The Adelaide & Mt Lofty Producer Group's
Winter Pasture Project

Government of South Australia
Adelaide and Mount Lofty Ranges
Natural Resources Management Board

Angaston

sheep connect south australia

Barossa 'Pasture Walk' Bus Trip

Producer Case Studies

Friday 19th October 2012

Review the successes and lessons learnt for this seasons soil, pasture and grazing management

CARING FOR OUR COUNTRY

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Supporting Partners: LANDMARK Farmer Johns

Mt Pleasant Beef Group, North Rhine Sheep Group, Angaston Agriculture Bureau and Barossa Mid North Dairy Discussion Group

Barossa Bus Trip Schedule- Friday 19th October 2012

Time	Property	Location	Address	Paddock Demonstration
9.00am	Leave Keyneton Park			
9.20	Landmark Trial Site	Springton	Cnr Cemetery Rd & Eden Valley- Springton Rd	Annual and perennial trial site
10.30	Jen Light	Flaxmans Valley	Cnr Flaxmans Valley Rd & Eden Valley- Angaston Road	Summer pasture trial
11.15	Vic Patrick	Flaxmans Valley	Mirooloo Road	Perennial pasture establishment
12.15	Lunch at Keyneton Park			
1.15	Joe & Graham Keynes	Keyneton	Blandford Road	Annual ryegrass trial
2.00	Hans Greatz	Keyneton	Cnr Blandford Road & Keyneton- Moculta Rd	Lucerne and plantain establishment
2.45	Greg Koch	Moculta	Glen Turret Rd	Grazing perennial pastures
3.45	Ian & Fiona Koch	Moculta	Parrot Hill Road	Increasing the biomass
4.30-5.00pm	Travel back to Keyneton Park			

Adelaide & Mt Lofty Ranges Producer Groups Winter Pasture NRM Project

AIM: get producers talking, learning and taking action to improve the productive capacity of winter pastures while enhancing the Natural Resource Management (NRM) outcomes.

- Working with Producer Groups: Nth Rhine Sheep, Mt Pleasant Beef, Angaston Ag Bureau and Barossa and Mid North Dairy Groups
- Producer 'activity plans' to deliver improved winter pastures and NRM outcomes.
- Education events through spring and summer- collaborating within the group and between groups.
- Funded by the Adelaide and Mt Lofty Ranges NRM Boards Sustainable Industry Grants
- Supported by Angaston Ag Bureau, Sheep Connect, Landmark, Farmer Johns, Dairy SA and Tru-test.


Life Time Ewe Discussion Group

Acknowledgements

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The Winter Pasture Project has also received funding through Caring for Our Country for the Grazing Management Rappa Project which is viewed at the Springton Trial Site and Greg Koch's.

The Project would like to thank all landholders who have provided their time and properties to make this trip and the project successful. We wouldn't be able to do it without you!

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Moculta Pasture Walk- June 2013

Farmers were taken on a tour of Moculta visiting four different enterprises including, beef, sheep and dairy farms, looking at different pasture mixes, rotational grazing systems, containment feedlots and methods of increasing pasture biomass in conjunction with the pasture measurements.

- Opportunity to learn about the important tools required to measure their pasture growth and composition

- Provided the opportunity for farmers to network and share ideas on all aspects of farming.

- Observed new species mixes being trialled including a mix of tetilla ryegrass and turnips to increase winter vigour of pasture.

- Observed trial increasing the pasture biomass using a mix containing a variety of species ranging from peas and beans, barley and wheat to chicory and sulla, to compete against annual ryegrass

Eden Valley Pasture Walk- July 2013

As a result of the success of the Moculta Pasture Walk, farmers were again taken on a tour of the Eden Valley area to display the diversity of pasture species across the region and to look at different management systems. The pasture walk provided the opportunity for farmers to

- Observe an annual pasture demonstration site- looking at new pasture varieties including turnips, chicory and new ryegrass varieties.
- Explore different perennial pasture systems including a newly sown pasture and a 40 year old system still producing high quantities of pasture.
- Explore grazing management systems including strip grazing with beef cattle, rotational grazing with dairy cattle and grazing annual ryegrass pastures with sheep.
- Form networks with other producers in the region from different enterprises.

Keyneton Pasture Walk- August 2013

In August the Winter Pasture Project facilitated a Pasture Walk around the Keyneton Area. The pasture walk provided the opportunity for farmers to

- Explore a 'before' and 'after' perennial pasture establishment to see the increased production and NRM benefits from the perennial species.
- Observe an annual ryegrass pasture demonstration site comparing different species of ryegrasses
- Observe the benefits of lucerne pastures and the tips to establish a successful stand.
- Form networks with other producers in the region from different enterprises

Landmark Pasture Trial & Demonstration Site- Springton

Name: Craig John- agronomist Landmark Mt Pleasant
Rainfall: 650mm
Enterprise: Pasture Trial and Demonstration

Aim

- Trial different pasture varieties and mixes to determine their productivity within the local environment
- Determine effective pasture mixes and early and late varieties.
- Trialling annual varieties within one plot and perennials within another.

Paddock History

- 2nd year of being used for a trial
- Perennial trial planted in 2011
- pH (water) is 5.1, phosphorus, potassium and magnesium levels are good.
- In the winter months the creek floods, preventing stock access
- Unproductive weedy paddock

Current Plan

- Added 3t Dolomite lime to improve pH
- Annual varieties direct drilled 28/6/12
- Plots replicated twice to reduce variation
- Planning to Feed Test in November to determine pasture quality

Key Successes/ Observations

1. Growing your own feed is one of the cheapest options to improve livestock production
2. Annual ryegrasses can be important to add to the mix to increase energy
3. Important to include a variety of early and late maturing varieties to spread the grazing opportunities and seasonal risk.

Key Lessons Learnt

1. Huge variety of pastures species available to be utilised however it's critically important to understand their requirements prior to purchasing and sowing
2. Important to ensure correct soil health, weed control and seed bed preparation prior to any pasture establishment

LANDMARK
look to us

PASTURE TRIAL & DEMONSTRATION SITE 2012

Compiled by Craig John - ph:0408 452 541
Agronomy Services

Direct Drilled on 28/6/12

SOUTH WEST Fence Line

BUFFER-

Cooee oats Diamond-TA Antas Sub Mintaro Sub (75)		Outback oats Subzero KxT brassica (80)		Cooee oats Diamond-TA Cheetah medic		Monstress Trit Burst-TA rye Taipan balansa Zulu II arrowleaf
Wintaroo oats New Tetila-TA rye (90)		Southern Green ryecorn Appin turnip (50)		Outback oats Jivet-TA rye Cavalier medic		Targa oats Morgan peas
Graza oats Capello vetch Antas sub Mintaro sub (95)		Cooee oats OZP902 forage peas (100)		Galileo oats Arnie-DA rye		Collossus oats Adrenalin-TA Pacer Leafy Turnip
Galileo oats Arnie-DA rye (90)		Collossus oats Adrenalin-TA Pacer Leafy Turnip (60)		Graza oats Capello vetch Antas sub Mintaro sub		Cooee oats OZP902 forage peas
Outback oats Jivet-TA rye Cavalier medic (95)		Cooee oats Diamond-TA Antas Sub Mintaro Sub (75)		Wintaroo oats New Tetila-TA rye		Southern Green rye Appin turnip
Cooee oats Diamond-TA Cheetah medic (95)		Monstress Trit Burst-TA rye Taipan balansa Zulu II arrowleaf (95)		Targa oats Morgan forage peas		Outback oats Subzero KxT brassica
ROW 1a		ROW 2a		ROW 1b		ROW 2b

BUFFER - BUFFER -

MAIN ROAD

Summer Pasture Trial- Flaxmans Valley

Name: Jen Light
Rainfall: 600mm
Enterprise: Prime Lamb running Border Leicester x Merino ewes
Paddock Size: 3Ha

Aim

- Increase pasture production of the paddock, particularly in the summer months to provide green feed for lambs, increase soil cover and help with grass and broadleaf weed control.
- Clean up the paddock to resow with a perennial pasture mix in the future
- Trial different summer pasture mixes to determine the effectiveness in the local area
- Compare mixes against what was originally in the paddock

Paddock History

- Traditionally very few amendments
- In the winter months the creek floods, preventing stock access
- Unproductive weedy paddock
- pH ($CaCl_2$) 4.3, Phosphorus low (9), Sulfur low, Potassium Ok (153)
- Average year will achieve 6 summer grazings per year

Current Plan

- Divided into half, 1.5Ha each in size

- CONTROL
  No further amendments
  Annual grasses, broadleaf weeds, bare ground in summer months

- TREATMENT- Early October 2012 (after 17mm rain)
  Complete knockdown with Roundup
  Planted to summer pasture mix in consultation with Craig John at Landmark Mt Pleasant
  - 1 mix containing pearl millet and rape
  - 1 mix containing millet, apin turnip and titan rape

- Planning to graze with 170 ewes and lambs within the next 3-4 weeks

Summer Pasture Trial- Flaxmans Valley

Key Successes/ Observations

1. Pasture has germinated- considering the season this is a great success!
2. Will need to graze early to encourage tillering- important to graze separately to the control area to prevent overgrazing in the trial area. Opportunity to trial the Rappa system.
3. Sowing depth is very important when seeding these varieties.

Key Lessons Learnt

1. Insect spray may be required to control the cabbage moth which could be prevalent at this time of year (however property is trying to limit sprays) therefore grazing early may be an option.

Trial area on the left and 'control' area on the right- October 2012

Hail Storm- Flaxmans Valley June 2012

Perennial Pasture Establishment- Flaxmans Valley

Name: Vic & Margie Patrick
Rainfall: 600mm
Enterprise: Fattening 130 steers
Paddock Size: 2.7Ha

Aim

- Remove the unpalatable fescue which was previously planted
- Increase pasture production using palatable pasture species
- Improve soil cover through the summer months
- Reduce pasture weeds

Paddock History

- Previously been used as an orchard, then as a paddock within a dairy enterprise.
- In 2007, Vic planted the paddock to Farmer Johns Hills Mix 550 which contained phalaris, fescue and clovers.
- Due to the unpalatable nature of fescue and the persistence, without controlled grazing it began to dominate the pasture.
- Soil test in 2007 indicated low organic carbon (1.8), nitrogen and nitrates (4.9), copper (0.29mg/kg) and zinc (0.5mg/kg)
- pH(cacl2) was 5 and 3 tonnes/Ha of gypsum was added in 2007
- Received 100kg/Ha super in the last 7-8 years

Current Plan

- Planted to a perennial ryegrass, phalaris and sub clover mix in early June 2012
- Sprayed with a complete knock-down using Roundup prior to sowing
- Has not been grazed
- At Eden Valley Pasture Walk in July:
  60% bare ground- plants just germinated

Perennial Pasture Establishment- Flaxmans Valley

Key Successes

1. 2,400kg DM/Ha growth
2. Provided careful grazing management pasture should hold in until next year when hopefully a good season will allow it to have good production

Key Lessons Learnt

1. Needs to be managed carefully to allow seed set this year (particularly of clovers- graze only lightly with cattle particularly as it is already moisture stressed
2. Need to ensure good weed control prior to pasture establishment- particularly of broadleaves which are now dominating the pastures
3. Considering the season it may have been better to plant an annual pasture and then come in next year with the perennial
4. Fescues high in energy and protein however it's critically important to have a high grazing pressure from the start of its life to prevent it becoming 'clumpy'. Can be beneficial to have a pure fescue stand to allow high grazing pressure

Perennial Pasture- Eden Valley Pasture Walk July 2012

Fescue Pasture- Eden Valley Pasture Walk- July 2012

Annual Ryegrass Trial- Keyneton

Name: Joe and Graham Keynes
Soil Type: Sandy Loam
Rainfall: 500mm
Enterprise: Wool, Prime Lambs, Cattle and Cereal Cropping
Paddock Size: 20 Ha

Aim

- Establish a productive pasture to wean lambs onto within a previously continuously cropped paddock
- As a result of the dry season, decided to postpone the establishment of a perennial pasture and planted annual ryegrass
- It was hoped the ryegrass would help to provide competition against weeds to ensure a clean crop for perennial pasture establishment next year
- Compare different types of ryegrass to see which produces the most feed

Paddock History

- 15 years continuously cropped with cereals and occasional vetch and oat hay break crops
- 2011 planted to a vetch and oat pasture to help with weed control prior to pasture establishment

Current Plan

- Planted two different annual ryegrass mixes (@ 20kg/Ha) to compare production and persistence
  - Tetila (100% tetraploid)
  - Grassmax (75% diploid ryegrass/ 25% tetraploid ryegrass)
- The diploid mix, due to its genetic makeup, is expected to provide feed further into the season than the Tetila.

- Sowed 25th May, after the 'break' in the season.
- Sprayed 25th Jul Progibb, 750ml MCPA, 5g/ha Ally
- Spread 27th Jul 70Kg Urea

- Light Graze early July- to create tillering of the plants 400 wethers (1DSE/Ha)
- 28/08/2012 686 Composite x Mer Lambs Ave wt 22.5kg (35DSE/Ha)
- 26/09/2012 taken out Ave wt 31.5Kg = 300g/day
- 30/09/2012 21 Cows and calves for 14 days (14DSE/Ha)

Annual Ryegrass Trial- Keyneton

Variety	Tetila	Grassmax
1 August 2012	2160 kg DM/Ha	1960 kg DM/Ha
28 August 2012	3320 kg DM/Ha	2970 Kg DM/Ha
29 September 2012	2300 kg DM/Ha	2400 kg DM/Ha
1 October 2012	1600 kg DM/Ha	2000kg DM/Ha

Key Successes/ Observations

1. Previous planning (weed control, soil health) to ensure a clean bed to sow into
2. Grassmax (Dipoloid) did slightly extra feed however considering the cost was double that of the Tetila (annual) it does not equate.
3. This pasture achieved the aim of providing a paddock to wean lambs onto plus providing extra for cattle grazing and probable grazings in the future.

Key Lessons Learnt

1. Progibb must be sprayed earlier rather than later to ensure results
2. Would be good to divide paddock further to allow rotational grazing to prevent wastage and ensure ground cover

1st August 2012- Tetila at 2160 kg/DM/Ha

Discussions at the Keyneton Pasture Walk- August 2012

Establishment of a Lucerne Pasture- Keyneton

Name: Hans & Petra Greatz
Soil Type: Sandy Loam
Rainfall: 500mm
Enterprise: Wool, Self Replacing Merino Stud, Prime Lambs and Cereal Cropping
Paddock Size: 33 Ha

Aim

- Establish a lucerne pasture to wean lambs onto in Spring
- Compliment successful lucerne pasture establishment in 2010
- Divide paddocks into smaller sizes to improve grazing management

Paddock History

- Unimproved pasture paddock with good subclover base however low perennial grasses.
- Fertilised every second year for maintenance
- Spray topped in 2011 to control grasses prior to sowing in 2012
- Paddock is associated with recent subdivision into 7 paddocks and a laneway

Current Plan

- Dry sown early May to – 5kg/Ha Lucerne with a winter dormancy of 9
  - 2kg/Ha Plantain
  - 1kg/Ha subclover
- In August 2012, 2% lucerne, 5% plantain, 40% clover 15% bare ground. Remaining grasses and broadleaves.
- About to graze with 850 lambs (25DSE/Ha)

Establishment of a Lucerne Pasture- Keyneton

Key Successes/ Observations

1. Plantain (winter active) and lucerne (summer active) complement each other to allow grazing all year round
2. Lucerne has an extremely deep root system allowing it to access water and nutrients from below the soil. Also helps to control salinity and rising water tables.
3. Plantain contains high levels of minerals producing good quality feed for lambs
4. Rotational grazing is the key to maintaining lucerne productivity and ensuring good soil cover
5. Fencing the watercourse prevents stock access which improves water quality and reduces erosion

Key Lessons Learnt

1. Spray topping in October could be an option to control grass weeds prior to them setting seed
2. The seasonal conditions play a critical role in determining pasture establishment success.

Lucerne and Plantain Pasture- Keyneton Pasture Walk- August 2012

Grazing Management of Perennials- Moculta

Name: Greg Koch
Soil Type: Clay Loam
Rainfall: 530mm
Enterprise: Wool, Prime Lambs and Cereal Cropping
Paddock Size: 38Ha


June 2012

Aim

- Divide perennial based pasture paddocks in half to improve grazing efficiency, reduce pasture wastage and improve soil cover
- Provide good quality pasture to wean approx 600 lambs onto in spring

Paddock History

- Continuously cropped until 2006
- Planted to a perennial mix containing phalaris, cocksfoot, fescue and sub clovers in 2006
- Divided into 4 even sections with central watering point in association with pasture renovation
- Greg has found that, particularly in the spring months, the pasture grows faster than the 600 lambs can eat. This leads to the later sections becoming 'rank' which reduces the quality of the pasture.

Current Plan

- To improve grazing efficiency, the grazing pressure must be increased by either making larger mobs or smaller paddocks. Rather than increasing the mob size, which will not fit Greg's system, he has decided to trial a temporary electric fence system called a Rappa.
- Rappa system sits on the back of a quad bike and facilitates the rolling and unrolling of up to 4 temporary electric wires which makes it easier to further divide each of the sections up.
- This season has been particularly difficult with only half of the annual average rainfall occurring so far.

Grazing Management of Perennials- Moculta

- 1st October- 5Ha paddock divided into 2x 2.5Ha paddocks using 3 line electric using Rappa
- 640 lambs were placed in 1 section containing 850kg/DM/Ha (140 DSE/Ha)- total of 2125 kg DM within the section
- 4th October lambs moved on to next section.
- Measurements: 460kg/DM/Ha with 80% ground cover- no tracking or camping areas
- Lambs ate 740g DM/Day (2000kg DM for the mob for 4 days) indicating very little wastage (2125 – 2000 = 125 kg DM)

Key Successes

1. Rotational grazing prevents pasture wastage improving pasture utilisation and therefore livestock production
2. Stock camps and stock tracks are also reduced from rotational grazing which reduces soil erosion
3. Perennial pastures provide productive options for year round grazing including summer months, however it is important not to overgraze them to allow them to recover and continue to produce.
4. Perennial pastures must be kept above 500kg DM/Ha and 70% ground cover to prevent soil erosion through the summer months.

Key Lessons Learnt

1. Important to have facilities (water, troughs, gateways) set up correctly to achieve successful rotational grazing.
2. Would be interesting to trial in a 'more average' season

(Left): 4th October-460 kgDM/Ha (left) after 4 days grazing and 960 kg DM/Ha (right) prior to grazing

Daniel Schuppan (Landmark) at the Moculta Grazing Management Workshop demonstrating the Rappa system

Increasing the Biomass- Moculta

Name: Ian & Fiona Koch
Rainfall: 530mm
Enterprise: Cropping/ Merino Wool Self- Replacing Stud/ Prime Lambs
Paddock Size: 30Ha

Aim

- Increase the biomass of the pasture by using a variety of pasture species.
- Trial a mix of cereals, legumes & brassicas sown into cereal stubble to control resistant ryegrass and produce late winter/spring sheep feed over 2 yr period.
- Trial new plant varieties- turnip & sulla

Paddock History

- Continuously for 10 years cropped
- Resistant Ryegrass infestation
- Soil test indicated pH optimum so no lime added
- Only 188mm since it was sown

Current Plan

- 26 April: Knockdown spray for Salvation Jane & Ryegrass
- 22 May: Pasture Mix sown and fertilised 40-50kg/Ha DAP
- Sown with varieties of wheat, barley, oats, apin turnip, peas, beans, chicory, sulla and canola
- Moculta Pasture Walk visited in June- 300kg DM/Ha , 50% bare ground

- Set stocked with 430 lambs on 13 July until stubbles are available (November)

Increasing the Biomass- Moculta

Key Successes

1. Simulated rotational grazing- as the varieties has different growth habits the lambs grazed them preferentially at differing times of their maturity allowing some varieties to get away while others were being controlled.
2. Considering the season, the pasture has produced extremely well, chicory and ryegrass is still green
3. Lambs did not scour on the pasture indicating very little loss in production

Key Lessons Learnt

1. Next year will include more brassicas and chicory however no sulla
2. Would be good to rotationally graze to prevent stock tracking and improve pasture production

Pasture Cage displaying the amount of growth achieved through the growing season without grazing pressure- October 2012