

Introducing MFS Trainee – Kate Connolly

This year, thanks to the support from MFS host producers, MFS is able to once again run the traineeship program. After a rigorous advertising and selection process, the two successful trainees are locals Cameron Johnson (Cooma) and Kate Connolly (Bredbo).

Kate is working in the Bombala district and Cameron is working in the Cooma district. This year MFS has opted to go back to using a group employer MEGT to make the employment a simple process and to have the benefits of a more structured support system. Kate and Cameron are also undertaking a Cert III in Agriculture which is all work-place assessed and delivered by the group trainer ATEL.

Kate is a delightful young girl (18) who has deferred University this year to gain some practical skills in agriculture before commencing an Agricultural Science Degree in Wagga in 2015. She has already worked across five different properties including Tintagel Pastoral Company, Inverloch, LeTompe, Bellevue and Finchley, learning many different skills and ways of farming.

Kate has been helping with mustering, feeding out, drafting sheep, drenching, crutching and has spent a day with a fencing contractor. She is living in Bombala in rental accommodation and enjoying her year very much so far. All reports have been very positive with Kate a hard worker who is very keen and willing to learn and uses a lot of initiative and diligence going about her work.

Kate is currently working with Coleen McCoy at LeTompe. Coleen originally became involved in the program to use the extra help however she now realises how rewarding it is to be able to help encourage young people to choose a career in Agriculture and teach the skills and share experience with the younger generation.

MFS has been able to source funding from **AWI** of \$1000 per trainee which will go towards paying the trainees to attend the shearing school at "Coolringdon" in May. MFS will also support Kate and Cameron to

attend the working dog school coming up in Bombala in May and has helped buy protective and practical clothing for the trainees as well as coordinate their work programs.

MFS thanks **NSW Farmers (Cooma Branch)** for their donation of \$1000 to support this traineeship program as well as **RB Sellars** who have again donated 2 work shirts and a winter work jumper to both trainees.

Next newsletter will feature an article on Cameron Johnson.

Out of interest, Daniel Rowson (our Cooma trainee in 2012) has recently won the Dalgety Show Rural Achiever Award and has acknowledged MFS in helping him achieve his Certificate III in Agriculture and gain invaluable practical experience on Monaro properties.



Photo of Kate and her working dog "Socks" who she acquired from Lisa Phillips.

RB SELLARS



Sulphur Fertilisers on the Monaro - Jim Laycock – Incitec Pivot

Two findings to come out of MFS trial work over the past three years as part of both the MFS Soil Club and the MLA Producer Demonstration Site is the prevalence of Sulphur deficiencies on the Monaro.(80% below optimum for sulphur on the basalt, granite and shale soil types).

‘Better Fertiliser Decisions for Pastures’ was a national project to determine the relative response to fertilisers in soils of different soil test values.

All submitted experiments had a known soil test value at the start of the experiment, a control and a maximum fertiliser rate that could result in 100% potential growth.

Of the 248 experimental titles, 3,032 experimental site years and 48,108 pasture yield data sets, guidelines were established for critical soil nutrient levels based on response curves. **See table 1.**

Table 1: Critical soil ranges in 0-10cm for a beef or sheep system aiming for 90-95% potential yield

Pasture Performance compared to potential	<80%	80-90%	90-95%	95-98%	>98%
	Deficient – capital fertiliser required	Marginal – fertiliser required	Adequate - maintenance fertiliser required	High – possible low fertiliser maintenance	Very high – no fertiliser required
All soils S levels (KCL-40S mg/kg)	<4	4-6.5	6.5-7.5	7.5-11	>11

Source: Gourley CJP, Melland AR, Waller RA, Awty IM, Smith AP, Peverill KI, and Hannah MC (2007). ‘Making Better Fertiliser Decisions for Grazed Pastures in Australia’. Victorian Government Department of Primary Industries.

Sulphur Fertilisers

Sulphur fertilisers are available in two forms suitable for topdressing pastures. As **sulphate sulphur**, which is immediately available for plant uptake and **elemental sulphur** which needs to go through a process of oxidation to convert to plant available sulphate sulphur.

The rate of oxidation of elemental sulphur is determined by microbial activity and the particle size of the elemental sulphur product.

Products suitable for ground spreading and air spreading are granulated for improved coverage and in the case of elemental sulphur are incorporated into a bentonite clay pastille that reduces the potential of spontaneous combustion that exists with powdered elemental sulphur.

Aim to apply sulphur bentonite products with 55% of particles <300 micron to improve oxidation potential.

Single superphosphate (SuPerfect®) is the primary pasture fertiliser used in the grazing industry as it supplies a balance of phosphorus, sulphate sulphur and calcium. By using plant available sulphate sulphur, earlier dry matter responses can be expected where soil sulphur levels are below optimum values (see table 1).

The higher the application rate of fertiliser in pasture the greater the number of points of contact for sub-clover and white clover root uptake of phosphorus and sulphur from the soil around each fertiliser granule.

To improve the residual value of sulphur and to supply maintenance rates of sulphur, blends of single superphosphate (SuPerfect®) and sulfur bentonite (SuPerfect® 26 S) to supply sulphate sulphur and elemental sulphur can be used.

On acid soils where molybdenum is also required on a regular basis molybdenum can be included at recommended rates (SuPerfect® Mo.025%, SuPerfect® 26 S Mo.025%).

Application

The accuracy of a spreading machine is critically important to the even distribution of granular fertiliser. A spreader which is not correctly set up will not spread fertiliser evenly across the paddock, resulting in over or under supply of nutrients.

The angle of the blades, spinner speed, spinner wear, drop position and bout width can all affect how accurately the spreader performs.

Fertiliser quality also affects how accurately fertiliser can be spread. Aspects of fertiliser quality which can affect spread width include fertiliser bulk densities, granule size and weight, granular crush strength and evenness of blend ingredients.

Because there are so many variables involved in maintaining accuracy while spreading, it's wise to be aware of them and where possible, work to minimise inaccuracies.

Results from spreading trials from Russell Nichol showed granule size and crush strength directly affected the variability in the accurate spread. A premium granular single super phosphate with consistent granule sizing, lower levels of fine granules and high granule crush strength has a consistent spread width achievable of 33 metres.

Fertiliser blends have the potential to segregate and provide an uneven nutrient spread, especially when fertilisers of different bulk densities and particle sizes are blended. It is important to set up spreaders to match the characteristics of any blended product being spread.

Both farmer-owned and commercial fertiliser spreaders can be checked, assessed, corrected and accredited by one of the Australian Fertiliser Services Association's (AFSA) Accu-Spread® testers, like Russell Nichol.

For information on the AFSA Accu-Spread program, visit www.afsa.net.au or contact Accu-Spread tester Russell Nichol on 0418 505 002.

References

Flavel R., Guppy C. and Blair G. (2010). *Pasture fertilisation with sulfur enhanced fertilizer*. Agronomy and Soil Science, University of New England.

Gourley C.J.P, Melland A.R., Waller R.A., Awty I.M., Smith A.P., Peverill K.I., and Hannah M.C. (2007). 'Making Better Fertiliser Decisions for Grazed Pastures in Australia'. Victorian Government Department of Primary Industries.

Incitec Pivot Fertilisers, "Benchmark Fertiliser for Pastures" trial, 2002/2003.

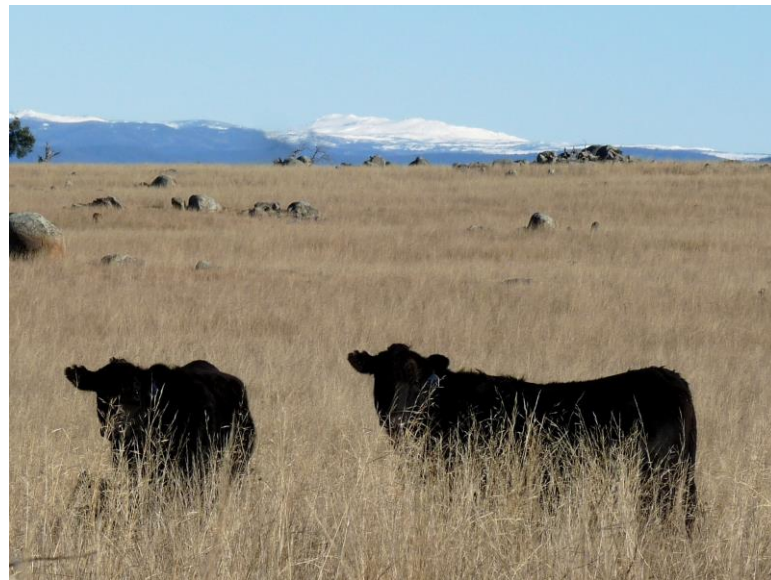


Photo courtesy of Libby Litchfield. MFS website will have a photo gallery as well as a monthly competition to give anyone the opportunity to upload photos onto our website.

MLA Producer Demonstration Site – MFS Fertiliser Trial Wraps Up.....

Some **key findings** from the recently completed MLA PDS fertiliser trial included;

- Results for the paddock trials showed significant differences in the retention properties of the S products. The results clearly show that elemental sulphur has some very strong residual ability and resists leaching, compared to straight sulphate sulphur products. This in particular has advantages where farmers are applying fertilizer every 2 – 3 years and on soils which are very low in available sulphur and prone to leaching.

- In this trial, 31 kg of Elemental sulphur significantly outperformed 58 kg of sulphate sulphur in Single Super in terms of biomass response. Also remember if pastures had had better legume content it would have been even more important, once legumes are in the system the sulphur requirement and responsiveness is even more important.
- Elemental sulphur based products can provide long term sulphur supply to pastures providing the elemental sulphur is of a particle size less than 250 micron for at least 60 % of the product and less than 10 % is smaller than 30 micron. *Not all elemental sulphur products are the same and need to be treated with caution, farmers must know particle sizing.*
- Economic modelling of several different fertiliser strategies aimed to analyse the economic response to fertilizing with S and combinations of S and P. In almost all scenarios modelled even with the poorest sequences of seasons the use of fertiliser still yielded a profit over the 10 year period. The greatest cumulative cash flow gains were made on improved pasture systems versus native pasture systems even though the breakeven point may be further along the time scale.

Member Comments describing benefits from last 3 years of Soil Club involvement;

- Understanding the responsiveness of pasture growth to the different elements has meant that the business is now better allocating its fertiliser dollar.
- Access to cheaper soil tests has enabled much of the farm to be tested. Previously only 1-2 paddocks would be tested at a time.
- We consider that our membership of the MFS soil club is most useful and that its value to us has increased as our experience has grown and as the records over time are now beginning to show longer term trends. We feel we are now in a position to make science-based decisions on

applications of P, K, S and lime and have greatly improved confidence in making those decisions. Having been introduced to us only on Friday, the Holbrook Fertilizer Tool is already in use on our property.

- By using indexes for the different elements, it becomes easier to see where levels really are. I have created a spread sheet to follow year-on-year changes to P, S and K.
- It allows us to tailor fertilizer applications according to pasture type and animal management needs.
- Soil Club gives us much more confidence to lift stocking rates, excellent program.
- Has been very interesting to see the data on a district scale ie. breaking soils into basalt, granite, shale.
- I would go so far as to say that, for me, the Soils Club has had the most immediate impact on my farm out of all the MFS projects. It has been the perfect balance of knowledge building (made possible by Richard Simpson) and being able to bring that knowledge to bear immediately back to my farm through the soil tests. It has also been of great benefit to look at my soils on a wider basis by being able to compare it with like type soils from my area.
- I have gained a far greater understanding of soil phosphorus requirements. An understanding of the buffering index and soil phosphorus levels means I can vary the application rate of superphosphate on different paddocks around my farm.
- We have purchased a lot more fertiliser this year as realised we have just been maintaining paddocks rather than increasing fertility...this has not yet increased stocking rates but hope to put into practice next year.
- Now we have "core" paddocks tested each year along the same transect to create a "baseline" from which to judge other paddocks that don't have such a comprehensive fertiliser history ie. perhaps only 1 test.
- For all our lower quality paddocks we have balanced fertiliser inputs with less than optimum stocking rates ie. supply and demand therefore being more efficient in our fertiliser usage.

- I now use elemental sulphur rather than sulphate sulphur because of the leaching issue which has been demonstrated by the trials.
- From Doug Alcock's presentation....realised need to look at "whole farm" system profitability and much more aware of other major profit drivers which you have to get right, not just the fertiliser....the whole farm system concept has been put into context.
- We now monitor 2 or 3 paddocks every year now so we can graph trends over time.
- More strategic use of fertiliser on the better, newly improved pastures, rather than our usual, standard practice of 125kg over everything. For example some of our better paddocks now get 200 – 250kg/ha annually.
- No hard figures but on the lighter granite soils, where P is inadequate, started adopting capital input applications rather than the 125kg/ha and this is definitely getting a return on investment.
- We have definitely lifted stocking rates from 2 DSE / ha to 8 DSE / ha over a three year period.
- I now have a better understanding of what a "maintenance" application of fertilizer is for a whole range of different paddocks on my farm. This means I have confidently reduced the kilograms of superphosphate I apply per hectare on many of paddocks on my farm (equates to approx. 450ha).
- Our annual fertiliser order is approx. 50-120 tonnes of product every year, budget of \$60 – 80,000. I believe you need to have a change of 10-20% before you see the real economic impacts and we can definitely see economic benefits from decisions made as a result of our involvement with Soils Club. With a budget of this size, we are still in-front with one decision.

Lean Meat Yield / Eating Quality Trial – Greenlake

All of Brads lambs in this trial have now been slaughtered at Cootamundra abattoir and carcass measurements taken. The project is trialling, on-farm, the efficacy of research breeding values (RBVs) for lean meat yield and eating quality. In this trial 8 different sires are being compared. Once analysed, the results will demonstrate if the RBVs for LMY (lean

meat yield), tenderness (SF5) & intramuscular fat (IMF) can be translated through the lamb supply chain. The presentation of these results will be given at the Rabobank / MFS field day in July.



Photo of lambs at Greenlake, just prior to transport to abattoir. The average live weight for the 222 lambs for this final weighing was 42.3kg, D.O.B. 16/08/2013.

Up Coming events & news...

-Sydney University researcher Lachy Ingram is soon to be working with MFS to find Monaro sites on which he can calibrate a NDVI (Normalized Difference Vegetation Index) device which, once calibrated and connected to a GPS and data logger, can provide an estimation of total pasture biomass and the distribution and variability on a paddock scale. This technology is widely used in the cropping Industry and is starting to gain momentum in the grazing Industry for measuring biomass and pasture potentials.

-MFS has been successful in securing \$70,000 over three years as part of the **MLA Participatory Research** Program (National Feed Base Plan) to run on-farm trials looking at establishing persistent and productive legumes. This work will be supervised by researcher Belinda Hackney and Doug Alcock. Two trials will be established at **Gaerloch** and **Sth Bukalong**, both focussing on legume establishment and performance in a pasture re-sowing and pasture rejuvenation scenario. Some of the legumes to be

trialled alongside the more traditional white and sub clovers include *French Seradella*, *Casbah Biserrula*, *Prima Gland*, *Paradana Balansa* as well as some lucernes. The legumes will be sown in a variety of mixes, sowing rates and pasture preparation regimes to look at their performance over the three years under rotational grazing conditions.

-MFS is hosting a **working dog school** to be held on the weekend of the 3rd and 4th of May. The school will be run by Jamie Barclay and will be only \$50 for MFS members and \$100 for non-members. See flyer to come.

-MFS is co-hosting with Snowy River Interstate Landcare (SRILC) and Upper Snowy Landcare (USLC) workshops on the **7th of May (Bombala) and 8th May (Cooma)** delivered by **Lyn Sykes**, a very well respected and well renowned communication specialist who is both entertaining and inspiring. As Lyn explains *"Farming business often have different generations working together and successful communication allows them to make effective decisions, to maximise the contribution of all family members and to find a balance between business and family time"*.

The workshops will focus on the following topics;

- Recognising different skills and maximising family members contributions to the business
- Increasing business returns through effective communication and decision making
- Understanding more about ourselves and others – working with different personality types
- Communication skills and conflict resolution
- Planning intergenerational change – transitioning people into and out of family businesses.

See flyer to come for more details.

-MFS would like to thank a **new sponsor Rabobank** who has come on board this year offering a sponsorship package worth \$7,000.

This includes a cash component of \$2,000 plus working in partnership to co-host an event that

Rabobank will contribute funds of up to \$2,500 and provide a Rabobank animal proteins analyst to speak at the above-mentioned event (valued at \$2,500). We welcome their support and look forward to working with this company well into the future.

-The **MFS website** launch is drawing closer with the development in the final stages. Video files are in the process of being converted and formatted and final plug-ins are being programmed into the site to provide the functionality MFS has asked for. Behind the scenes Oli Cay and Denham Williams have been putting in many volunteer hours to get this website going, attending numerous meetings over the previous six months.

MFS is linking in via Board member Steve Rolfe to the Monaro **love grass trials** recommencing with Luke Pope, LLS. Trials are being set up on arable and non-arable sites comparing a variety of control methods.

Calendar of Events, 2014.....

- ❖ **3rd, 4th May 2014 – working dog school**
- ❖ **7th, 8th May 2014 – Lyn Sykes workshops**
- ❖ **Mid July 2014 – Rabobank Field Day**
 - Animal Protein Specialist (Rabo)
 - Seasonal Outlook (Phil Graham)
 - MLA Lean Meat Yield / Eating Quality presentation (Janelle Edwards)
- ❖ **Aug/Sept 2014 – MFS AGM (date tbc)**
- ❖ **Mid Sept 2014**
 - wether trial (mid-side sampling)
- ❖ **Early Oct 2014**
 - annual soil testing bulk submission as part of MFS Soil Club
- ❖ **Mid Oct 2014**
 - wether trial shearing (3rd year)
- ❖ **Animal Health Field Day – date tbc**
- ❖ **Late Nov 2014 – Soil Club Presentation**



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