MONARO FARMING SYSTEMS

Monaro Farming Systems

2018 Annual General Meeting

6th September 2018

Reports and Meeting Papers

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Agenda

Start: Lunch 12.00 to 1.00pm

1.00 – 2.30 pm	Comparative Analysis Report, Sandy McEachern – ***Holmes & Sackett*** Kim Lee – Producer & Rabo Bank succession planner • Key profit drivers for the Monaro • Business focus points • 5 years of Monaro benchmarking data analysed • Benefits of benchmarking to our business (Kim Lee)
2.30 – 3.15 pm	Spring Seasonal Outlook – Doug Alcock, *Grazprophet*
3.15 – 3.30 pm	Afternoon tea
3.30 – 4.00 pm	Lamb Finishing PDS - Doug Alcock, *Grazprophet*
4.00 – 4.20 pm	Serrated Tussock resistance on the Monaro? ***Jo Powells, LLS***
4.20 – 4.50 pm	MFS Updates – New Look MFS Website & Member Survey
4.50 – 5.00pm	Summer Active Perennial Project – Dr Richard Culvenor (CSIRO)
5.00 – 5.30 pm	**Monaro Farming Systems AGM**
Close:	**Drinks 5.30pm**

Chairman's Report 2018 – Richard Taylor

After seven years of generally good seasonal conditions, the last twelve months have been much more challenging. While good commodity prices make feeding programs more palatable, they also increase the pressure to make the best possible decisions.

The MFS Board frequently discusses the role of the group, which is viewed primarily as delivering high quality information, so members are better positioned to make these important decisions. Where there are gaps in this information, we look to design and seek funding for projects to fill these knowledge gaps.

We have surveyed members again this year to get feedback about where the Board should be directing its attention. In addition to strong support for our existing projects, there is interest in price discovery for livestock prices on offer from feedlots and processors, and for input costs. There is also interest in providing support for contractors in areas where there are currently a shortage of contractors available.

In a significant departure from our policy of leaving political issues to the farm lobby groups, MFS has taken a lead role in working with NSW Farmers and LLS to achieve a better outcome in native vegetation regulation. A $107,000 grant from the LLS has been provided to MFS to develop and test an improved approach, the first stage of which is detailed in a report just completed by Stuart Burge. Many thanks to our State MP John Barilaro in helping facilitate this work. We are optimistic of developing a plan that will achieve better conservation and production outcomes than the present regulation.

In addition to the ongoing projects outlined in this Annual Report, significant developments over the last twelve months include:

- Richard Simpson and Rebecca Haling setting up 15 field sites over May/June 2018 to measure response to Sulphur fertiliser, and its relationship with soil tests at various depths. It is hoped this project will start to fill gaps in knowledge in correcting S deficiencies, which remain the major nutrient deficiency on the Monaro.
- Securing a $41,000 grant from MLA to run steer finishing system producer demonstration sites, to get a better understanding of pasture growth and steer growth rates on different finishing pasture/crop systems. This will be run over two years and be similar to our lamb finishing project.
- Recently securing a grant for $512,000 over 5 years for the "Next Generation Forecasting" project, developing automatic updating of seasonal outlook forecasting, so producers will have continuous access to information on where seasonal conditions sit in relation to previous years, and pasture growth outlooks going forward. This exciting project is led by MFS, and done in conjunction with the CSIRO, TFS, the LLS, and Bookham Ag Bureau.

The increasing number of projects being managed has led to a need to increase the size of the Board, with this proposal being put to the membership at our AGM. Nancy also needs support in project management and administration, and interviews are currently being conducted for these roles. Moving beyond a single employee has led to the Board decision to directly employ staff, moving away from our long standing arrangement with Meridian. Meridian, and Mike Stephens in particular, have been central to the establishment and ongoing success of MFS, and we hope to continue to work with them on a project basis.

A big thanks to the Board, with special thanks to Georgie Hood and Jono Forest for developing and implementing our HR and WHS systems, allowing MFS to responsibly taking on the role as an employer. Also I would like to recognise Gus Hobson's contribution, with Gus retiring after six years on the Board.

MFS remains in a strong financial position, and this is in no small way due to our sponsors, and especially to the LLS, which continues to provide both strong financial assistance, and technical support.

Finally, I would like to thank Nancy for another year of hard work. Nancy is not only the face, but is also central to MFS operations, and is always a pleasure to work with.

MFS Statement of Profit & Loss – For the Year Ended 30 June 2018

2017		2018	Notes
	Income		
	Government Grants		
32,500	LLS Support	73,092	1
21,889	Membership	26,374	
882	Non-member registrations	-	
18,476	Other Industry Grants	70,299	2
14,900	Sponsorship	15,640	3
2,352	Interest received	2,414	
21,692	Reimbursed Expenses	24,528	4
112,691	**Total Income**	**212,347**	
	Expense		
1,362	Advertising	1,023	
141	Bank Charges	207	
4,704	Catering	5,183	
94,586	Contract Work	132,406	5
375	Depreciation (20%)	643	
-	Profit/loss on fixed assets	1,055	6
3,075	Materials / Capital Items	8,369	7
	Office Operating Costs		
873	Phone and internet	873	
807	Postage	943	
310	Stationery	429	
1,257	Subscriptions	676	8
548	Sundry	1,037	9
491	Training	1,542	10
4,749	Travel, Accommodation & Meals	6,825	11
49,723	Wages	58,057	12
4,427	Insurance	2,214	13
167,428	**Total Expense**	**221,481**	
$(54,737)	**Net Income**	**$(9,134)**	

MFS Balance Sheet – As at 30 June 2018

2017		2018
	ASSETS	
	Current Assets	
	Bank accounts	
28,620	Trading Account - NAB	19,931
26,424	Cash Maximiser Account - NAB	21,437
91,930	Term Deposit - NAB	94,403
(410)	Accounts Receivable	-
146,564	Total Current Assets	135,771
	Fixed Assets	
1,376	Computer	1,713
1,555	Electronic Equipment	500
(1,430)	Less: Accumulated depreciation	(697)
1,500	Total Fixed Assets	1,516
148,064	**TOTAL ASSETS**	**137,287**
	LIABILITIES	
	Current Liabilities	
(157)	GST Payable	(1,800)
(157)	**TOTAL LIABILITIES**	**(1,800)**
$148,221	**NET ASSETS**	**$139,087**
	EQUITY	
202,956	Opening Balance Equity	148,220
(54,736)	Net Income	(9,134)
$148,220	**TOTAL EQUITY**	**$139,086**

**Note: a new HP laptop was purchased for MFS in the 2018 FY with a Microsoft Office 365 subscription*

Total bank balance's on the 1st September 2018 = $92,372 (main operating account) + $21,632 (cash maximiser account) + $94,080 (term deposit) = **$208,084 net position**

Out of a **total of $208,084** we have **$68,842** already committed to specific projects leaving a balance of **$139,242** in the operating budget to continue delivering our core projects (seasonal outlooks, moisture probe reporting, soils and worm club) as well as new initiatives.

Financial Report Notes

Note 1: $25,000 Productive Projects in Partnership (supported soil tests, seasonal outlooks, steer finishing modelling, weed case studies), $48,092 supported the MFS coordinators role

Note 2: These grants included funding for the following projects; P Efficient Legumes, War on Worms (drench trials etc), Solving the Sulphur story (CSIRO), Lamb Finishing PDS

Note 3: LambPro $1,000, Cooma Rural $1,000, Landmark $1,000, NAB $2,000 (2017 / 2018), AWI $1,000, Sheep Connect $2,500, Elders $1,000, Incitec soil test rebate $4,140, Rabobank $2,000

Note 4: Reimbursed expenses includes $$ for soil tests above the MFS offered credit, worm kits and $12,000 paid to MFS for membership in the benchmarking group

Note 5: **Contract Work Main Expenses**

- $4,876 MFS Website Upgrade and Security - Consultancy 2pi
- $16,771 Lamb Finishing PDS MFS Project 16-16 - Consultancy Grazprophet
- $16,520 MFS Comparative Analysis Group MFS Project 14-13 - Consultancy Holmes & Sackett
- $19,816 MFS Soils Club MFS Project 10-7 - Incitec soil testing
- $13,388 Grassgro project, seasonal outlooks MFS project 08-1 - Consultancy Grazprophet
- $4,142 Soil Moisture Probes, MFS Project 16-15 - on-going data hosting, site maintenance
- $12,823 Solving Sulphur Story, MFS Project 17-20 - MFS Cash Contributions
- $41,000 Weed Projects (Native Vegetation Review), MFS Project 17-19 - Consultancy Stuart Burge

Note 6: Value of electrical equipment (data projector, printer) and upgrade of laptop computer Oct 2017

Note 7: Worm kits (Invetus), Soil Sampling Equipment, EID Sheep tags (lamb PDS), chemicals, drench guns, ear tags for drench trials, professional printing jobs etc

Note 8: Website annual subscriptions for Vimeo, Word Press and Word Fence

Note 9: Sundry - venue hire costs, interest charged on overdue Incitec account, presents for retiring Board members

Note 10: Training - $454 for Project Officer Excel course, $1087 for MFS Trainee to attend Hay Inc

Note 11: $1375 for Meridian to attend Board meetings, remainder for Project Officer travel

Note 12: $2,788 for trainee wages to attend Hay Inc training, remainder Project Officer wages

Note 13: Directors Association Liability Insurance

Project Reports

MFS Project **08-1 - Grass Gro – Seasonal Outlooks**

Project Leader: Richie Taylor

Project Manager: Nancy Spoljaric

Project Collaborators: Doug Alcock (Graz Prophet Consulting), Phil Graham (Graham Advisory)

Project Funders: South East LLS, Sheep Connect NSW, MFS

GrassGro® modeling – Seasonal Outlooks

In 2017/18 MFS continued to deliver regular seasonal outlooks at critical decision-making times of the year namely early Spring and Autumn. Doug Alcock, *Grazprophet* was again contracted to deliver these reports, both a written copy as well as a face to face presentation. In 2017, the forecasts were expanded to integrate "real-time" soil moisture information from four (4) moisture probe locations across the Monaro (Berridale, Bungarby, Bombala and Delegate).

Currently, each forecast includes the comparison of five (5) farm system baselines. Each farm system uses soil descriptions collected from the site and an improved or native pasture description.

- Bungarby (Native)
- Bungarby (Improved)
- Delegate
- Bukalong
- Muniong

Each Grassgro® seasonal outlooks describes the following for the 5 modelled sites;
-cumulative rainfall and weekly average temps for the 3 months preceding the forecast
-plant available soil water mm (PAW) at all sites
-current green herbage mass at all sites (kgDM/ha)
-current ewe condition score
-BOM seasonal projections
-green herbage pasture projections at all sites (kgDM/ha) for next 3 months
-ewe condition score projections for the next 3 months
-feed requirement of weaner, maiden & mature ewes / chance of supplementary feeding (kg/hd grain required)
-ground cover risks
-STRATEGIES ie destocking versus feeding & ECONOMIC impacts on profit ($/ha) for the whole farm system

For the 2018 financial year, MFS received funding through the South East Local Land Services (SE LLS) to help continue this program.

MFS has recently applied through the Boco Rock Community Enhancement Fund for funding support to continue this core MFS project.

MFS Project	**MFS Project 16 – 15 – Soil Moisture Probes**
Project Leader:	Phil Graham (Graham Advisory)
Project Manager:	Nancy Spoljaric
Project Collaborators:	Cropsol, TFS, South East LLS, Doug Alcock (Graz Prophet Consulting)
Project Funders:	South East LLS, TFS, MFS

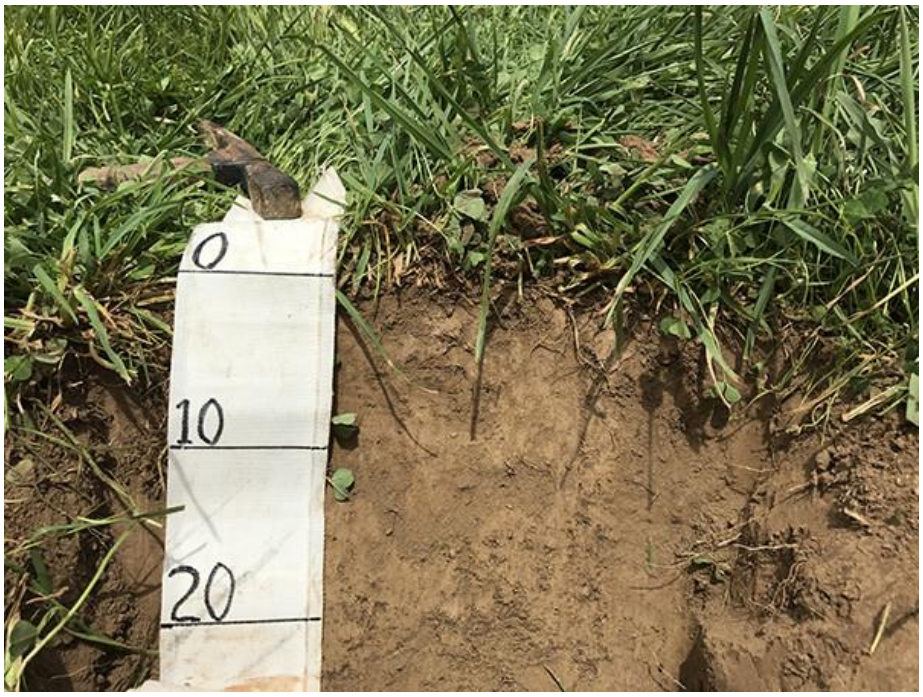
The four probes across the Monaro are located in the districts of Rhine Falls (Muniong), Bungarby (Idaho), Bombala (Bukalong) and Delegate (Delegate Station).

A dedicated TFS-LLS-MFS **soil probe website** is now up and fully functional with a technical upgrade implemented recently. **The site now hosts 19 probe locations and each houses a** profile of each site location (including soil and pasture descriptions) plus the rainfall and soil moisture graphs.

Members are able to log-in at any time, select their most relevant probe and see soil moisture profiles for the 10cm, 20cm, 40cm, 60cm depth intervals as well as % saturation of the soil at each of those depths and current soil moisture position compared to the same time last year and a month ago. Other displayed graphics include a monthly / yearly rainfall chart, soil temperature and soil morphology and classification descriptions for that site.

MFS continues to contract Doug Alcock, GrazProphet to deliver timely seasonal outlooks which incorporate the moisture probe information from the Monaro sites displayed on this website. Because of this data, Doug is able to provide considered estimates of PAW (plant available soil water) when comparing the 5 baseline farm systems which feeds into pasture green herbage mass projections.

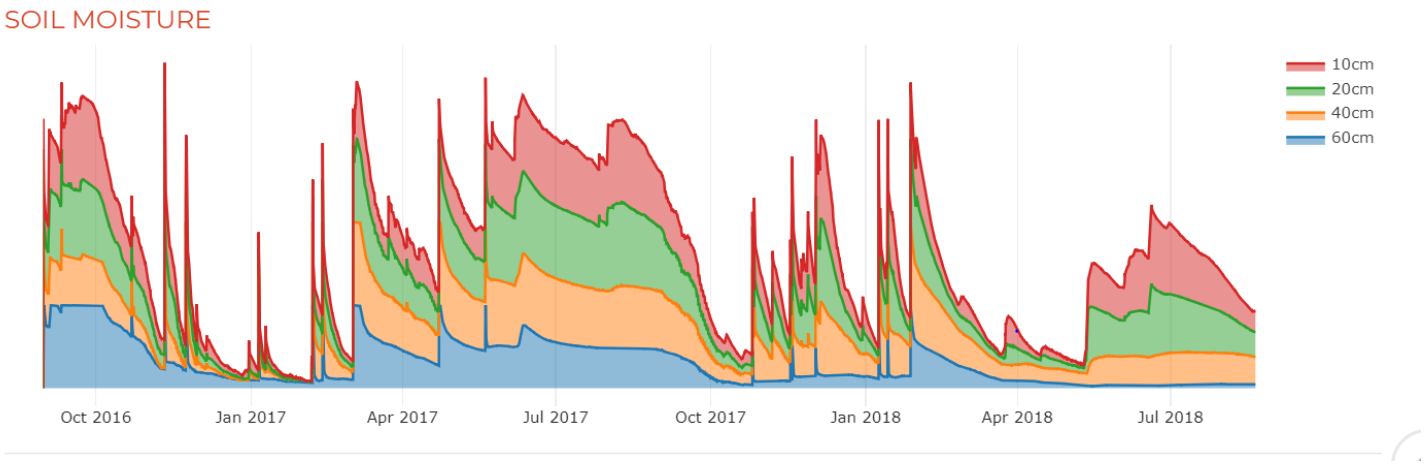
Bi-annual reports are delivered by LLS giving outlooks at other Southern Tablelands sites at strategic times of the year.



As part of a recent grant from the Department of Agriculture and Water Resources, MFS has funding to install five (5) more moisture probes which will enable us to represent a much larger proportion of the Monaro. Farm systems will be developed at each of these sites with field measurements of the soil morphology such as bulk density data which can then feed into the Grassgro farm system modelled at that site.

MFS has committed to a cash contribution of $7,000 towards this probe system in on-going maintenance and networking.

Examples of some of the **graphics** which are available on-line at each probe site from the **soil probe website** are below. www.soilmoistureprobes.com.au



"The web site has been upgraded by LLS in July 2018 which has improved the display to more accurately reflect what is happening to "available soil moisture". We do not know exactly the available soil moisture but over time we are getting the display closer to reality.
What was done in the upgrade was to remove the water that was in the soil but did not contribute to pasture production. This applied mainly to the lower level. This moisture tended to mask the impact on the top layer of rainfall events. Now that the new "Smart Farming" project has been funded by the Federal government the linkage between the probe data and potential pasture production will be automated so that producers can get data on a time frame that they choose rather than just twice a year as is done now."
Phil Graham – Graham Advisory

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

Project Leader: Angus Hobson

Project Manager: Nancy Spoljaric

Project Funder: South East LLS / MFS

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

Background

MFS have invested a total of $73,580 in the MFS Soils Club since its inception in 2010.

The MFS Soils Club was initiated in 2010 and now involves 83 farm businesses, has tested a total of 1216 paddocks and has a data set of 1970 tests representing the three main soil types on the Monaro (basalt, granite and shale). The work done by the soils club has improved the skill level, understanding and capacity of producers to manage their soil fertility and improve pasture productivity.

The phosphorus (P) story in soils is well understood and has led to significant improvements in correcting P deficiencies across the district, however the Sulphur story is not well understood, either on the Monaro or at a wider Industry level.

Addressing S deficiencies has become one of the primary, priority issues within the soils club. Late in 2017, MFS teamed up with CSIRO scientist's Dr Richard Simpson and Dr Rebecca Haling to apply for funding through the MDC Fast Track Program to initiate a project which will start investigating how to correct S deficiencies on Monaro soils (see below for full details of this project).

Jim Virgona of Graminus Consulting requested approval in May 2018 to use the MFS data base software for his own client base. The MFS Board agreed based on a MoU agreement that has been signed by both parties.

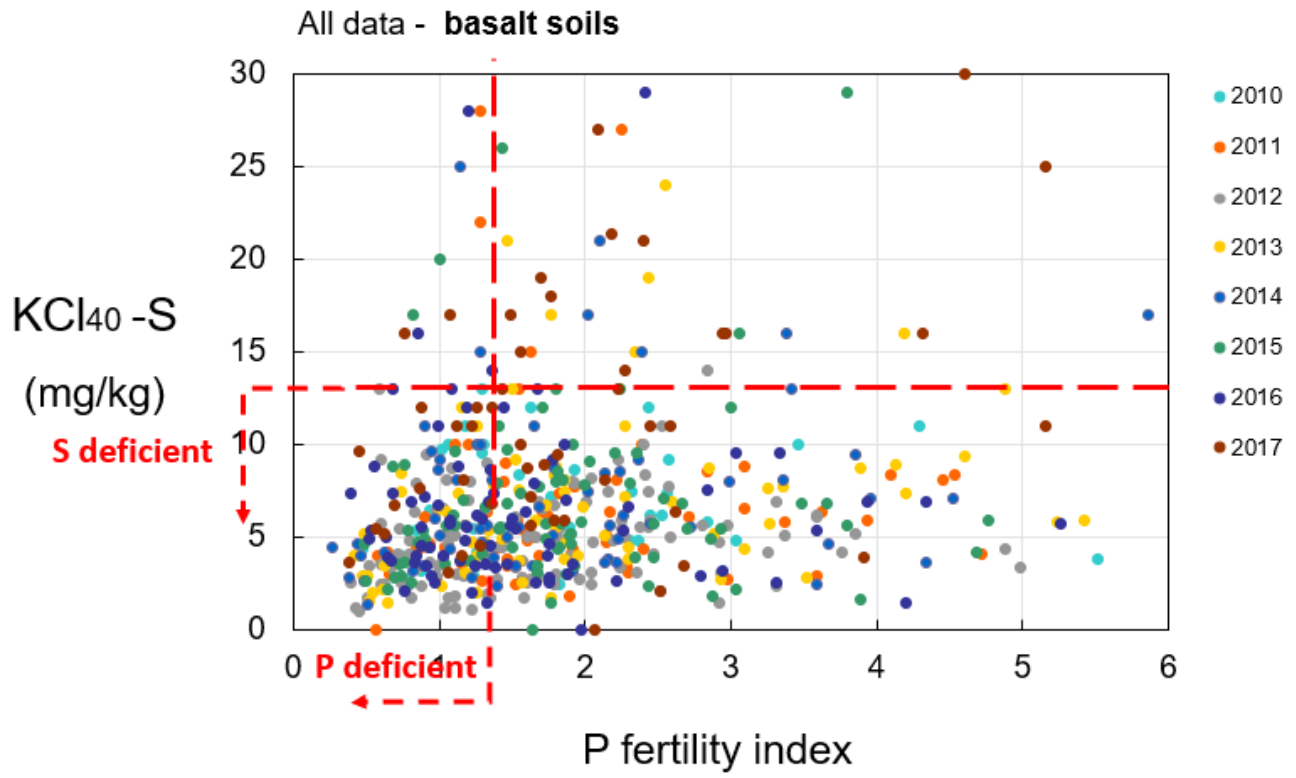
Highlights to come out of the 2017 Annual bulk soil submission include;

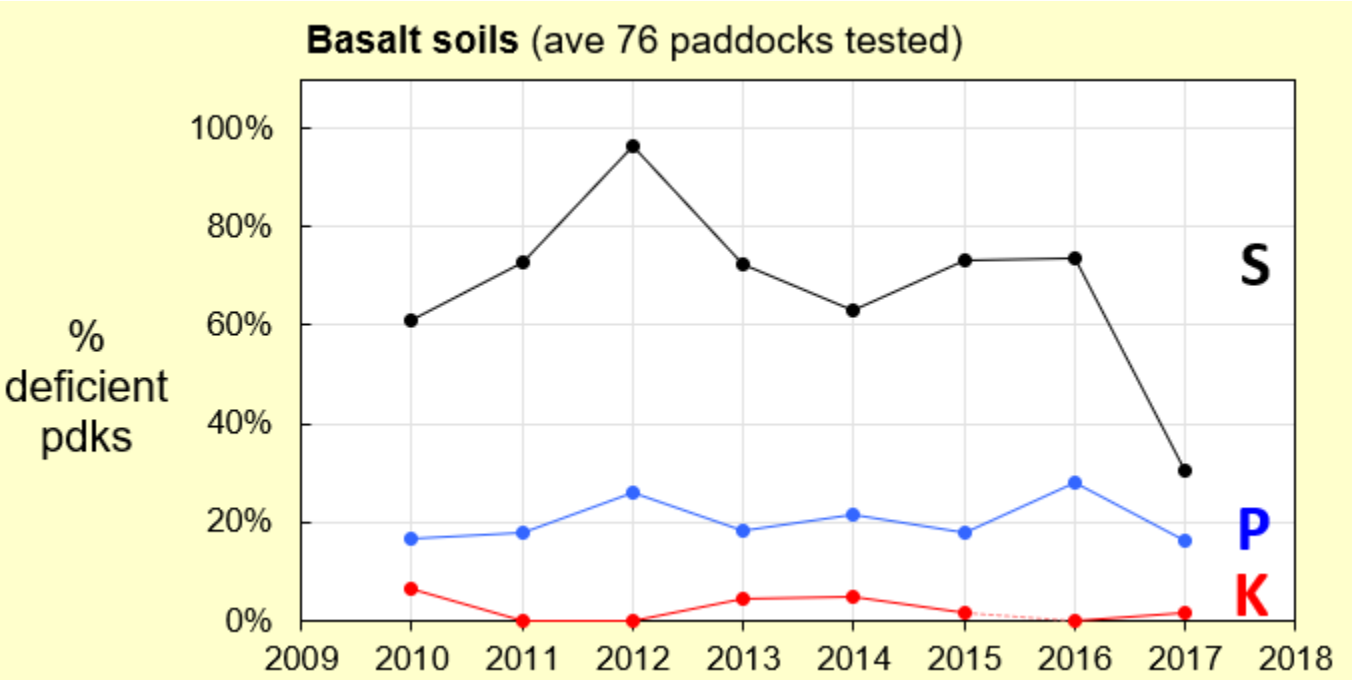
Annual numbers of soil tests "attributed' to soil type in the MFS soil database

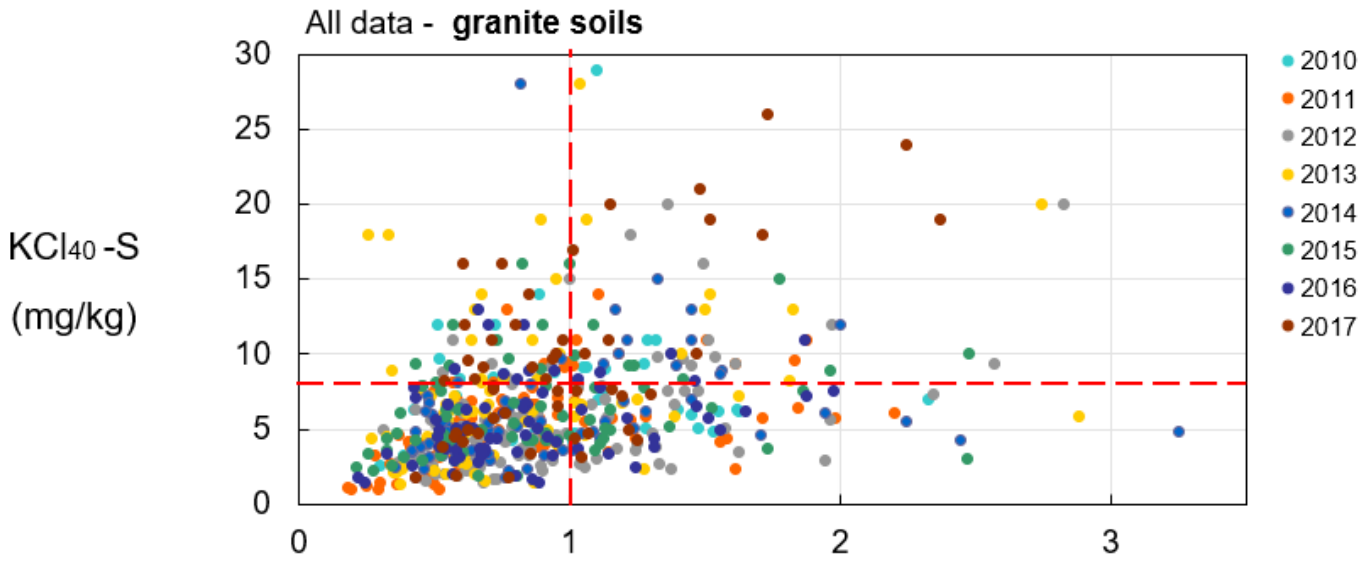
- Basalts soils: ave = 76 (range: 36-117)
- Granite soils: = 76 (45-119)
- Shale/slate soils: = 25 (14-44)

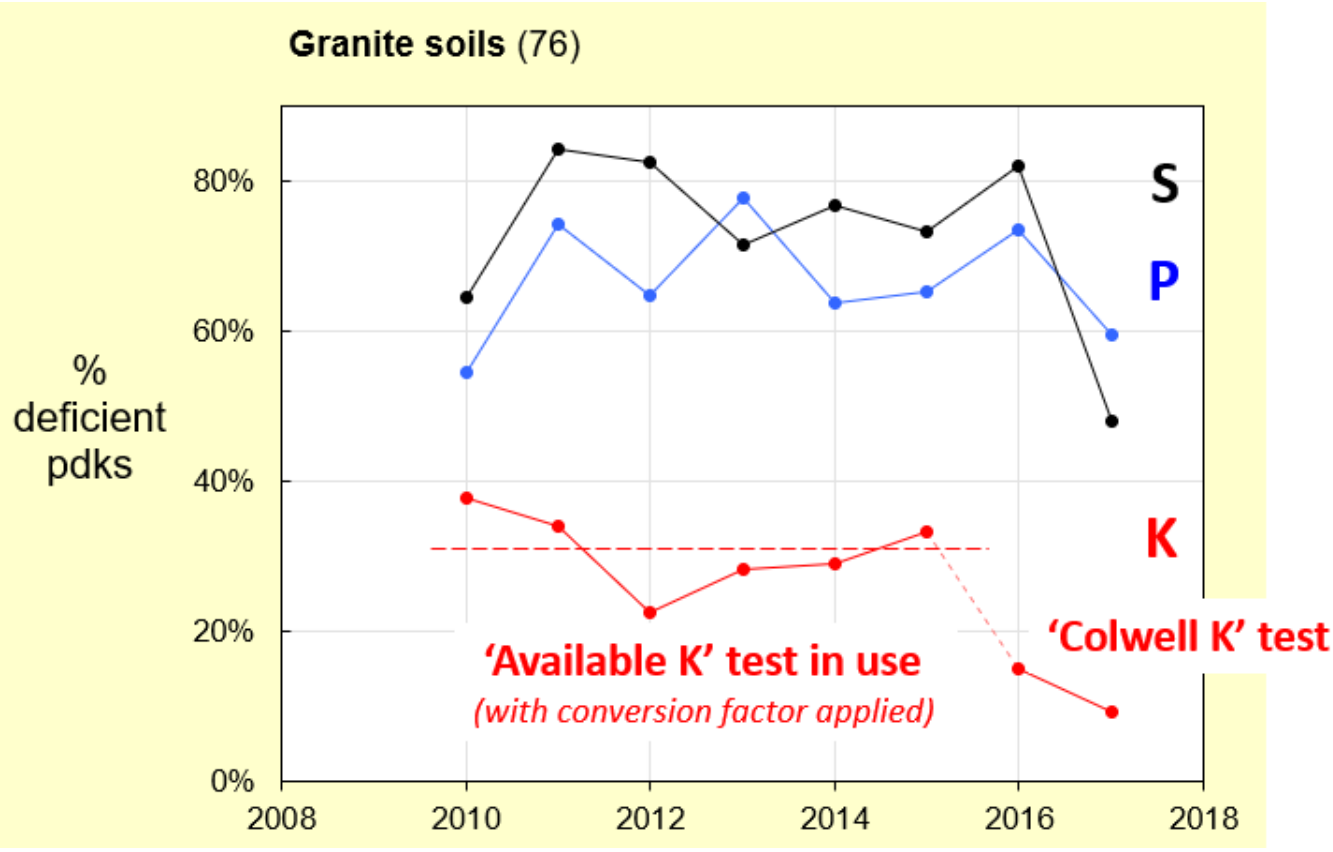
There are also many "transition" soils that sit between basalt and granite or shale soils and, most importantly, many soils with no attributed origin. Some effort to record the origin of more of the soils in the database will improve our ability to probe the data.
Environmental conditions in 2017 have favoured S-mineralisation, conservation and/or retention of sulphur in the soil profile resulting in an unusually low number of S deficiencies recorded in soil tests this year.

Selected graphs from the 2017 Soils Club presentation by Dr Richard Simpson, CSIRO are below.


All data - basalt soils
KCl40 -S
(mg/kg)
S deficient
P deficient
P fertility index
2010
2011
2012
2013
2014
2015
2016
2017


Basalt soils (ave 76 paddocks tested)
% deficient pdks
S
P
K





It is expected MFS will be offering another **soil test credit to all members in October 2018** which will be funded in part by South East LLS funding and also by MFS operational funds.

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

Project Leaders: Craig and Susan Mitchell

Project Collaborators: Tabma, MFS Host Producers, Hay Inc, Nancy Spoljaric

Project Funder: MFS, AWI

A local girl from Cooma, Livinia Evans was the successful MFS trainee for 2018. Livinia completed Year 12 last year at Monaro High School having chosen an agricultural focus in her subjects over the last four years. As well as completing a Cert II in Agriculture during school, she had worked casually on properties, in shearing sheds and the Cooma sale yards for many years.
Livinia is planning a long term career in agriculture and is hoping to use this year as a stepping stone to study Agriculture at Marcus Oldham agricultural college next year.

"I've always had a passion for agriculture – my father is a livestock agent in Cooma and I have several relatives who are shearers," Livinia said. *"I have a particular interest in genetics and I am keen to make a real difference to the world through improved agricultural productivity. I love living on the Monaro though and it would be nice to settle on a property here."*

But her focus at present remains on the Monaro Farming Systems (MFS) traineeship during which she is enjoying gaining invaluable practical skills by working on a variety of farms across the Monaro.

Livinina is being 'shared' across a group of host farms including Bellevue, Coolringdon, Murranumbla, Springvale, Gaerloch and Finchley where she is helping with jobs like drenching, pregnancy scanning, fencing, general property maintenance, working in shearing sheds and unfortunately due to the season, a significant amount of stock feeding!

"The practical side of the traineeship has been awesome; I've been learning so many useful skills," Livinia said. "Although I've been around agriculture for most of my life, the traineeship has broadened my experience and really opened my eyes.

Livinia is currently completing a Certificate III in Agriculture which is offered as part of the traineeship and joined 14 other agricultural focused youths on rural properties in the Hay district for 3 weeks as part of the **Hay Inc certificate**. The time in Hay reinforced and expanded her practical skills in areas such as sheep handling

and yard work, fence construction, stock water maintenance, shed management and wool handling, small engine and motorbike maintenance, working dog training and many other areas.

"I've really loved the practical nature of the Hay Inc program," Livinia said*. "Learning with the other likeminded young people on the course was very useful and a lot of fun.*

The MFS Board is currently reviewing the program to see whether there is other avenues for helping train the younger generation who have chosen a career path in Agriculture.

Thankyou once again to all those that make this program a success. They include; our interview panel for 2018 **Malcolm Pearce, Georgie Hood and Sarah Woodhouse**; **Boyce** for again allowing us to use their meeting rooms and facilities for interviews and inductions and the **MFS host producers** that train and mentor our trainees on their properties.

Thankyou once again to **AWI** who donated $1000 to help fund the Hay Inc training in 2018.

Photos of the Hay Inc course participants - 2018

HAYINC. RURAL EDUCATION

awi Australian Wool Innovation Limited

MFS MONARO FARMING SYSTEMS

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

Project Leader: Georgie Hood

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

Project Funder: Rabobank, MFS, MFS producer members

Objectives and Activities

The MFS benchmarking group is into its 5th year, meaning there is a growing level of data that is showing common trends. The 2018 year is shaping up to be an exciting year with strong interest from 4-5 new farm businesses and all members from last year keen and enthusiastic to go around again.

The 13 participants are benefitting from this increasing level of statistics but have also been surprised by the new opportunities and invaluable consultancy they have received from others' insights.
Sandy McEachern's involvement has also been highly valued by the group through his in-depth analysis provided both in person and through the Holmes and Sacket report. The group is also conscious and respecting of others privacy and understand that this is a tool to improve a farm's profitability, not a competition.

The advantages for benchmarking participants:

- ✓ **Provides numbers from other similar enterprises** - A participant is able to see the important numbers from others in the benchmarking group - comprised of MFS members. By a comparative analysis it is possible to determine the different strategies that some are using in areas and the result of this on profit margins. Whether you are already highly successful or just wanting to improve, this is an invaluable tool to create direction within your business and quantify proven strategies.
- ✓ **Creates networking opportunities** - The group is composed of those that are driven with a range of successes, providing the perfect environment for learning and improvements. There is a huge advantage in diversification within the groups' members, especially due to the data being open. This diversification allows for valuable feedback and insights to be given from those that are successful in their respective areas - the cost of this kind of consultancy would be much greater outside this group and best of all it is done over friendly conversations.
- ✓ **Other opportunities such as the trips, meetings and case study -** Through these opportunities the platform is created where innovative and successful relationships can be made. The organised trips and meetings are essential to this process and are the perfect environment for the mutual benefit sharing provides. Also, participants will be invited on the annual Holmes and Sacket tour, where an agricultural area is explored and explained. Next year this will be held in Tasmania.
- ✓ **The reflection on you** - being a part of benchmarking can improve the banks' and other external groups' opinions of your performance and drive to succeed. It highlights a will to learn and an attitude of open-mindedness to new strategies.
- ✓ **Provides an analysis by Holmes and Sacket of your own business** - providing both strengths and weaknesses which can be used to focus the direction of business to eventually increase profit.

"Initially I was anxious about the process. Sharing our data was quite confronting and because our farm is in a development stage I wasn't going to be at the top of the group in terms of financial return. However, once I moved on from these anxieties and learnt that it is more a comparison of yourself each year, I became a real enthusiast of the process. At the start, the laborious task of entering the data was frustrating but once we changed our data entry to match input data the process became much easier. It is mandatory to enter the data by a certain date which also is great as the usual excuse that something else is more important gets shelved. I really value the days when the group gets together as it is an open, trustworthy and entertaining environment. I have picked up something from every meeting and whether the change is small or extreme, it is a step in the direction of a more profitable business- for my business these differences have made the entry cost and invested time a no-brainer."

Michael Shannon (MFS participant)

What you actually get for the cost

The cost for a 12-month involvement in the MFS group is **$880 (exc. GST). For this you receive**:

- Individual Holmes & Sackett report for your farm and their Ag Insights Publication (valued at $580 + GST)
- Open forum meetings, open to all MFS members;
  - Group information presented by Sandy McEachern, Holmes & Sackett
  - Field day with a benchmarking consultant of MFS choice
- Closed forum meetings, open exclusively to MFS benchmark members;
  - 1 meeting to discuss the year's results
  - 2 meetings held on a group member's farm. The group and Sandy analyse the case study and instigates exciting and dynamic discussion on specific areas.
- An invitation which extends to all Holmes and Sackett benchmarking groups to an annual tour of a benchmarking group. Last year the tour visited our group on the Monaro, while next year the tour will go to Tasmania.

A big **thankyou must go to Georgie Hood** who has spent a considerable amount of time over the last year helping to manage and promote the benchmarking group to members. Georgie's enthusiasm and commitment has helped drive the group and keep the momentum going forward. She has focused on possible barriers to joining and worked to resolve some of these issues. Thankyou Georgie.

Rabobank

HOLMES SACKETT

MFS Project 15 – 14 **MFS Worm Club**

Project Leader: Richard Taylor

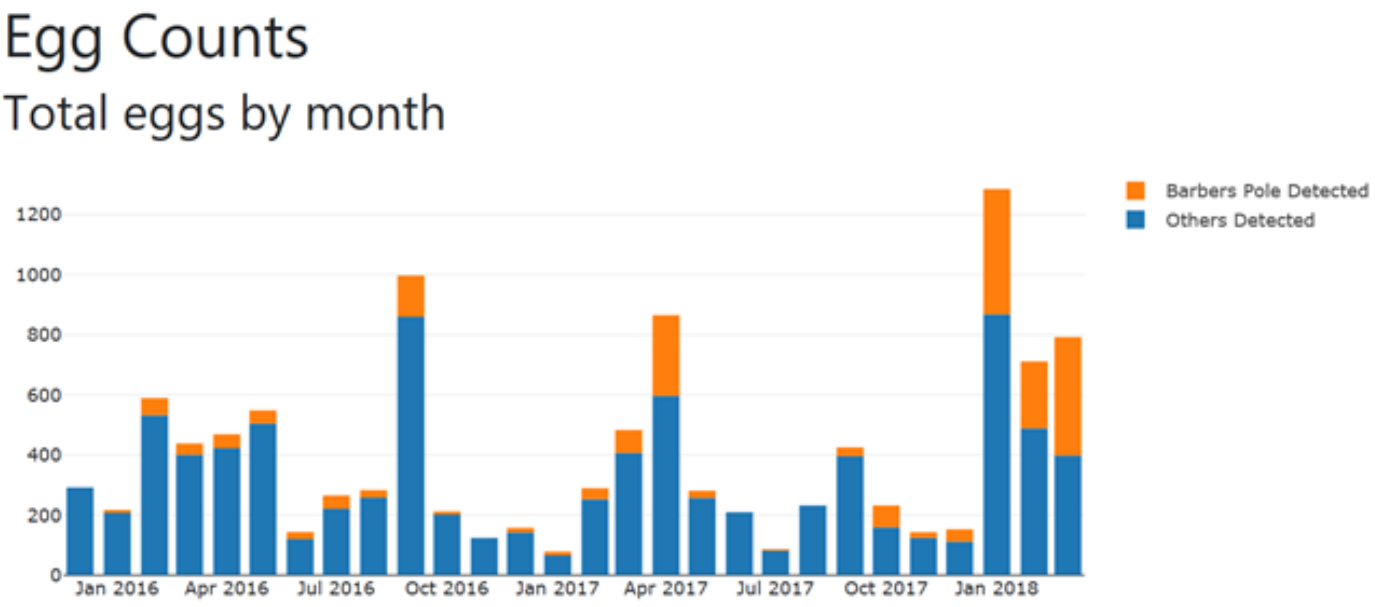
Project Collaborators: Invetus Pty Ltd (formerly VHR), Dawbuts, MFS Producers, University of New England, Paraboss, Nancy Spoljaric

Project Funder: MFS, AWI

The MFS Worm Club database continues to grow with a total of 118 WEC test results added to the MFS database since 1st January 2018 bringing the total number to 463. MFS has continued to provide "updates" at their field days however the timing of these can be several months apart.

One of the main aims of this project was to be able to provide members with "real-time" or "live" information on current worm population status to alert producers to current "hot spots" and looming worm challenges. This would also enable more pro-active and effective worm management strategies.

In order to provide this Joel Rahman (Flowmatters Pty Ltd), was contracted in February 2018 to visualise "live" worm club test results on the MFS website homepage in graphic form. This is in its final stages of completion and will result in a real time graphic showing current worm population (barbers pole versus "others") which will update automatically as the test results are entered into the database spreadsheet.



In 2017, MFS also won a funding bid through AWI for approx. **$26k** for a project titled "Waging the War on Worms". This has allowed MFS to implement a series of drench resistance trials for worms and fluke, as well as offer subsidized worm testing to grow the MFS data pool and also help create in conjunction with Paraboss, a professional data base tool. This data base, once developed, will enable producers to "log-in" and see their worm test history for individual paddocks and be able to run simple queries.

Results to date for the drench resistance trials

- **Drench tests**

Drench resistance trials have been conducted on a total of 11 properties to date. Dawbuts have provided comprehensive reports back to the individual farmers to provide advice on the predicted efficacies of combinations drenches and suggested future worm management programs.

An example of part of a report that each producer who participated in the drench trials received back is below.

Drench Efficacy (percentages of worms killed)

	Treatment groups				
	Closantel	**Moxidectin**	**Monepantel**	**Levamisole**	**Albendazole**
Overall Efficacy	91	73	100	96	77
Small Brown	70	100	100	85	5
Black Scour	71	100	100	72	83
Barbers Pole	94	69	100	99	81
Large Bowel	43	100	100	100	100

Drench Effectiveness

	Treatment groups				
	Closantel	**Moxidectin**	**Monepantel**	**Levamisole**	**Albendazole**
All Species (overall)	Resistant	Resistant	Susceptible	Low Resist.	Resistant
Small Brown	Resistant	Low count	Low count	Resistant	Resistant
Black Scour	Resistant	Low count	Low count	Resistant	Resistant
Barbers Pole	Resistant	Resistant	Susceptible	Susceptible	Resistant
Large Bowel	Resistant	Low count	Low count	Low count	Low count

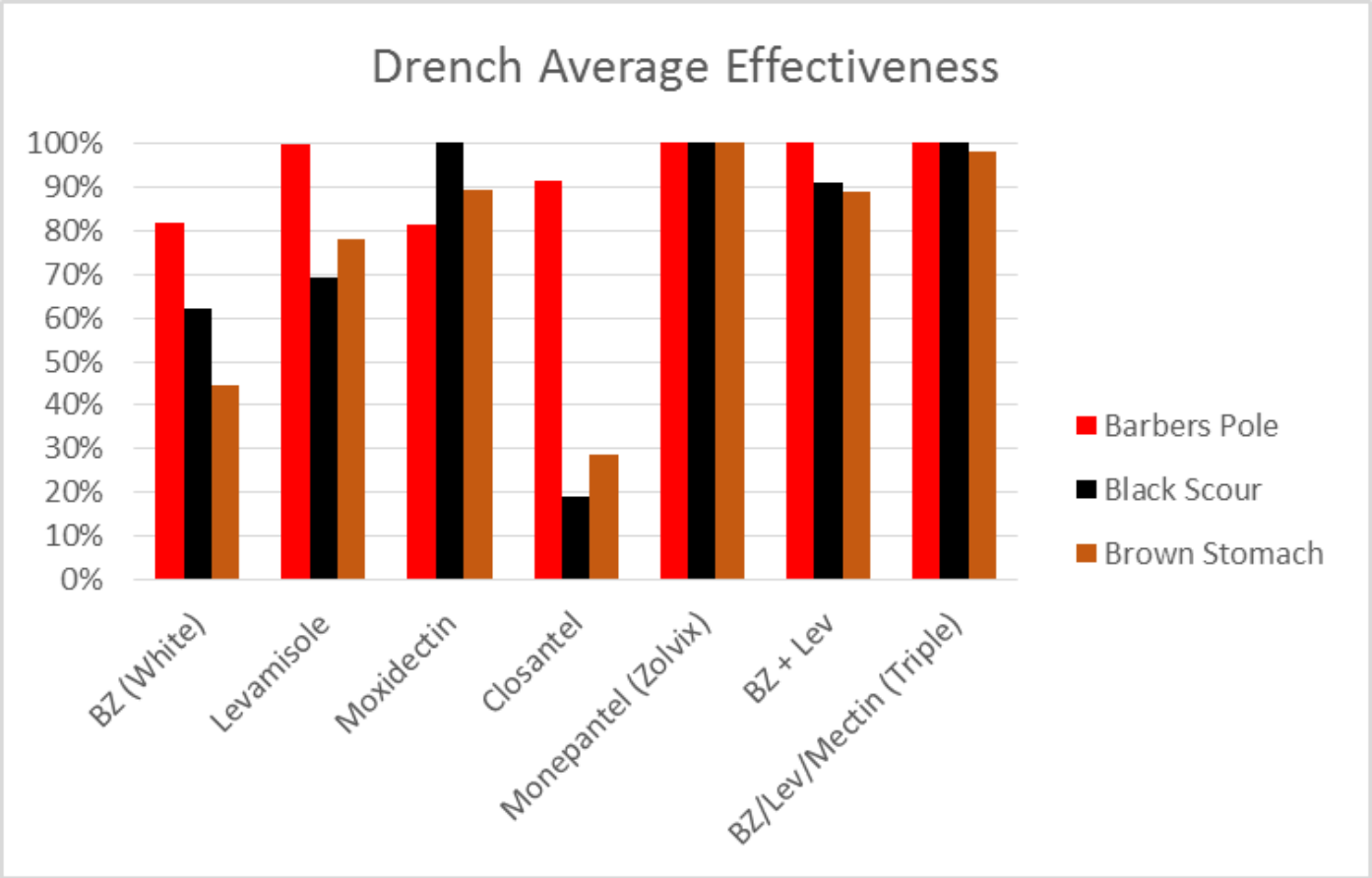
Combination Drench calculation

Predicted efficacy (%) of combination drenches	Barbers Pole	Trichostrongylus	Teladorsagia
BZ and Levamisole	100	95	86
BZ and Closantel*	99	95	72
BZ and Levamisole and Moxidectin	100	100	100

***For barber's pole worm, these products act as combinations, but for black scour and brown stomach worm they act as mixtures because closantel does not control these worm types.**

MFS Chairman Richard Taylor gives an update from the MFS Worm Club data base at an MFS Field Day (Dec 2017)

Tabled results from 10 property trials to date showing average drench effectiveness for each of the treatment groups to the three main worm types.



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

Project Leader: John Murdoch

Project Collaborators: Doug Alcock (GrazProphet), MFS Producers, Nancy Spoljaric

Project Funder: MFS, South East LLS, MLA

Lamb finishing

MFS was successful in January 2017 in securing $56,454 from MLA to run a producer demonstration site (PDS) over three years (finish date October 2019) to validate modelling work which indicated that lamb enterprise GM's of $236/ha (phalaris/subclover), $266/ha (lucerne) and $495/ha (brassica) were achievable. This suggests potential economic gains per average farm business above the traditional base lamb system could be estimated at the following;

- $75/ha equating to annual income increase per farm of $46,875 (phalaris / sub clover pasture)
- $105/ha equating to annual income increase per farm of $65,625 (lucerne)
- $334/ha equating to annual income increase per farm of $208,750 (brassica)

The PDS was set up to measure the following nine (9) pasture systems on five (5) sites;

1) Lucerne (basalt) – Richie Taylor
2) Brassica (Mila) – John Murdoch
3) Hummer fescue – John Murdoch
4) Brassica – John Jeffreys
5) Chickory / clover – John Jeffreys
6) Phalaris / Lucerne (granite) – Brad Yelds
7) Plantain / chickory / clover – Brad Yelds
8) Permanent high-performance pasture – Mick Shannon
9) Brassica – Mick Shannon

Grazing of lambs occurred over the Spring / Summer period 2017/18 on each of the nine systems. 50 of the animals in each mob were EID tagged and the following measurements recorded;

- grazing days for each grazing period
- lamb live weights on and off each system for each grazing period
- data for any supplementary feeding

In addition to the animal measurements the following data was also recorded for each of the nine systems;

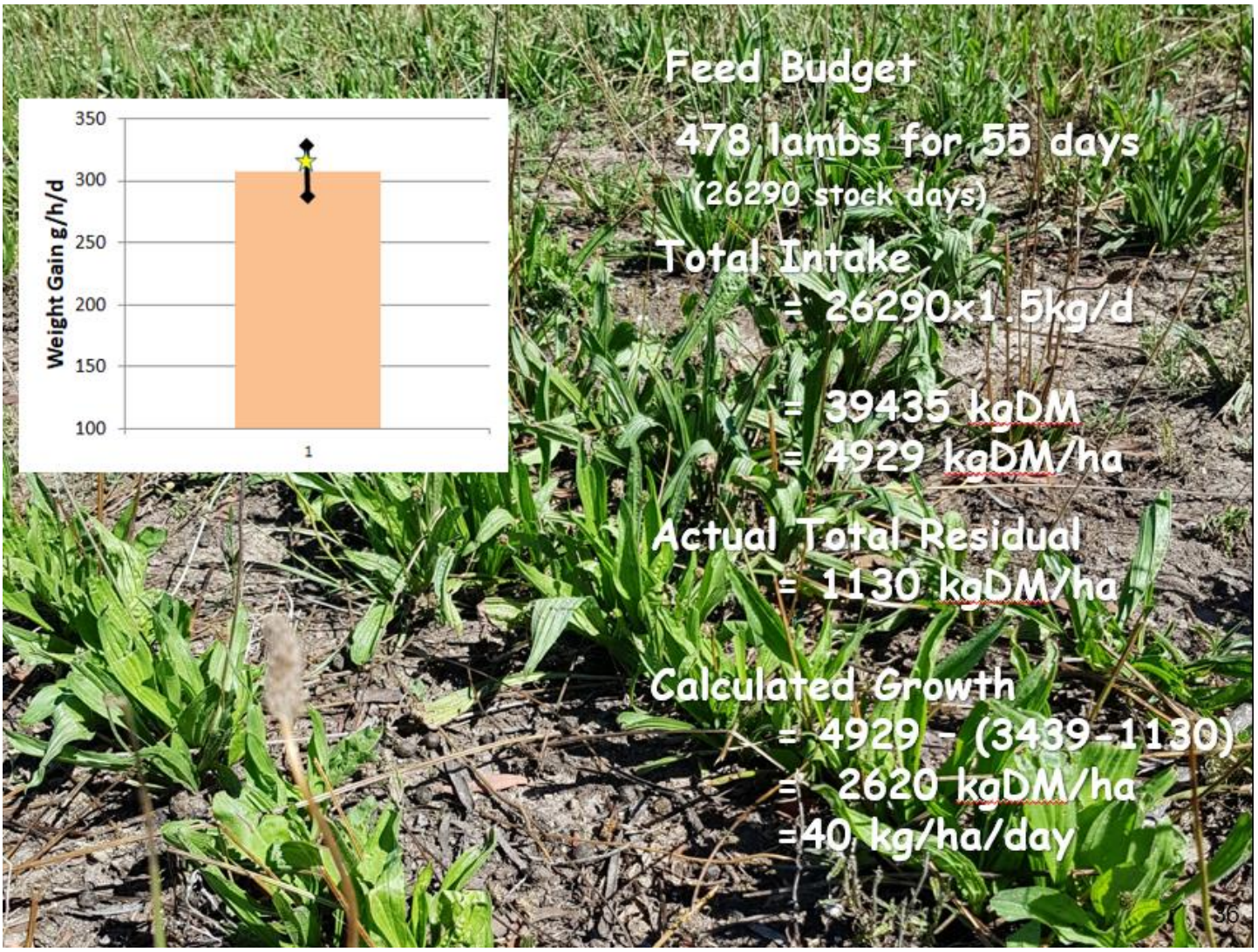
- entry and exit biomass pasture assessments
- soil fertility tests (9)
- feed quality tests (9)
- breed and estimated mature size (wt at CS3) of lamb's sires & dams
- pasture / crop establishment costs
- Crop / pasture history plus fertiliser history for the previous couple of years.
- How the paddock was prepared

- When it was first sprayed out and subsequent sprays
- Was it cultivated?
- What fertiliser / rate was used at sowing
- Was there any in crop fertiliser used?

The 1st years results (data recorded over Spring 2017 and Summer 2018) were presented at a field day in April 2018 showing pasture growth rates, feed intakes and actual weight gains for each of the grazing periods.

Below is an example of calculations that were done for each of the nine systems for all grazing periods.

Yelds – plantain site



The **economics** for each of these 9 systems will be presented at the MFS Field Day on the 6th of September.

Picture of Richie Taylors Lucerne pasture that was one of the demonstration sites

Steer finishing – Weaning to yearling production pays off

MFS was successful in June 2018 in securing a further $41k from MLA to run a producer demonstration site (PDS) over three years (finish date January 2021). Recent GrassGro® modelling work quantified the relative profitability ($/ha) of retaining steer weaners through a second spring, either on pasture or winter forage crop, compared to a baseline system of selling at weaning.
Of the three 1000ha systems modelled, the key outputs indicated a base weaner system selling into the weaner sales in April turns off a 261kg animal with a total enterprise GM of $166/ha. Compared to a pasture based yearling system and an oats based yearling system (winter forage) turning off average steer sale weights of 442kg and 474kg respectively resulting in total enterprise GM of $199/ha and $262/ha respectively. This equates to a 20% GM increase and a 58% GM increase above the traditional weaner production system.

Now pasture/animal trials are needed to validate the modelling results and to ground truth paddock situations across the variable climate and soil types of the Monaro.

The following **six sites** have been organized on properties ranging from Numeralla to Mila. Unfortunately, due to the very dry seasonal conditions most of these sites have been postponed until 2019 due to animals being sold rather than retained. However, two (2) sites are in the process of being measured at Mick Shannon's property at Cathcart and include a steer and heifer operation on a cereal based system with supplementation.

(a) Improved grass pasture (phalaris and rye grass based) – 2 sites
(b) Wheat (with pellet supplements) – 1 site
(c) Oats / Cereals – 3 sites

MFS Project 17 – 20 **MLA Fast track – Solving the Sulphur Story**

Project Leader: Phil Graham

Project Collaborators: Dr Richard Simpson (CSIRO), Dr Rebecca Haling (CSIRO), CSIRO technical field officers, MFS Producers, Nancy Spoljaric

Project Funder: MFS and MLA Donar Company (MDC)

Background

The phosphorus (P) story in soils is well understood and has led to significant improvements in correcting P deficiencies across the district however the Sulphur story is not well understood. We believe this project will answer a number of key questions in addressing S deficiencies which is now the primary, priority issue within the soils club. In 2017 Richard show the strong relationship between rainfall and S reading from the soil tests. The question then arising was "***where has the S moved to in the soil profile?"***

Locally on the Monaro, many members of the MFS Soils Club are frustrated and perplexed after spending years applying high rates of S to deficient paddocks, only to find continuing sub-optimal S levels in their soil tests. This has created the situation where producers are unsure how to respond to soil tests and how much S to apply to achieve maximum pasture yield potentials.

This is in contrast to the situation with phosphorous (P) where P yield and pasture response are well understood so producers now have Industry recognised guidelines underpinning fertiliser decisions to correct P deficiencies. Similar information for S would be invaluable in making similar gains.

A very recent survey conducted by Hackney et al. (2017) in the Monaro district found 63% of paddocks surveyed (54) demonstrated a S deficiency.

It is also known that S is mobile in many soils and S applications often "disappear" into the soil profile, but it is unknown to what extent this leached S is still available to plants in the subsoil. An understanding of the responsiveness of pasture to fertiliser given a diagnosis of S-deficiency in a standard soil test (0-10 cm), and the contribution of S below the 10 cm standard soil test depth, is required for farmers to make informed S-fertiliser decisions.

In short, the project is a major step to take S fertiliser decisions and S application rates from the realm of 'guessing' to objective and cost-effective decision making. The plots will also serve as demonstration sites for the pasture response to correcting S deficiency.

S-response sites prepared and fertilised

In May and June 2018, **15 field sites** were set up across the Monaro region (Table 1).

At each of the sites an experiment was set up to investigate the response to S application of a sown subterranean clover pasture.

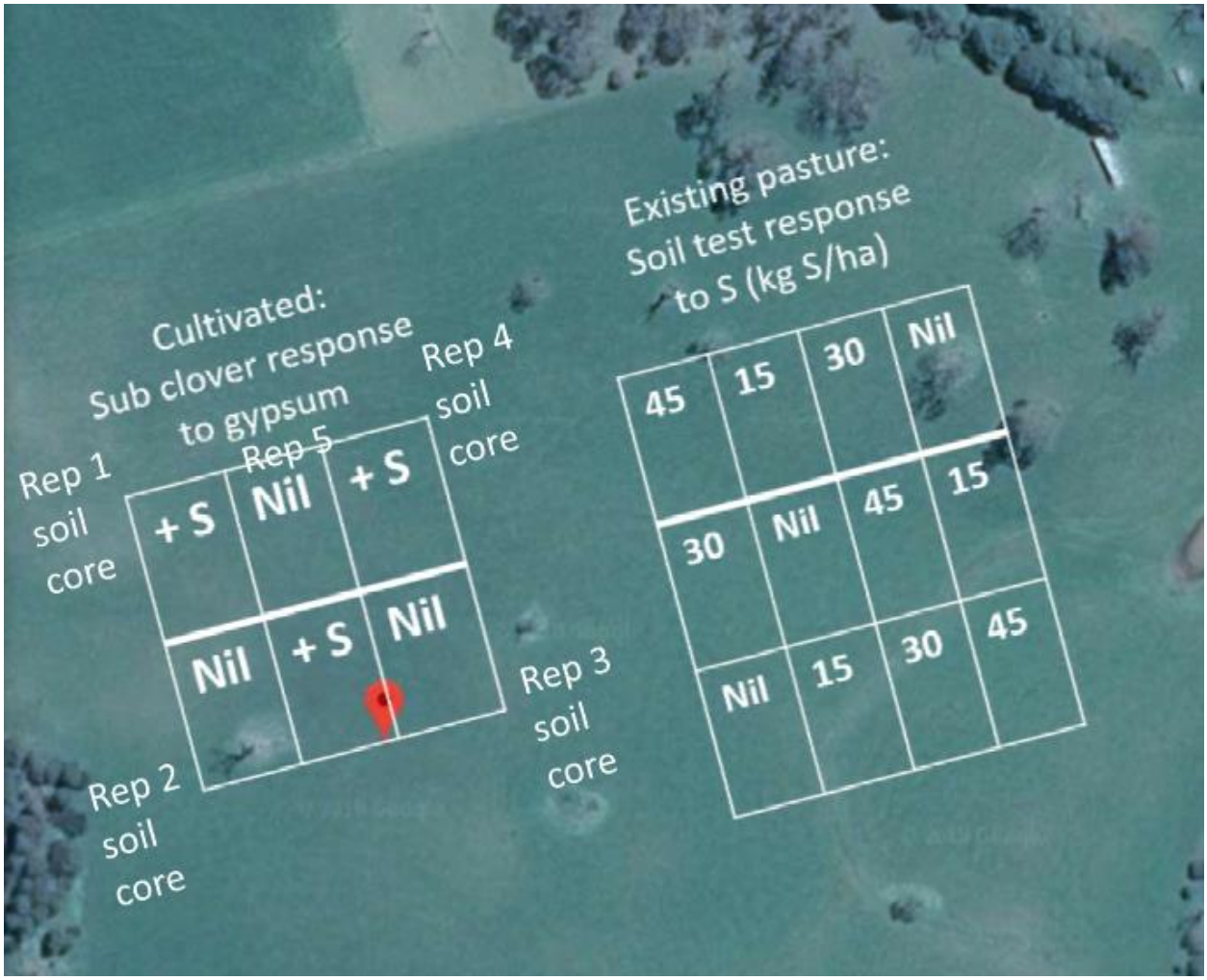
- Goulburn was sown at a high density (200 kg/ha)
- basal applications of phosphorus (75 kg P/ha), potassium (50 kg P/ha) and micronutrients (boron, zinc, copper and molybdenum) were made to ensure S was the only limiting nutrient
- Treatments either received 'nil' (i.e. 0 kg S/ha) or high S (45 kg S/ha as gypsum) with three replicates per treatment
- A subterranean clover-rich pasture sward is being used a "bio-indicator" of S-responsiveness of each site.

At a **subset of six of the sites** (two sites on each soil type) an additional experiment was set up to investigate the soil test response to S application.

- basal nutrients applied as above
- Treatments received 'nil', 15, 30 or 45 kg S/ha as gypsum with three replicates
- The sites will be visited in spring to take soil cores and determine soil test response to the different rates of S application.

A very dry autumn affected the sowing and setup of these experiments. Decent rainfall was not experienced until early May and sites were set up as soon as possible thereafter. Cold conditions by this time of the year combined with the very dry season are not ideal for establishing new pasture. Nevertheless, early reports from farm site hosts indicate good sub clover germination at a number of the wetter field locations.

Thanks to all the producers who have sites as they are having to "water" due to the dry conditions so we can get some useful answers.



Soil profile sampling and soil analyses

Concurrent to the setup of the sites, deep soil cores were taken or attempted (see Table 1) at each of the 15 field sites. Five replicate cores to a depth of ~80-100 cm was taken around the perimeter of the plots sown to subterranean clover. These cores will be used to ***assess the distribution of S in the soil profiles*** and contribute to understanding the potential importance of this S for pasture productivity

Table 1 Summary of sites set up in May and June 2018, and progress in deep soil sampling.

Soil type	Surface S level	Locality	Subterranean response setup	Soil test response setup	Deep coring completed
GRANITE	Low	Rocky Plains	✓	✓	*Soil too dry*
GRANITE	Low to intermediate	Delegate	✓	n/a	✓
GRANITE	Low to intermediate	Coolringdon	✓	✓	*Soil too dry*
GRANITE	Low to intermediate	Bibbenluke	✓	n/a	✓
GRANITE	High	Kybeyan	✓	n/a	✓
BASALT	Low	Bombala	✓	✓	✓
BASALT	Low to intermediate	Cooma	✓	✓	*Soil too dry*
BASALT	Low to intermediate	The Brothers	✓	n/a	*Soil too dry*
BASALT	Low to intermediate	Springfield	✓	n/a	*Soil too dry*
BASALT	High	Springfield	✓	n/a	*Soil too dry*
SHALE	Low to intermediate	Bukalong	✓	✓	✓
SHALE	Low to intermediate	Craigie	✓	✓	✓
SHALE	Low to intermediate	Craigie	✓	n/a	✓
SHALE	Low to intermediate	Bungarby	✓	n/a	✓
SHALE	High	Bungarby	✓	n/a	✓

CSIRO staff mark out the plot trials on a basalt soil at Jim Haylock's property "Springfield" & a soil core dug at Brad Yeld's trial site on "Cobana"

MFS Project 16 - 18 **Phosphorous Efficient Pastures – RnD4 Profit (Collaborative)**

Project Leader: Dr Richard Simpson (CSIRO), Richard Hayes (NSW DPI)

Project Collaborators: Doug Alcock, MFS and seven other producer groups in Victoria, NSW and WA

Project Funder: Australian Government Department of Agriculture and Water Resources (Rural R&D4Profit), MLA, Dairy Australia and AWI Ltd

Background

This project aims to identify more phosphorus (P) efficient legumes and is evaluating alternative legume species, such as Yellow and French (pink) serradellas to see if they can establish and persist in our Monaro soil types and perennial pasture grazing systems. The most relevant issue for Monaro producers which the current work is assessing is whether high-yielding serradella varieties will be persistent enough to justify their use in permanent pastures.

Trial design and results

Glenfinnan Site - Soil P levels selected for this site were around 60% and 30% of critical levels for clover growth respectively allowing a good test of serradella performance in sub optimal soil P levels.
Redcliff Site - Soil P levels selected for this site are only around a third of the critical levels for clover growth. Additional fertiliser will likely be required to boost the soil P to around 2/3 of critical levels while still allowing a good test of serradella performance in sub optimal soil P levels

Both sites were sown on the 12th and 13th of April 2017. At both Redcliff and Glenfinnan two trial sites were set up in a randomized, replicated plot design, sowing pink and yellow serradella's and subclover. Preparation included burning and chemical weed sprays.

Sites were sown by NSW DPI using a plot sized band seeder and then covered with harrows. Soil moisture was reasonable at the time of sowing but probably better at Glen Finnan than Redcliff.

Unfortunately, soon after sowing it was discovered that the Pink Serradella treatment had been substituted for a second Yellow Serradella (Santorini). The trial was re sown correctly at GlenFinnan on the 24th May 2017 which was possibly too late for a good establishment. The pink serradella (cv Margurita) was re sown in 2018 at Redcliff.

Germination 2017

Germination appeared patchy with serradella (cv Avilla) seedling density less than 40 plants/m^2 at Glen Finnan. Numbers were better at Redcliff with plant densities averaging around 60 plants/m^2. Given the sowing rate of 5kg/ha it would be reasonable to expect 150-200 plants/m^2. Poor rates of germination might be the result of variable sowing depth due to the rough surface of the seed bed.

Plots were re sown on the 3rd and 4th of April 2018 at both Redcliff and Glen Finnan sites. 2017 sown sites have been retained for monitoring at Redcliff but the weed burden at Glen Finnan (particularly sorrel) was too high to be worth persisting with either of the 2017 sowings at that site.

Condition of the plots at Redcliff West 25/7/17	Clover and Serradella Seedlings Redcliff East 25/7/17	Phalaris Seedlings Redcliff East 25/7/17
		

Germination and regeneration 2018

Soil test information from samples collected in Spring 2017 was used to calculate appropriate levels of phosphorous to be applied in 2018 to achieve target P levels. In consultation with Richard Simpson it was decided to apply P differentially on each plot according to soil test and target P levels.

Germination / seedling emergence has been non existent at the Glen Finnan site in both 2017 & 2018 and given the seasonal conditions and the forecast for spring it is unlikely that this site will see any significant establishment of the sown cultivars this year.

At Redcliff ***Avila yellow serradella*** has been able to regenerate from last years seed set and seedling counts for this cultivar are far better than for the Santorini cultivar or the Goulburn sub clover.
The 2018 sowing at Redcliff has been reasonably successful with seedling counts of the target species around 40 to 80 plants per square metre. Conditions are very dry, however, and the conversion of this plant population into spring biomass will depend on receiving useful rainfall early in spring.

Goulburn seedlings Red East site 2018 sowing (LEFT) and Serradella Seedlings Red West site 2018 sowing (RIGHT)

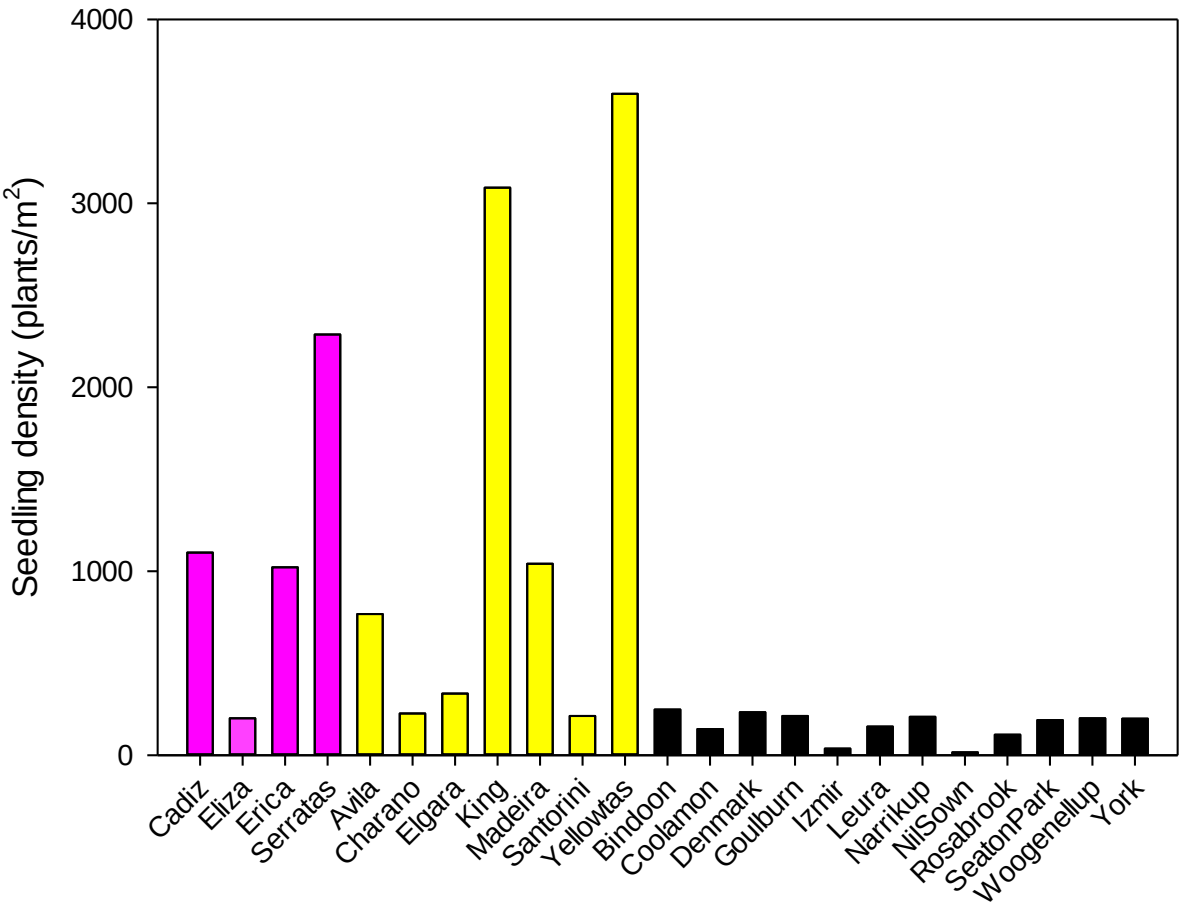


Figure 1. Seedling regeneration (Plants/m²) of French serradella (Pink bars) yellow serradella (Yellow bars) and subterranean clover (black bars) cultivars sown at Redcliff, sampled in June 2018 from plots originally sown in April 2017.

Overview of the Glen Finnan site on the 5th July 2018 showing nil establishment.

Regeneration Seedling Counts Redcliff (2017 sowing)

Treatment	Red East		Red West	
	Sub Clover	Serradella	Sub Clover	Serradella
Avila (Yellow Serradella)	5	75	8	147
Santorini (Yellow Serradella)	0	3	3	19
Goulburn (Sub Clover)	3	0	56	0

Average Seedling Counts for the 2018 sowing at Redcliff

Treatment	Red East		Red West	
	Sub Clover	Serradella	Sub Clover	Serradella
Avila (Yellow Serradella)	2	81	1	65
Margurita (Pink Serradella)	0	51	0	35
Goulburn (Sub Clover)	73	0	48	0

Discussion

Extremely dry and cold temperatures at times have meant that germination of the new sowing has been nil at the Glen Finnan site this Autumn / Winter. The lack of weed germination is further evidence of how extreme these conditions have been at this site. The future of this site will need to be discussed as there is little likelihood that successful germination will occur early enough in spring for good biomass or seed production which will hamper the ability to take regeneration measurements in autumn/winter 2019.

The Avila serradella appears to have regenerated to some degree at the Redcliff site and surprisingly is the best on the west aspect where heavier grazing had reduced the biomass prior to germination. Seedling counts for the 2018 sowing with the inclusion of Margurita pink serradella has been satisfactory especially under the weather conditions experienced.

The ongoing presence of Avila serradella and Goulburn sub clover from the 2017 sowing especially on the westerly aspect should give a valuable opportunity to observe the relative persistence of Avila and establish its credentials as a possible low P requirement legume for Monaro pastures.

Richard Hayes (NSW DPI) gives a farm walk at the Redcliff site in December 2017.

MFS Successful Project Submissions – 2017 / 2018

Extension Coordinator Funding – SE LLS Community, Industry & Landscapes Fund (CLIF)

Amount: **$17,325**
Project Term: June 2018 to Dec 2018
Allocation: Continue core project activities and training events

Weaner to Yearling Production Pays Off - Steer Finishing - MLA – Producer Demonstration Site

Amount: **$41,000**
Project Term: June 2018 to Jan 2021
Allocation: Validate modelling results, measure six (6) steer finishing pasture systems on the Monaro (4 cereal based sites, 2 grass-based sites (rye & phalaris)

Next Generation Forecasting – Dept. of Agriculture & Water Resources, National Landcare Program

Consortium includes MFS as the lead organization with project partners TFS, LLS and Bookham Ag.
Amount: **$512,000**
Project Term: August 2018 to June 2022
Allocation: Development of pasture forecasting tool, web-based application

Current Funding Submissions pending

Modeling to Mitigate Climate Change – Boco Rock Community Enhancement Fund

Amount: $16,000
Project Term: Sept 2018 to Dec 2019
Allocation: Deliver four (4) seasonal forecasts at critical decision-making times of the year

Collaborating Projects

Phosphorus Efficient Pastures (CSIRO, MLA, NSW DPI) – RnD4 Profit

Amount: **$28,000 (MFS allocation only)**
Project Term: Sept 2016 to May 2020
Allocation: 2 sites (RedCliff & Glenfinnan), plot trials comparing performance of pasture mixes containing a perennial grass and either a sub clover & a pink or a yellow serradella in a P deficient environment

2017 MerinoLink / Monaro Farming Systems Sire Evaluation at Cavan (Yass)

Amount: **$2,500 - $3,000 per sire (entry fee)**
Project Term: Jan 2017 to Dec 2021
Allocation: 16 sires (includes 6 Monaro sires & 3 linked sires), two assessments (10 months and 22 months). Wethers measured for a further 2 shearing's.

Perennial pasture & forage combinations to extend summer feed for southern NSW (CSIRO)

Amount: un known
Project Term: Jan 2018 to 30 June 2021
Allocation: Compare the performance and persistence of grass and legume combinations on a granite soil type under grazing pressure to look at best options for lamb finishing. Species to be compared include Lucerne, phalaris, cocksfoot, ryegrass, chickory, plantain, annual & perennial clovers such as arrowleaf, white, talish, caucasian etc

Monaro Grasslands Best Management Practices (Stuart Burge & Associates)

Amount: $107,000 (Funded by LLS – Sustainable Land Management)

Project Term: June 2018 to October 2018

Allocation: This project involves three components of which MFS has been nominated to undertake Number 2);

1) Trialing the interim Grasslands and Groundcover Assessment Method (iGGAM) and scoping an alternate mapping approach focused on the identification of conservation values of grasslands (OEH, LLS).

2) **Developing and testing best management practice guidelines for the management of grasslands within the Monaro region and current regulatory framework (MFS).**

3) Technical review of the guidelines (produced in 2) and development of management guidelines for any invasive exotic grass species and further research of regionally specific management options.

MFS Events Summary 2017/18

- **31st October 2017 – Benchmarking Case Study "Quinburra", Hortons – Group Session**

  - Quinburra Farm Business health check, group data analysis
  - Recruiting, employing & retaining labour.
  - How Top 20% wool, beef and lamb operators have approached failed/below average seasons

- **7th Dec 2017 – MFS Soils Club Annual presentation & Xmas Lunch – Nimmitabel Country Club**

  - 2017 MFS Soils Club Results
  - Explanation local P response trials and upcoming Sulphur Trials
  - MFS member fertiliser case studies
  - Explanation of drench resistance trials
  - NSW & Federal Native Vegetation legislation (Kristian Holtz, Luc Farago, David Eddy)

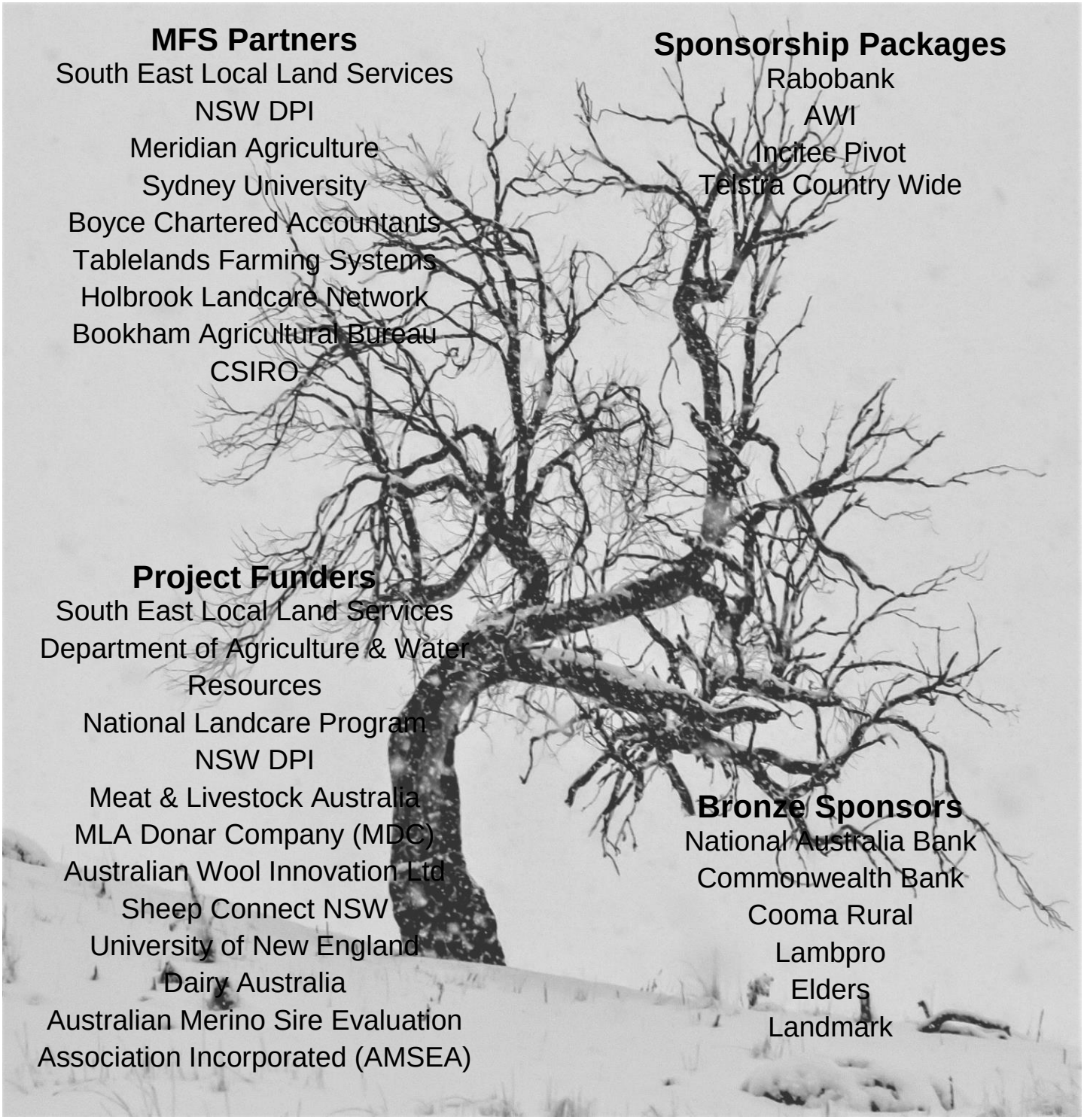
- **7 - 9th March 2018 — Monaro Holmes & Sackett Benchmarking Tour**

  - Farm Visits & presentations – Quinburra, Maharatta, Nandawar, Pineleigh, Greendale
  - Dinner & Key Speaker – Jim Litchfield – Hazeldean
  - Birdsnest tour

- **6th April 2018 - Autumn Field Day**

  - Autumn Seasonal Outlook
    - What's ahead in terms of soil moisture, pasture growth, stock performance
  - Lamb Finishing Systems
    - Results of nine systems analysed, brassica, lucerne & pasture...how do they stack up
  - Drench Resistance Trials
    - Results for 10 Monaro properties...efficacies of combination drenches
  - Economic impacts of weeds on Monaro farm business performance
    - Final study results

MFS Supporters – THANKYOU



MFS Partners

South East Local Land Services
NSW DPI
Meridian Agriculture
Sydney University
Boyce Chartered Accountants
Tablelands Farming Systems
Holbrook Landcare Network
Bookham Agricultural Bureau
CSIRO

Sponsorship Packages

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Special Mentions…

Chairman Richard Taylor for another year of skillful and proficient leadership and many hours spent in providing input and advice into projects (ie. new website upgrade, worm club updates, traineeship program), attending meetings and making decisions on behalf of the organization. Richie's experience and knowledge has been an immense asset to the group.

MFS Board Members (Phil, Jono, Georgie, John, Gus & Warwick) for donating countless volunteer hours and evenings to provide direction for MFS and help drive project work. **Thankyou to Gus**, retiring this year, who has spent a lot of work over the last 6 years on the strategic direction of MFS.

South East LLS, especially Jo Powells and Luke Pope for supporting MFS and our goals.

Boyce for consistently providing meeting rooms, HR and financial management support over the last 11 years.

Lachy Ingram for continuing to provide technical support input into projects (ie. Solving the S Story).

Dr Richard Simpson for continuing to mentor and provide technical support with the Soils Club and heads up the P Efficient Legume Project. Richard has also run several Phosphorus strip trials on member properties as an off shoot of the Soils Club.

Doug Alcock, albeit in a paid capacity, continues to do a significant amount of work for MFS, specifically seasonal forecasting and field work & modelling for the finishing pastures projects.

MFS Lamb Finishing Trial Hosts – Brad Yelds, John Jeffreys, Mick Shannon, Richie Taylor, John Murdoch

MFS Steer Finishing Trial Hosts – Mick Shannon, Lisa Philips, Murray Jackson, Col Murdoch, John Murdoch

Solving the S Story Trial Hosts – Brad Yelds, Bea & Jim Litchfield, Simon Stephens, Damian Murphy, Dave & Andrea Mitchell, George Haylock, Jim Haylock, Dean & Anne Campbell, Tim Fletcher, Malcolm Pearce, Oli Cay, Richie Taylor, Ron & Mandy Horton.

Thank you to **Andrea Mitchell and Mandy Horton** for providing photos for MFS flyers, newsletters and other MFS publications over the years. **Andrea** thank you for providing a selection of photos for this 2018 AGM Report and for the new look MFS Website Upgrade.


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