



Creating landscape-scale change through drought resilient pastures — Temora

Introduction

Perennial pastures are essential in any mixed farming operation. A high performing pasture will provide stability and less reliance on other feed sources. This theme is part of a project that received funding from the Future Drought Fund via the Southern NSW Drought and Innovation Hub.

Methodology

In 2022, a pasture variety trial was sown at the Temora Agricultural Innovation Centre (TAIC). The paddock chosen to contain the trial, also has newly established pasture, therefore the paddock was limed and incorporated in 2021 to increase the surface soil pH to above 5.5.

A vetch/cereal hay crop was also grown in 2021 to try and minimise weed seed set and store soil moisture over a summer fallow period. The trial was sown in May 2022 with a range of species and varieties shown in Table 1, provided by seed companies including Barenbrug, DLF Seeds, Seedforce, S&W Seed Co, and Upper Murray Seeds.

To ensure good establishment, the site was scarified and rolled to create a firm seedbed to sow into. The trial was sown as a small plot trial using knife point press wheels. No pre-emergent herbicides were used because of the variability between varieties and species in susceptibility. Post-emergence applications were made to relevant species where needed and insecticides were also used to protect seedlings.



Figure 1: Resilient pastures trial site at Temora after last grazing before Autumn 2024



Table 1. List of species, cultivars and suppliers for the Temora trial site.

No.	Species	Variety	Company
1	Sub-clover	Mawson	Barenbrug
2	Sub-clover	Mintaro	Barenbrug
3	Sub-clover	Campeda	Barenbrug
4	Sub-clover	Monti	Barenbrug
5	Sub-clover	Forbes	Seedforce
6	Sub-clover	Narrikup	Seedforce
7	Sub-clover	Yanco	Seedforce
8	Balansa	Enduromax	S&W Seeds
9	Balansa	Border	S&W Seeds
10	Arrowleaf	Zulumax	S&W Seeds
11	Rose	SARDI	S&W Seeds
12	Persian	SARDI	S&W Seeds
13	Bladder	Bartolo	S&W Seeds
14	Medic	Penfield	S&W Seeds
15	Medic	Emperor	S&W Seeds
16	Medic	Cavalier	S&W Seeds
17	Medic	Seraph	S&W Seeds
18	Lucerne	Titan 5	DLF Seeds
19	Lucerne	SilverLand GT 5	Upper Murray
20	Lucerne	Warrego GT6	DLF Seeds
21	Lucerne	RD17NPK92	S&W Seeds
22	Lucerne	SW6330	S&W Seeds
23	Lucerne	SF614QL	Seedforce
24	Lucerne	SW18SPD303	S&W Seeds
25	Lucerne	L71	S&W Seeds
26	Lucerne	Sardi 7	Barenbrug
27	Lucerne	Silverosa GT 7	Upper Murray
28	Lucerne	SF714QL	Seedforce
29	Lucerne	Sardi Grazer	Barenbrug
30	Lucerne	Torrens GT8	DLF Seeds
31	Lucerne	Silverado 9	Upper Murray
32	Lucerne	SW9720	S&W Seeds
33	Lucerne	SW18IPD304	S&W Seeds
34	Lucerne	SF914QL	Seedforce
35	Lucerne	SW18NPD305	S&W Seeds
36	Lucerne	SW18NPS306	S&W Seeds
37	Cocksfoot	Drover	Upper Murray
38	Cocksfoot	Summadorm	Barenbrug
39	Cocksfoot	Lazuly	Seedforce
40	Phalaris	Holdfast GT	Barenbrug
41	Phalaris	Horizon	Barenbrug
42	Phalaris	Stockman	Upper Murray
43	Phalaris	Grazier	Upper Murray
44	Phalaris	Mate	Seedforce
45	Tall Fescue	Prosper	Barenbrug
46	Tall Fescue	Charlam WA	Upper Murray
47	Tall Fescue	Medallion	Seedforce
48	Mixed	Meatmaster 500 (Fortune summer active tall fescue, Prosper winter active tall fescue, Holdfast GT phalaris, Monti sub-clover, Campeda sub clover, Sardi Grazer Lucerne)	Barenbrug
49	Mixed	Meatmaster GT (Holdfast GT phalaris, Mintaro sub-clover, Campeda sub-clover)	Barenbrug
50	Mixed	GT07 Phalaris, YM038 Sub-clover	DLF Seeds
51	Mixed	Temora Med Fescue Urana Sub-clover Titan5 Lucerne	DLF Seeds
52	Mixed	Hispanica Cocksfoot Titan 5 Lucerne	DLF Seeds
53	Mixed	Hardy Phalaris Blend	Seedforce
54	Mixed	Tablelands and Slopes	Seedforce

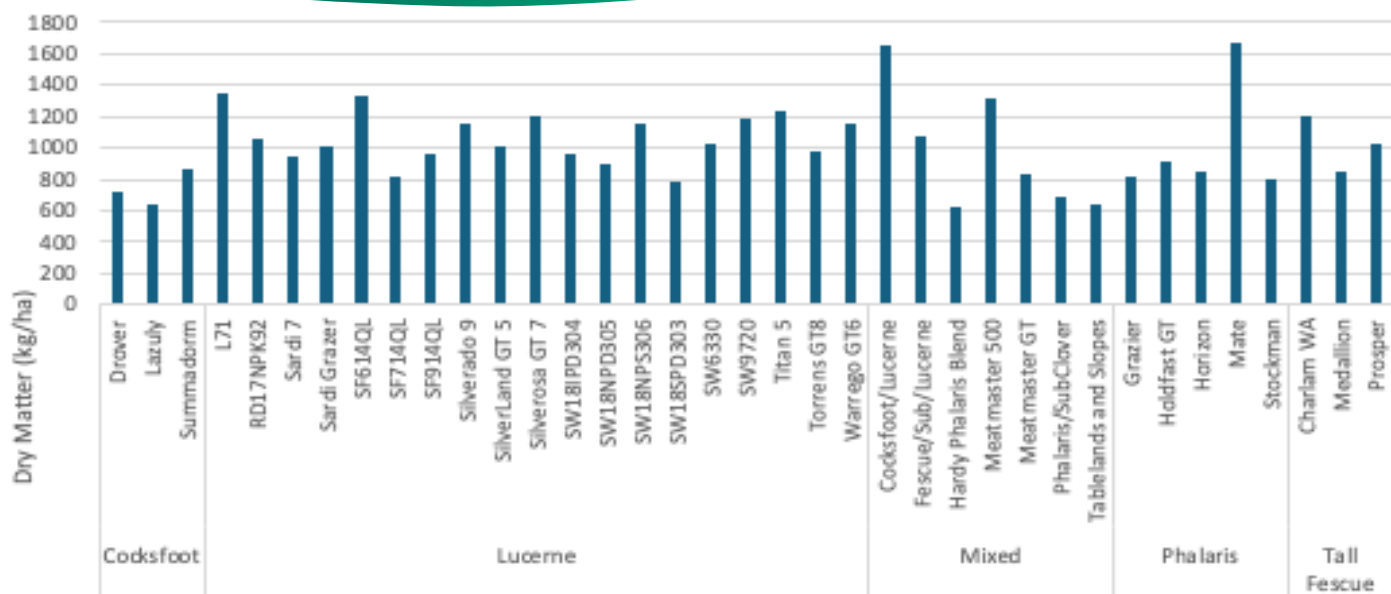


Figure 2. Variety dry matter results from 4 June 2024 cut, these are preliminary results.

Results

The pasture variety trial was successfully established in the 2022 season with all species having a satisfactory level of plant numbers per square metre.

Although plant growth may have been limited due to very wet conditions during 2022, a first pasture cut was taken during November on the lucerne, grasses and mixes. The clovers and medics were left ungrazed to ensure that they could achieve maximum seed set in the first year of establishment.

A comparison between the different species and their dry matter production from a second pasture cut taken in June 2024 is shown in Figure 2. These results show that the grasses and mixes (also containing grass species) had a higher production than lucerne, however, this cut was taken during spring. After this cut and during the summer months, it was noted that lucerne remained active whereas the grasses became more dormant.

A second cut was taken during January, however only lucerne had sufficient biomass to perform the biomass cut. These results and further trial results will be published in subsequent reports.

Conclusion

A pasture variety trial has been successfully established at TAIC. This will continue to run over multiple seasons so that the level of dry matter production and pasture persistence can be measured for the different species included in the trial. This will provide important information about which species and varieties are best suited to a range of seasonal conditions that may be experienced at Temora, NSW.

For more information

Read more about the Creating landscape-scale change through the promotion of resilient pasture systems project.

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