

MLA Funded Producer Demonstration Site Project

“Success with perennial pasture stands”

To keep up with the constant changes and challenges of agricultural grazing systems the SEPLA group embarked on a project looking at the best economic solutions to pasture establishment, persistence and management to ensure long term productive grazing system.

The group identified the challenge that, as the climate continues to be extremely variable and the margins in farming narrow, the profitability of each enterprise needs to be continuously monitored and improved. Producers are continually being given advice and recommendations about the best way to establish and manage our pastures, but many of these are conflicting. With the high cost of pasture establishment, producers can ill-afford to make mistakes when trying to establish persistent and productive stands. These issues developed into this pasture Producer Demonstration Site (PDS) project that builds on previous research undertaken by the group.

Four property owners were involved in the project, with each determining the specific aims of the trial on their property. These included comparing high, medium and low seeding rates, species selection and paddock preparation and their effect on longer-term productivity of the pasture stand.

The first of the on-farm sites was established in 2010, with the remaining three sites established in the Autumn/Winter of 2011. Pasture persistence and productivity measures were taken from 2010 to the end of 2013. While data is still being fully analysed, the following gives some initial indication of the relative productivity of the various pasture mixtures.

Dry Matter Results from 2011, 2012 & 2013

Overview:

Although there are a few examples in the dry matter production data below of individual pasture mixes producing more or less than others in particular years, the overwhelming feature of the data is the marked seasonal variation in total dry matter production – ranging from 4,000-6,000 kgDM/ha in one year to over 16,000 kgDM/ha in the following year. This is a testament to the effect that rainfall (or lack of it) will have on pasture production.

The data is also an indication of the variation in pasture production that can be expected across the region – most likely affected by a combination of soil type and regional rainfall.

Further analysis of this and a suite of pasture persistence data are still being undertaken and will be presented in a final report in the next few months.

Detailed Results (all figures are in kg dry matter/ha):

Avenue Range

	Mix 1	Mix 2	Mix 3	Mix 4
	SARDI Persian Clover Paradana Balansa Clover Gosse Sub Clover Scimitar Burr medic Sirosa Phalaris	SARDI Persian Clover Paradana Balansa Clover Gosse Sub Clover Scimitar Burr medic <i>Barberia Ryegrass</i>	Trikkala Sub Clover Goulburn Sub Clover Propser Tall Fescue (winter) Dovey Tall Fescue (summer) Ambassador Cocksfoot Sirosa Phalaris	SARDI 7 lucerne Puna Chicory Grouse Chicory
2010 [#] (to October)	2,233	3,119	1,336	Spring sown
2011 ^{**}	12,300	8,227	10,650	5,607 (partly resown)
2012 [†]	6,326	4,123	6,430	6,387
2013 ^{††}	16,087	16,695	16,358	15,558

[#] Mix 2 produced significantly more dry matter than Mix 1, which produced more than Mix 3; Mix 4 was not sown until Spring as per the normal practice on this farm.

^{*} Mix 1 produced significantly more dry matter than Mix 2 & 4 in 2011; there were no significant differences in dry matter production between the remaining treatments (although there was a trend for Mixes 2 & 3 >4, which is not surprising since Mix 4 was partly resown with more Lucerne and Tall Fescue in Autumn 2011 due to poor survival in 2010).

[†] Mix 2 produced significantly less dry matter than Mix 4 in 2012; there was no significant difference in dry matter production between the remaining treatments.

^{††} There were no significant differences in dry matter production of the mixes on 2013.

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	Mix 1	Mix 2	Mix 3
	Holdfast phalaris, Puna chicory, Tonic plantain, Seaton Park sub clover, Frontier Balansa clover	Australian phalaris, Seaton Park sub clover, Frontier Balansa clover	Fraydo tall fescue, Seaton Park sub clover, Frontier Balansa clover
2011 [*]	2,633	3,463	2,680
2012 [*]	7,487	10,030	7,827
2013 [*]	11,455	10,891	14,850

^{*} There were no significant differences in dry matter production of the mixes (N.B. there were trends for Mix 2>3 in 2011 and Mix 3>1 in 2013).

Avenue Oval (annual mixes)

	Mix 1	Mix 2	Mix 3	Mix 4
	Atomic ryegrass Shaftal clover Balansa clover	Thunder ryegrass Cavalier medic Bolta Balansa clover	Barberia ryegrass Trikkala sub clover Gosse sub clover	SouWest Pasture Mix (annual regeneration)
2011 [*]	4,783	4,960	5,157	5,813
	'Zoom' Ryegrass/Burr	Naracoorte Seeds	Existing Stand	Existing Stand

	Medic/Balansa Clover	Winter Mix	oversown with Winteroo Oats	oversown with Winteroo Oats
2012 [†]	1,608	1,478	1,570	1,442
	'Arnie' Ryegrass @ 25kg/ha	Naracoorte Seeds Winter Mix	Existing Stand oversown with Winteroo Oats	Existing Stand oversown with Winteroo Oats
2013 ^{††}	6,358 (33% as regrowth post baling)	8,722 (39% as regrowth post baling)	8,842 (16% as regrowth post baling)	6,653 (20% as regrowth post baling)

* There were no significant differences in dry matter production of the mixes in 2011.

† Values based entirely on final hay cut carted weights; no statistics possible.

†† There were no significant differences in dry matter production of the mixes in 2013, although there was a trend towards Mix 3>4.

Naracoorte

	<u>Mix 1</u>	<u>Mix 2</u>	<u>Mix 3</u>	<u>Mix 4</u>	<u>Mix 5</u>	<u>Mix 6</u>	<u>Mix 7</u>
	Siroa phalaris, Drover cocksfoot, Pastoral fescue, Trikkala sub clover, Goulburn sub clover			Barberia ryegrass, Platinum ryegrass, Trikkala sub clover, Goulburn sub clover			Annual mix of grasses & clover
		20kg/ha	30kg/ha	10kg/ha	20kg/ha	30kg/ha	
2011*	3153	3603	3850	4023	4863	2723	2513
2012	Trial	abandoned					

*There was an effect of Mix in 2011 with Mix 5 having a significantly higher dry matter production than Mix 6 and Mix 7. There was no significant difference in dry matter production between the remaining Mixes.



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