Fertiliser was also weighed and bagged per plot and spread by hand.
- The sown plots were then lightly raked.

Establishment Data - Kyleston

		Spring Sown	
		Counted	5-Nov-15
		Average	Plants/m2
Treatment 1	Arrow Leaf	11.33	113
	Other	40.33	403
Treatment 2	Santorini	6.67	67
	Other	34.22	342
Treatment 3	Casbah	16.67	167
	Other	34.89	349
Treatment 4	Bartolo	3.56	36
	Other	29.44	294
Treatment 5	Gland Clover	6.89	69
	Other	28.22	282
*Main other species was crumb weed			

	Spring Sown re-establishment	
	Counted	19-Jul-16
	Average	Plants/m2
Arrow Leaf	0.26	2
Santorini	0.86	6
Casbah	0.41	3
Bartolo	0.01	0
Gland	0	0

Santorini - *yellow serradella*
Casbah – *biserrula*
Bartolo – *bladder clover*

Other species present in order of frequency include sorrel, thistle, crumb weed residue, fleabane, summer grass, creeping saltbush, erodium.

	Summer Sown		
	Counted	**19-Jul-16**	
	Average	**Plants/m2**	
Arrowleaf	1.32	9	
Avila	0.81	5	
Casbah	0.16	1	
Bartolo	0.18	1	
Gland	0.05	0	
Margurita	1.39	9	
*Similar to the Spring sown plots re-establishment counts			
but fewer in number and not as advanced.			

Avila - *yellow serradella*
Margurita – *French serradella*

The autumn sown plots are to be recounted in August/September 2016 and will be reported shortly. An establishment count was attempted in July 2016 but it was much too early to identify the dicot plants due to the immature stage of the cotyledon growth.

Legume Nodulation Survey

Do you know how your pasture legumes are performing?…Concerned with legume production in some paddocks?….Have paddocks that may be underperforming but not sure why?

Aims & Outcomes

Document a baseline for the Monaro of nodulation status and occupancy and clarify if the rate of nitrogen fixation in legumes is significantly affecting pasture performance in the region.

Via this survey it is hoped MFS members and the wider rural community will get a better understanding of the following;

- The current nodulation status and fixation rates of legumes on representative soil types and pastures across the Monaro.
- Are the current rhizobia strains underperforming and why?
- What impacts legume nitrogen fixation efficiency and how can we optimise it?
- Can we manipulate nodulation & nitrogen fixation in existing pastures?

- What are the limiting factors affecting legume production and how can we address them? ie. soil fertility (P & S), soil pH, root pathogens, rainfall, pasture age, rhizobia type, chemical applications ie.metsulfuron?

Design

MFS and South East Local Land Services have been working together and now have over 50 sites to be sampled in Sept/October 2016. The 50 sites cover a comprehensive representation of the Monaro improved and native pastures, climate, elevation and soil types.

- Site assessment will include; site history (comprehensive producer questionnaire) soil testing, GPS mapping, biomass and composition assessments and photos;
- Samples will be sent to Monash University laboratory for analysis for nodule occupancy;
- Analysis will include morphological observations of roots.

Results will be presented in the following format via already established communication protocols ie. field days, newsletters, media and website and will include the following;

- Map showing spatial representation of sample sites
- Summary and commentary on the scoring results
- Interpretation of occupancy ie. Strains present, efficiency of strains etc
- Factors affecting nodulation ie. pasture age, renovation practices, inoculant delivery systems, pH, soil fertility, chemical interactions etc.
- Correlations with soil type, soil texture, rainfall, soil fertility, pH, time of sowing, drought conditions etc.
- Future research directions.

Similar survey work conducted in 2015 for the Central West and Riverina regions of NSW showed out of the 140 paddocks surveyed, more than 90% of paddocks had less than adequate nodulation (score<4/8).

MFS Project 14 – 13 **MFS Comparative Analysis Group**

Project Leader: Oliver Cay

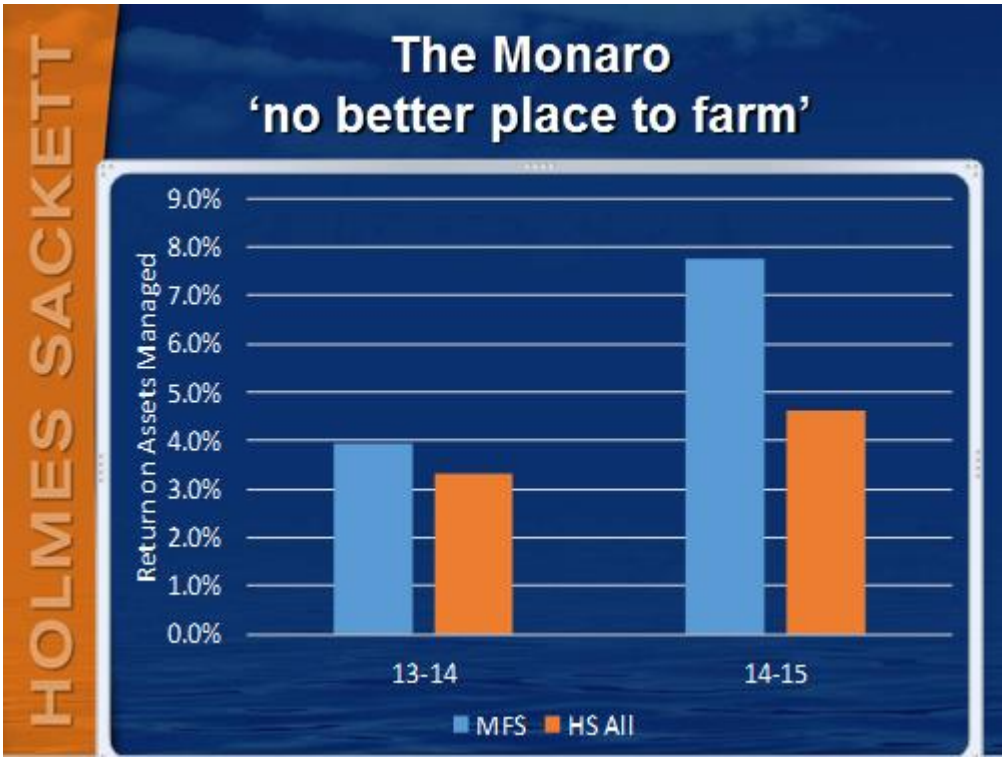
Project Collaborators: Holmes & Sackett, MFS Producers, Nancy Spoljaric

Project Funder: Rabobank, South East LLS**,** MFS, MFS producer members

Objectives and Activities

After a successful partnership with TFS in 2014-15, the comparative analysis groups went in their own directions for 2015-16. MFS again had the financial support of LLS to keep the momentum. This is invaluable data and is the only way of measuring how the Monaro stacks up with other parts of Australia and within the region from one year to the next. As seen in the graph below, it was a very good year. In September at a MFS meeting the group results were scrutinised by Sandy McEachern of Holmes Sacket and the summary can be found in video format on the MFS website.

http://www.monarofarmingsystems.com.au/benefits-of-benchmarking-sandy-mceachern/



Participants in the group had a more detailed meeting in November where McGufficke Partners hosted the day and Sandy McEachern analysed their business as well as talking about individual results within the group. The group has an open feel where individuals have expressed ideas and questions that have been as valuable as Sandy's input. At this meeting the businesses were asked about their commitment to the next year and all were keen to be involved again under a similar format.

In the previous year there was a third meeting in March hosted by a business and only open to the group. The MFS board has decided to use this meeting to encourage new participants and make the information more available to the wider MFS membership. Under the new format, Kate and Ant Waldren hosted a farm walk and

talked about what they have gained from the program. In 2017 a similar event will be funded by MFS funds and an expert from the field will be invited to talk about the business/group data.

Funding for the 2016-17 comparative analysis has changed slightly. Individual businesses are paying for their farm report, Ag Insights publication and the group only meeting in November. Rabobank is sponsoring the September Monaro analysis and MFS is funding the farm visit in March. This has now transitioned the program to a more sustainable user pays system with two high quality days for the MFS membership.

Of the three years the project has been running, 2016-17 has seen the most business participants (17) and the majority have been involved from the start. It is well recognized that a lot of the "noise" has been reduced in the third year of data collection and some very useful trends can start to be quantified.
Comparative analysis has become a core MFS project and the board is very grateful to those that have made it happen.

Oliver Cay

Sandy – group presentation – McGufficke shearing shed Nov 2015

Kate and Ant Waldren describe the benefits to their business by being in the group, March 2016

Nandawar Cows look on with intrest

Kate and Ant Waldren have participated in the MFS benchmarking group for the last two years. "Nandawar" is a 2002 ha property (1420 ha arable) on granite soil with 1213ha improved pastures (fescue, phalaris, white clover, sub). With a 660mm average rainfall, the property runs 600 breeders, 1200 dual purpose merino ewes and 250 second cross ewes with a 10.5 DSE/ha annual stocking rate and a 7.4 DSE/ha winter stocking rate.

The comparative analysis has really allowed them to identify the strengths and weaknesses of their business and focus on the key areas affecting their net profit.

Strengths

- Good $ / kg / hd = happy with genetics and management ie. calving time and fertility
- Good quality pastures and fertilizer history on the majority of paddocks
- DSE is okay but should have room to improve in light of soil tests

Weaknesses

- Poor feed use efficiency (especially in Spring)
- Labour efficiency
- Flexibility of system to take advantage of market opportunities

Strategies and key decisions over last two years in light of the comparative analysis discussions;

- Taking on agistment stock or trade at the right time
- Retaining more steers and lambs to grow out over winter/spring and utilize the extra feed
- Comparing enterprises to see where we should focus on
- Use of satellite yards versus laneways
- Taking advantage of trade opportunities (being more proactive & pliable to the market)

Rabobank

HOLMES SACKETT

MFS Project 15 – 14 **MFS Worm Club**

Project Leader: Richard Taylor

Project Collaborators: Veterinary Health Research Pty Ltd, MFS Producers, Nancy Spoljaric

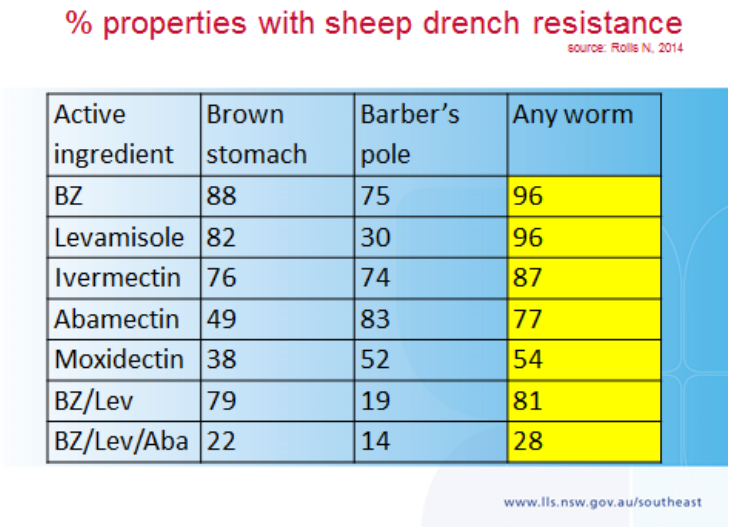
Project Funder: MFS

The back ground behind the formation of the MFS Worms Club was the growing evidence of the effects of worm burdens on livestock production for Monaro properties. Following several years of good seasons, worm populations on pasture have significantly increased with the impacts starting to hit producers hard in terms of stock losses and reduced efficiency of some chemical drenches.

This basis of this initiative includes a local centralized, data base for worm test results for the Monaro.

Benefits

- Facilitate more widespread use of worm and fluke testing;
- Build up a local picture of worm egg populations and drench resistance status in sheep and cattle across the Monaro;
- Assist with management of Barbers pole worm;
- Provide early warning email alerts about buildup of worm populations and "hot spots".



Active ingredient	Brown stomach	Barber's pole	Any worm
BZ	88	75	96
Levamisole	82	30	96
Ivermectin	76	74	87
Abamectin	49	83	77
Moxidectin	38	52	54
BZ/Lev	79	19	81
BZ/Lev/Aba	22	14	28

Slide showed by Dr. Bill Johnson, district veterinarian with the LLS at Goulburn, at a MFS field day in March 2016.

The MFS Worm Club database currently has **171 samples from 21 properties** spread across the Monaro. It is hoped this will grow to several hundred over the coming spring and summer period and give members a clearer picture of the severity of worm burdens and an early warning alert for the summer period (especially for barbers pole).

This year the MFS worm club distributed two (2) free VHR worm kits to each member.

A summary of results was sent to all members in early September as a "Spring Worm Alert", see below.

1st September - 2016

MFS Worm Club Database Update

Month	Jan	Feb	Mar	Apr	May	June	July	August
No. Samples	24	17	32	24	22	29	12	11
Average eggs/gm	312	560	442	469	529	144	244	316
Range	0-2460	0-2980	0-2940	0-8060	0-4120	0-820	0-496	0-1460
No. samples with cultures	3	5	5	3	2	13	11	2
% Barbers Pole	11	49	54	76	87	34	25	27

Key messages;

- Note the significant presence of barbers pole over the winter period, with barbers pole still representing one quarter to one third of worm eggs over the winter months;
- Once temperatures start to increase into spring, these worm egg numbers have the potential to exponentially increase pasture contamination with barbers pole, due to the egg laying capacity of this worm;
- It is imperative that effective management of barbers pole is carried out in Spring rather than waiting until summer when it is often too late to prevent production losses;
- Note that weaning time is optimal for conducting a comprehensive "drench resistance" test and MFS is happy to help producers coordinate and conduct these tests.

MFS Project 16 – 16 Finishing Systems (fat lamb and cattle)

Project Leader: Richard Taylor

Project Collaborators: Doug Alcock (GrazProphet), MFS Producers (John Murdoch, Richard Taylor) Nancy Spoljaric

Project Funder: MFS and South East Local Land Services

Background Summary

The Monaro is traditionally a breeding area with the short growing season induced by cold winter temperatures limiting pasture growth for many months of the year. This unique climate has made it challenging for producers to meet target weights and finish off spring-born stock over the summer / autumn period without specialist summer forages or supplementary feeding. With a growing shift towards meat based enterprises on the Monaro, and a trend towards more significant rainfall events over summer, there exists a need to quantify the profitability of various finishing systems.

Perennial finishing pastures, especially for lambs over summer, would ideally suit the Monaro moderate summer temperatures and the increasing summer dominance of rainfall in the district. This has the potential to translate to a real relative advantage in summer finishing opportunities which to date have not been fully explored. The expectation is that finishing lambs and young cattle on an improved perennial pasture system has the potential to be highly profitable especially given the lower sowing costs and establishment risks.

Objectives

1. Quantify the relative profitability of "finishing pasture systems" in sheep meat and beef production enterprises on the Monaro in the context of historical seasonal risk as compared with traditional store lamb and weaner production.
2. Identification of the most profitable "pasture type" for finishing in these farm systems.
3. Identification of the optimal (most profitable) amount of "area" that should be devoted to these "finishing pastures" within the context of the whole farm system (considering trade-offs with breeder numbers etc).

Outcomes

1. Documentation of the most "suited / adapted" summer species (perennial & annual) that can utilise summer rainfall and underpin the finishing of young stock over the summer and autumn period.
2. Publication of the modelling results identifying the most optimal "finishing system" for meat enterprises on the Monaro in terms of businesses profitability.

Traditional economic evaluation of improved pastures has suggested that break even points for the establishment of improved pastures is often 7-10 years however these figures are all predicated on Gross Margins ($/dse) more in line with the base breeding enterprise than the potential returns of a specialist finishing enterprise.

Monaro producers need access to sound economic analysis which accounts for their particular climate and seasonal risk profiles in order to make better decisions about sowing new pastures and forages to fill seasonal feed gaps in order to retain more of their natural increase for finishing to heavier weights on farm.

Project Design and Methods

Research questions to be addressed by Grassgro® modelling of existing ground-truthed Monaro farm systems;

1. Is finishing lambs/calves more profitable than selling as stores?
2. If yes, what pasture types maximise the profitability of "finishing stock"?
3. What proportion of the farm area needs to be devoted to these "finishing pastures" to optimise production, profitability and long-term sustainability?

The GrassGro tool provides simple economic anaylsis which can provide useful input into traditional economic analyses such as the calculation of break-even times and net present value of investment in feed base improvements such as specialist pastures. Where Grassgro® is unable to adequately model particular pasture or crop species the likely performance of animals grazing these new crops and pastures will be calculated through the GrazFeed DSS using the expected biomass and quality of forage grown.

Doug Alcock (Graz Prophet Consulting) has been contracted to model production systems and conduct an economic analysis for the following options;

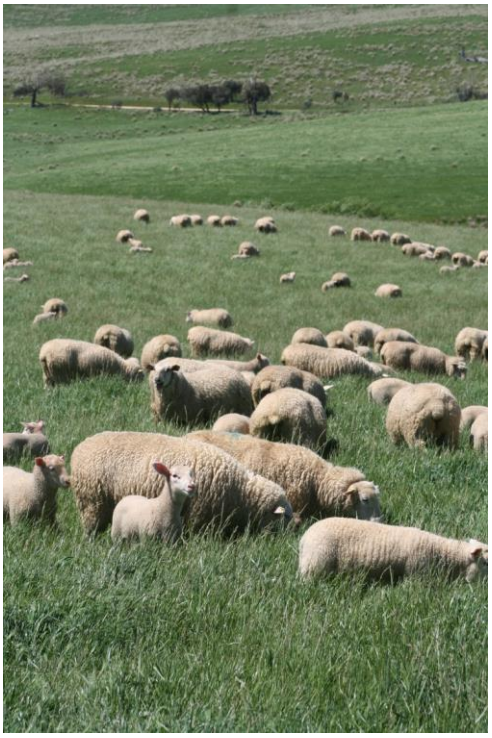
Sheep meat

1. Base breeding system, on Bungarby mix of native and improved pastures, with lambs sold as store weaners (merino ewes joined to terminals);
2. Finishing systems with lambs finished to domestic weights (22 kg cwt) with three (3) pasture options; i. improved perennial pastures (phalaris), ii. perennial lucerne pastures iii. annual fodder crops (brassica rape);

Beef cattle

3. Grow out young cattle to 450 kg by 17 months on the following pasture options; improved perennial pasture (phalaris), winter cereal and rye-grass;
4. Selling steers and heifers as store weaners at 8-9 months on native and improved basalt country.

The information generated about profit and production risk will give producers the confidence to integrate improved finishing systems into their management and overcome the usual decline in pasture quality over the summer period and meet target weights for turning off stock before the cold winter feed-gap.



Farm Transition Forums 2015 / 2016 – 130 participants

Collaborators: Ted O'Kane (NSW DPI Rural Resilience Program), Mike Stephens (Meridian Agriculture), Jono Forrest (Boyce), Stephen Rolfe

Project Funders: MFS and NSW DPI

MFS with the support of the Department of Primary Industries Rural Resilience Program have conducted two community forums (Nov 2015 and August 2016) highlighting the various options for both older generations wanting to leave the farming industry and younger generations looking to enter the industry. These Q&A style interactive forums explored the successes and the pitfalls of various leasing and share-farming options with a panel of experienced professionals answering questions relating to legal, financial and personal aspects of such deals.

Steve Rolfe (Nimmitabel grazier and MFS Board member), was one of the main drivers for the information days recognising a strong need on the Monaro and elsewhere for practical and realistic alternatives to selling and leaving the farm. "There are plenty of young and enthusiastic sons and daughters of farming families who are well educated and have the skills, but don't necessarily have the capital or opportunity to set themselves up to farm".

These forums highlighted the many business arrangements including partnerships, joint ventures, share farming and leasing where the older generation farmer could wind back and support the next generation to gradually acquire a level of ownership of the business over time.

Exerts from a media release Nov 2015 – Ted O'Kane, NSW DPI Rural Resilience Program
As farmers age, the question of leaving the farm can become a catalyst for economic and personal crisis. But forward thinking farmers are looking at innovative ways to have their cake and eat it too – by living on their farm but not having to run the farm business.

Social research has identified links between the absence of a farm transition or retirement plan and mental and physical health decline. It also highlights a high risk of farm families ageing into poverty as profits drop and the farm asset deteriorates.

Below is some interesting feedback from the workshops;

If you are looking at retirement or entering farming, what are some of the barriers to doing so?

If retiring:

- Unable to relinquish control of farm
- Problem for my father. He doesn't know what else to do. "He is a farmer, born a farmer, die a farmer"
- Access to finance/financial/$$/no superannuation
- No barriers at present
- Details of arrangements
- Fairness to other siblings
- More than 4 children wanting to lease – who do you choose?
- Farm not big enough for two sons wanting to take over
- Fear – and the finer points
- Family/personal/practical
- Knowing when to do it
- Lack of staff/man power
- No-one to take over the farm but children who "might" in the future

If entering farming:

- Access to finance/money (most)
- Money and energy
- Difficulty getting loans
- Unrealistic price expectations for lease land
- High cost of land
- Lack of available land to lease
- High livestock prices
- Timing – wondering if we are coming in at the top of the cycle
- Confidence in return on investment, capability and willingness to leave PAYG employment
- Problematic family members – namely those who have no physical, financial or emotional interest in the farm
- Other family members wants and needs
- Timing of succession
- Unknown lease agreement details/guidelines
- From non-farming family with no land assets
- Lifestyle

A huge thank you must go to the following people who gave up a lot of their time to organize and plan these events; Stephen Rolfe (Kenilworth), Jono Forrest (Boyce), Mike Stephens (Meridian Agriculture), And thankyou to Ted O'Kane who without the financial and administrative support from himself and his organization (NSW DPI Rural Resilience Program), these forums would not have happened.

Thank you also to the following people who contributed all their time, expertise and experience to these forums; Jim Symon (McMichael & Associates), Brendan Cockerill (Canberra Business Lawyers) ,Peter Muirhead (Rural Financial Counselling Service), Howard Charles(Kydrabah), Jen Medway(Tablelands Farming Systems), Jim Buckley (Highland Grange), John Scarlett (Elders), Richard Knight / Darren Secomb (Rabo Bank), Jacki Schirmir (University of Canberra), James Leigo (NSW DPI), Skye Ward, Stuart Burge, Jo Rolfe.

The "older generation" participate in a facilitated group session, 12th August 2016

The panel of professionals for the 2nd Forum on 12th August 2016

From L to R, Jim Buckley (Highland Grange) and Sean Neilson (Numeralla)

From L to R, Andrea Mitchell (Currawong), Rob Ward (Binjura) and Skye Ward (Spring Ponds)

MFS Funding Submissions submitted throughout 2015 / 2016

Productive Projects in Partnership – SE LLS Community, Industry & Landscapes Fund
Submitted July 2015 (successful) - $25,000 (May 2016 to May 2017)

This project will provide financial support to enable the following MFS projects to continue and expand; 1.Seasonal outlook program 2. Fund two additional soil moisture probes for the Monaro 3. Soil testing to expand the Soils Club database 4. Finishing systems modelling work.

Firming up the Future of Farming Systems Groups – SE LLS Community, Industry & Partnership Fund
Submitted July 2015 (successful) - $105,000 (Jan 2016 to June 2018)

This project will help financially support the MFS executive officers position. One of the challenges facing not just MFS but all farming systems groups is the reliance on "soft" funding to continue to employ a paid coordinators position. Without this coordinator the MFS group could not operate due to the time and skill constraints of a volunteer Board and the amount of administrative duties required to successfully & professionally manage an incorporated organization.

Soils for Life – Monitoring to manage the fertile and the fragile – National Landcare Program
Submitted December 2015 (successful) - $28,100 (June 2016 to Dec 2017)

This project will support financially the on-going annual soil testing program and presentation as part of the MFS Soils Club. It will also contribute to offering additional soil tests to members, a greater range of customised test options and offer subsidized soil tests to the wider community to encourage more regular soil testing and grow the data base resource of Monaro soils.

Combating Climate Change with Confidence – National Landcare Program, Sustainable Agriculture
Submitted December 2015 (unsuccessful) - $26,540

This project applied for funding to purchase and install two moisture probes for the Monaro and continue the Grassgro® seasonal outlook program. By providing these two information sources it was hoped to add value and accuracy to the forecasts and increase producer confidence in decision making.

Finishing Systems the Future for the Monaro? – 2016/17 MLA Annual Project Call
Submitted February 2016 (unsuccessful) - $12,390

The project will contract modelling work conducted by Doug Alcock (GrazProphet) to quantify the relative profitability of "finishing pasture systems" in sheep meat and beef production enterprises on the Monaro in the context of historical seasonal risk as compared with traditional store lamb and weaner production.

Collaborating Projects

Phosphorus efficient pasture systems (CSIRO, UWA, NSW DPI) – R & D for Profit
Successful – Sept 2016 to May 2020

This project will examine the development of more phosphorus (P) efficient pasture systems. The aim is to assess the performance and adaptation of *serradella* species relative to sub clover in areas traditionally sown to sub clover. NSW DPI and CSIRO work to date has shown that yellow and French *serradella* are approximately 30% more P efficient than sub clover, however the adaptation of these species to traditional sub clover growing areas is poorly understood. MFS has committed to hosting two trial sites with a budget of $7,000 over the life of the project. The trial sites will involve sowing strips across a paddock of *French serradella, yellow serradella, slender serradella* and sub clover. Site selection will be targeted to paddocks with a Colwell P of around 15-20 mg/kg range.

The idea is we try and understand the 'conditions' in a given location where *serradella* is performing best and also understand the conditions where *serradella* is performing poorly. This will hopefully inform future sowings of *serradella* where the species is targeted to paddocks with a likely high probability of successful establishment and regeneration.

Richard Hayes, NSW DPI collects soil cores from potential sites in the Bombala district.

Doug Alcock GrazProphet and Richard Hayes, NSW DPI sample a potential site..

Optimal pasture management practices for farmers to enhance production and increase the rate of soil carbon accumulation (NSW DPI, Susan Orgill) - New Zealand Fund for Global Partnerships in Livestock Emissions Research

EOI submitted June 2016 – unsuccessful

If successful this project would look at increasing soil carbon in soils using fertilisers. From MFS point of view it would be research focused on soil nutrition for pasture production, including nutrient release curves for the Monaro ie. potentially Sulfur trials would fit in here. The MFS role would be contributing sites for replicated field trials in the Monaro region.

The Board has agreed MFS will contribute $5,000 per year for three years if the project is successful and will consequently play an active role in designing the trials for this region.

Future Projects

Merino Superior Sire Evaluation Trial - Pineleigh 2017

A meeting of interested parties was held in Cooma on the 13th of July to discuss a sire evaluation trial for the Monaro. Based on the amount of intrest and commitment coming out of this meeting it looks likely this trial will go ahead. Ideally it will involve 14 local sires including 2 linked sires and run for three years with the option to take the wether portion on for a further total of five shearing's to gather "lifetime" data. Some of the **aims** of this site would be;

- To objectively asses influential merino sires under Monaro conditions
- Encourage breeders and producers to network and talk about the future of the industry
- Encourage local breeders who have not gone down the path of objective measurement to do so
- Demonstrate technologies in data collection and the use of it

MFS Events Summary 2015/16

- **30th Nov 2015** – MFS Soils Club Annual presentation and Xmas Lunch – Alpine Hotel, Cooma

    - Fiona Leech, South East LLS – Results from Alternative Fertilisers Trial
    - Dr Jim Virgona, Graminus Consulting – Farm Soil Mapping
    - Phil Graham, NSW DPI - analysis of the 2015 Monaro soil sampling results

- **30th Nov 2015** – Farm Transition Forum (1) – MFS / NSW DPI – Alpine Hotel, Cooma

- **9th March 2016** – Autumn Field Day – *Nandawar,* Kybeyan

    - Doug Alcock, GrazProphet – Autumn/Winter Seasonal Outlook
    - Kate and Ant Waldren – Benefits of benchmarking
    - Bill Johnson, Senior Veterinarian LLS – War on worms
    - Richard Taylor, MFS – MFS Worm Club overview

- **10th June 2016** – Winter Field Day – Nimmitabel
    - Phil Graham, NSW DPI - economic cost of worms to your farm business
    - Alan Hood, Cooma Rural - A profile of drench resistance across the Monaro
    - Doug Alcock, GrazProphet - An updated Seasonal Outlook for winter
    - Dr Richard Culvenor, CSIRO Agriculture - CSIRO best performing phalaris cultivars Holdfast GT & Advanced AT, persistence qualities under grazing pressures and variable soil fertility

- **12th August 2016** – Farm Transition Forum (2) – MFS / NSW DPI

- **13th September 2016** – MFS / Rabo Field Day and AGM

    - Doug Alcock, GrazProphet - Seasonal Outlook for spring
    - Georgia Twomey & Matthew Costello, Rabo Bank – wool & red meat analyst
    - Sandy McEachern, Holmes & Sackett – MFS Benchmarking Group Analysis Presentation
    - Doug Alcock, GrazProphet – Finishing Systems modelling presentation
    - Richard Taylor, MFS – Worm Club update heading into Spring
    - MFS AGM

- **Nov 2016** - MFS Soils Club Annual presentation and Xmas Lunch

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Carbon Farming Futures – Dept. of Agriculture
CSIRO
Meat & Livestock Australia

Special Mentions…

South East LLS for their on-going financial assistance and support.

Boyce for continuing to provide meeting rooms on numerous occasions & financial advice (Jono Forrest).

Lachy Ingram University of Sydney who continually supports MFS Projects.

Meridian Agriculture for Mike Stephens on-going efforts to support the organization above his Board duties.

Retiring Chairman Oli Cay who has chaired the Board from September 2010 to September 2015 and stayed on as the outgoing Chair for a further year in 2016. Thankyou Oli!

MFS Chairman Richard Taylor who willingly gives a lot of his time "behind the scenes" to drive projects and direct resources and investment onto the Monaro.

MFS Board who give numerous volunteer hours to provide leadership for the group and initiate and drive new ideas.

Stephen Rolfe retiring Board member (2016) who has made a significant contribution over the last three years to all areas of MFS as well as initiating and delivering the Farm Transition Forums.

Alan McGufficke who continued to manage the 2015 MFS wether trial which was unfortunately discontinued in 2016.

Craig Mitchell who has continued to support and lead the MFS traineeship program.


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