

“Pasture Sequencing Trials”

Felicity Turner, MacKillop Farm Management Group, projects@mackillopgroup.com.au

Key Outcomes:

- Wet seasonal conditions hindered establishment of some crop species
- Seasonal conditions were ideal for pasture re-growth
- 3 cuts were taken at Conmurra throughout the season

Location

Farmer Co-operators

Frances

Martin Flower

Conmurra

The Seeers Family

Growing Season Rainfall

Frances: 472mm

Conmurra: 556mm

Background:

The trial aims to explore the role that pastures can play in the crop rotation across the South-East region. It aims to quantify the role that pastures can play in providing nitrogen to the cropping system, and also its potential role in managing weed issues in the high rainfall regions compared to a conventional cropping system.

Plots were sown down in 2013 as part of the first year of the project. Pasture species and mixed pasture swards were planted along with conventional crop species. The pastures were cut two times at Frances and three at Conmurra to measure total biomass production. This is being collated with feedtest samples to establish the ‘red meat’ value of the pasture phase and allow a dollar figure to be accurately calculated.

The perennial plots will be carried into 2014 season where the continued dry matter production will be assessed. The annual plots are being allowed to regenerate, and the cereal plots will be sown down to the next crop in the rotation. Soil moisture and nitrogen samples will be taken in April to allow a better understanding of the role the pastures are playing in soil water management and nitrogen inputs into the system. 2015 all plots will be sown back to wheat to assess the performance of the wheat over the pasture species compared to the standard system and the economics of the different rotations assessed.

Results from 2013:

Table 1: Frances pasture cut results:

	8/10/13	21/11/13	Total
Entry	kg/ha DM	kg/ha DM2	kg/ha DM3
Antas Sub	187	1027	1214
Barbaria/sub	1042	2234	3276
Barbaria/sub +N	3127	812	3939
Barbaria/sub+N	2860	1905	4765
Barley	1821	546	2367
HolGT	527	2987	3514
HolGT/clover	697	2551	3248
Lucerne	*	*	
Oaten Hay	2581	878	3459
Per rye/clover	469	2847	3316
Per rye/clover +N	1480	3272	4752
Wheat	1633	435	2068

LSD	367	569
CV %	13.99	21.32

The growing conditions at Frances were extremely wet; this suppressed growth of most of the species. The wet conditions also affected the establishment of Lucerne; spring sowing was tried at a later day, but still unsuccessful in this season. It is also resulted in extremely high variability across the site, so results should be used with caution.

Table 2: Conmurra pasture cut results:

	8/10/13	21/11/13	Total
Column1	kg/ha DM	kg/ha DM	kg/ha DM
Antas Sub	740	3218	3958
Barbaria/sub	2876	3203	6079
Barbaria/sub +N	4045	3740	7785
Barbaria/sub+N	3977	3310	7287
Barley	4871	1430	6301
HolGT	2491	3719	6210
HolGT/clover	2350	5377	7727
Lucerne	881	2453	3334
Oaten Hay	6729	2962	9691
Per rye/clover	1943	5011	6954
Per rye/clover +N	3120	4610	7730
Wheat	4196	963	5159

LSD	800.4	1021.8
CV %	12.79	19.24

NB/ Additional cuts of some plots at Conmurra were also taken on the 18th January 2014. These are still being assessed for DM.

Notes on pasture species sown:

Antas

A black seeded sub clover, Antas has amazing seedling vigour and winter growth. It provides excellent production throughout the year and this combined with its large leaves, makes it ideal for both grazing and hay production. Antas also provides the benefits of fixing soil nitrogen as well as providing an effective disease break. It is well suited to either permanent pastures or medium-term cropping rotations right across the S.E.

Holdfast GT

Developed by the CSIRO, Holdfast GT is a semi erect winter active phalaris variety. It has a low level of summer dormancy enabling it to respond and take advantage of summer rainfall. Holdfast GT was selected as a superior replacement for Holdfast, due to its outstanding winter production and persistence. It offers excellent seedling vigour so it can establish quickly and easily. Once established Holdfast GT can tolerate periods of waterlogging and inundation and can also grow in acidic conditions.

Barberia

Barberia is a long rotational ryegrass which boasts fast establishment and growth of an annual, combined with persistence approaching that of a perennial. It has been bred from North African genetics, providing it with good heat and drought tolerance, producing well in late summer when traditional perennials are struggling to grow through the heat. Barberia contains no endophyte

and will not contribute to staggers and heat stress for livestock.

Impact II

Impact 2 is a late heading diploid perennial ryegrass with excellent persistence. It's an exceptional ryegrass due to its densely populated tillers and early season production. It provides outstanding persistence, palatability, insect resistance and no staggers or animal performance issues. It has exceptional even seasonal production giving good feed production throughout the year, especially suited to the lower pastures of the S.E.

SARDI 7 Series 2

SARDI 7 Series 2 is the next generation in winter active lucerne. It is very high yielding with excellent persistence. SARDI 7 S II is even more versatile, broadly adapted and persistent than the current market leader, SARDI 7. Bred specifically for adaption to the Australian climate and will perform well in both dryland and irrigated farming systems.

Monti

Monti is an exciting new sub clover cultivar that has recently been released by the APA. Monti is an earlier maturing Trikkala replacement, flowering 2 days earlier than Trikkala and averaging 46% more production over Trikkala. Monti has exceptional early season growth and is a prolific seeder allowing reliable regeneration and establishment even after false breaks. Monti has excellent tolerance to waterlogging making it a

great choice in wet areas across the South East.

Mammoth Forage Oats

Mammoth is a true forage oat, with excellent establishment vigour and overall total yield. It was identified in 2007 from the Heritage Seeds' program that specifically targets high forage yield and

quality for southern Australia. Mammoth has shown excellent autumn and winter performance, and excellent overall yield in multiple locations over a number of years across Southern Australia. Mammoth may be sown from late summer/early autumn onwards to maximise feed on offer through autumn and winter.

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Figures in print as at 31 October 2013.

Kate Emy Agribusiness Executive M: 0437 560 710 E: kate.emy@can.com.au	David Currie Relationship Executive M: 0427 030 128 E: david.currie@can.com.au	Greg Dwyer Regional Manager M: 0428 060 127 E: greg@can.com.au
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