



2013

Centre Pivot Lucerne Seed Yield, Herbage Yield and Plant Persistence Trial



Australian Government

Rural Industries Research and
Development Corporation



Rabobank



Heritageseeds
Powering productivity



PGG Wrightson Seeds

TRIAL RESULT 2012-13

Comments: Lucerne Australia representative

The Lucerne Trial Committee, which is a subcommittee of Lucerne Australia, is pleased to present the trial results from the 2012/2013 production season.

Our goal from the outset was to establish a site which had independent management and data collection but was able to combine the knowledge and products of many companies.

We wish to sincerely thank the following people:

1. Kinyerrie Partnership and the manager of Kinyerrie, Joe Sandford for providing the land for the site and performing the many tasks associated with growing a lucerne seed crop.
2. Cox Rural for providing the agronomy and monitoring service.
3. SARDI research team, who have provided site layout and machinery for the seeding, pathway spraying and harvesting operations.

Thanks must also go to our sponsors who have made this all possible, Rural Industries Research and Development Corporation (RIRDC), participating seed marketers and major sponsors of Lucerne Australia, Momentum Energy, Rabobank and WFI.

Comments: Trent Potter (Research Scientist, SARDI) on understanding trial analysis

From the analysis, a mean yield for all treatments is determined. The tables for individual experiments show mean yields and often as a percent of either the site mean yield or as a percent of a check variety or treatment. The coefficient of variation (CV %) gives an indication of the precision of the experiment. Experiments with high CV% are less reliable. The National Variety Testing considers anything over 15% as being less reliable. The 5% least significant difference (LSD) gives an indication of the yield difference that could occur by chance. Variety mean yields must differ by more than this value for the difference to be statistically significant.

LUCERNE TRIAL COMMITTEE

2012/2013

CHAIRMAN

Scott Manser

COMMITTEE

Simon Allen

Charlie Hilton

Chad Makin

Adam Desmazures

SARDI RESEARCH TEAM

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Industry Sponsors

Rural Industries Research and Development Corporation (RIRDC), Seed Genetics International, Seedmark/Heritage Seeds and PGG Wrightsons Seeds.

Site Description

The site is located on Kinyerrie, 16km north of Keith in South Australia. The site consists of 24 varieties, including two publics and is under a drop tube centre pivot irrigation system. The soil consists of sand over clay and the rainfall average is 450-480mm/year. This is a five year project, which commenced in 2010 and funding was obtained from RIRDC.

There are three companies involved in the trial, each with several different varieties. The companies are, Seed Genetics International SeedMark/Heritage Seeds and PGG Wrightsons.

The trial was sown on 10th, August 2010 by SARDI and the establishment in all trial plots was excellent, with some varieties having great seedling vigour. The trial site had very good initial seedling vigour and growth in most of the varieties.

The site was “locked” up for seed production on 15th November 2012. The complete management records are located at the back of the report.

1. Seed Yield Results for Varieties with a Winter Activity Rating of 5, 6 or 7

Lucerne Australia Analysed Results

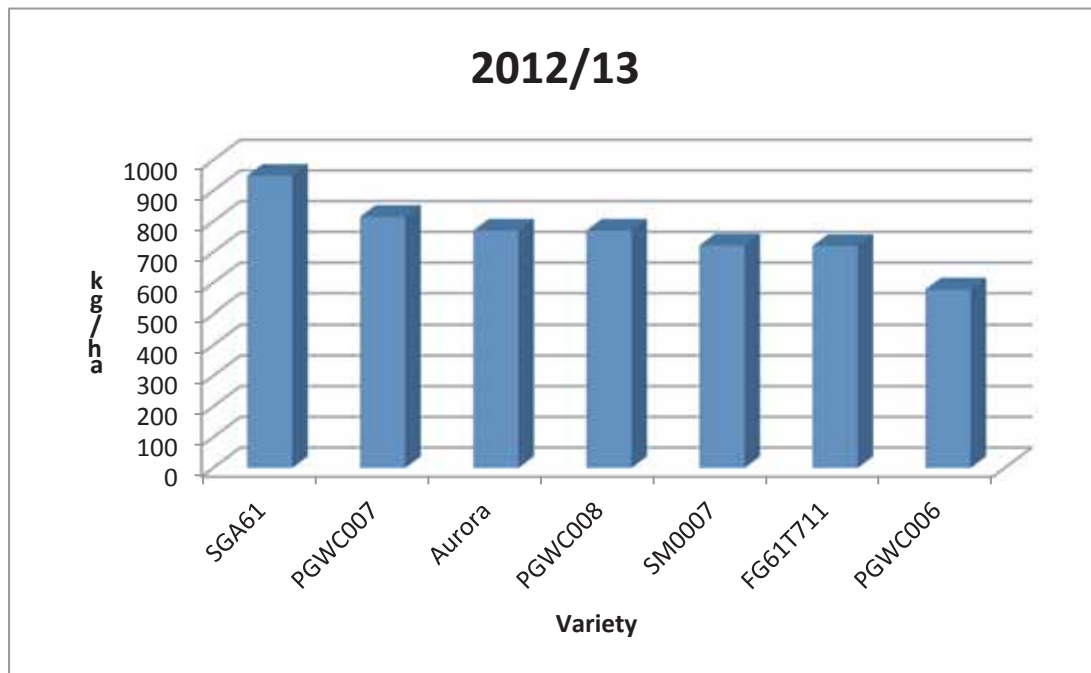
Variety	kg/ha	% Site Mean
SGA61	949.3	124.7
PGWC007	815.5	107.2
Aurora	770.7	101.3
PGWC008	770.4	101.2
SM0007	722.2	94.9
FG61T711	720.1	94.6
PGWC006	578.7	76.0

Site mean	761
CV%	17.1%
lsd(0.05)	172

Please Note:

Aurora has been used as the benchmark variety in this trial.

The right hand column of the table compares the performance of each variety against the average yield for the trial.



2. Seed Yield Results for Varieties with a Winter Activity Rating of 8, 9 or 10

Lucerne Australia Analysed Results

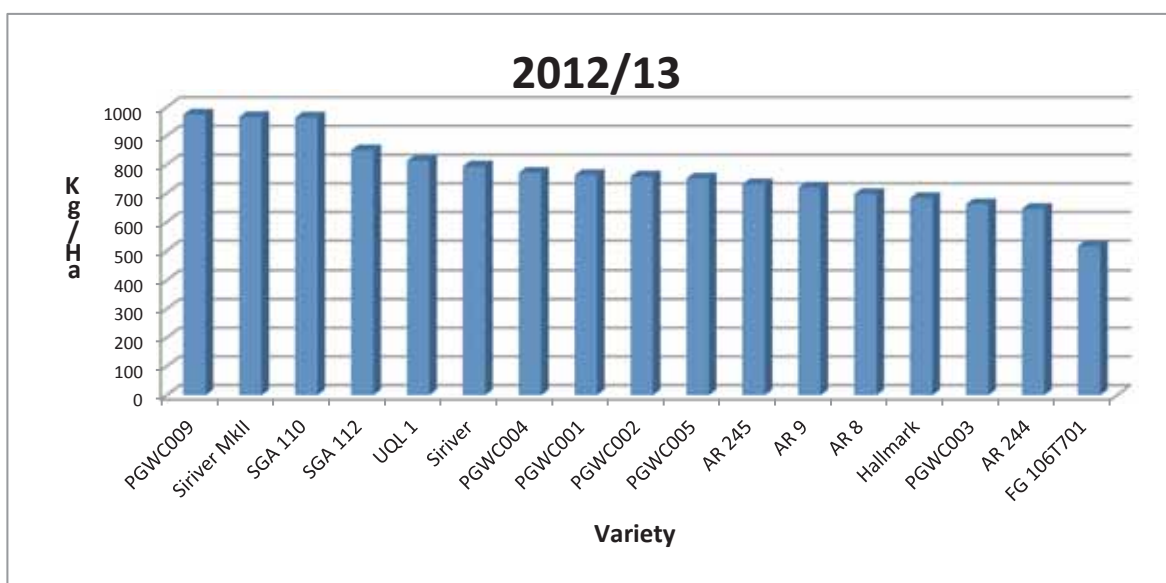
Variety	kg/ha	% Site Mean
PGWC009	974.3	126.8
Siriver MkII	966.3	125.8
SGA 110	964.3	125.5
SGA 112	849.7	110.6
UQL 1	812.9	105.8
Siriver	794.1	103.3
PGWC004	771.3	100.4
PGWC001	763.7	99.4
PGWC002	758.9	98.8
PGWC005	751.7	97.8
AR 245	731.5	95.2
AR 9	719.6	93.6
AR 8	697.4	90.8
Hallmark	683.6	89.0
PGWC003	662.1	86.2
AR 244	645.8	84.0
FG 106T701	515.9	67.1

Site mean	768.4
CV%	22.84%
lsd(0.05)	202

Please Note:

Siriver has been used as the benchmark variety in this trial.

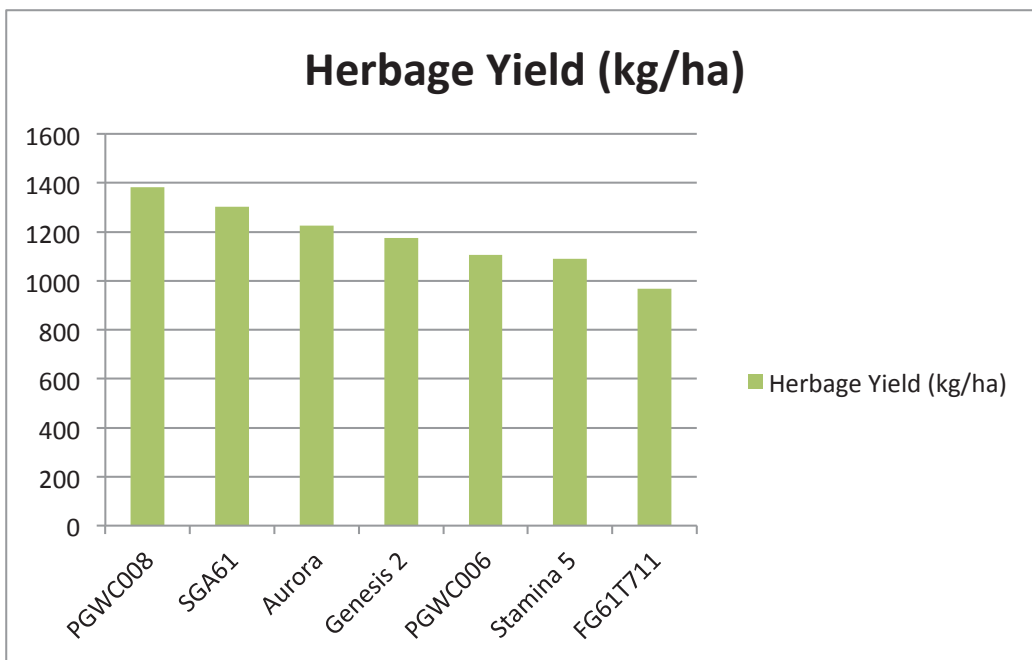
The right hand column of the table compares the performance of each variety against the average yield for the trial.



3. Herbage Yield Results

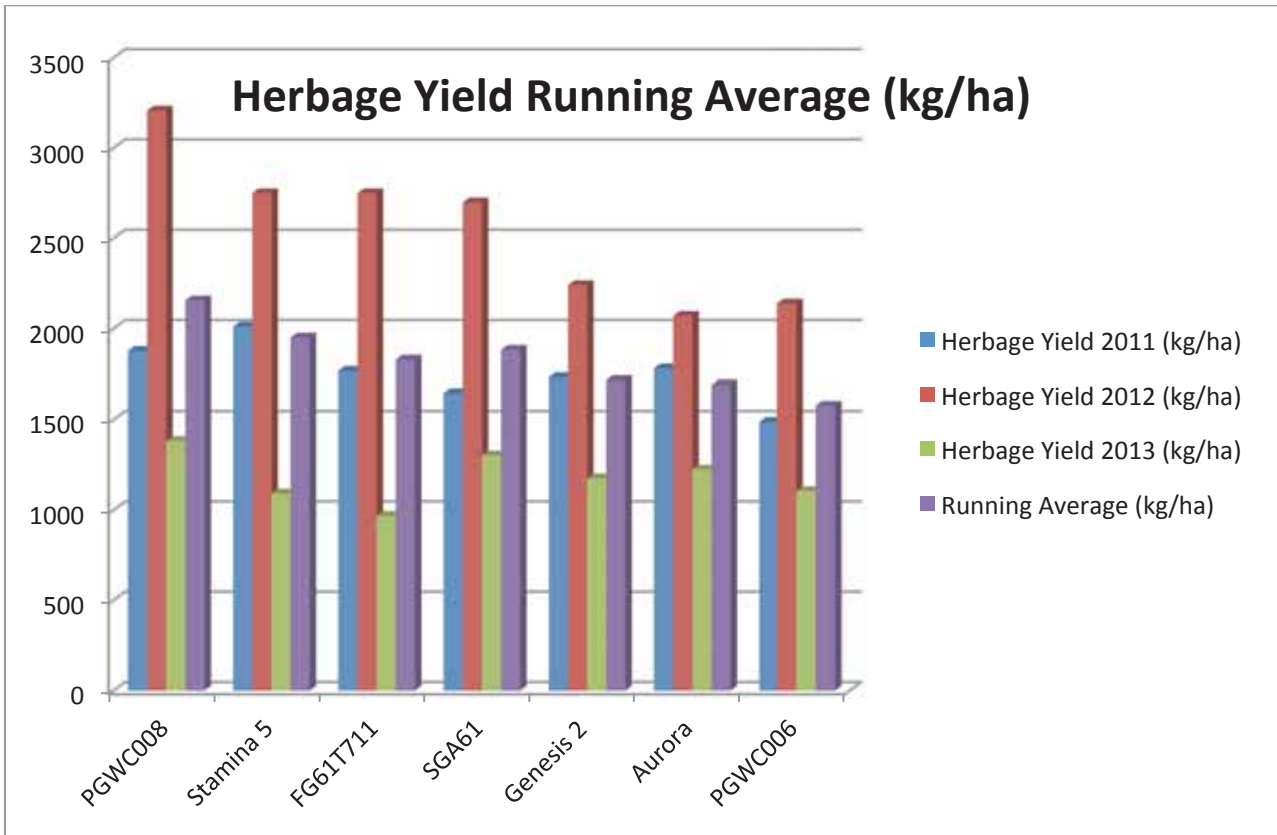
3.1 Herbage Yield Results for Varieties with a Winter Activity Rating of 5, 6 or 7

Variety	Herbage Yield (kg/ha)
PGWC008	1382
SGA61	1302
Aurora	1224
Genesis 2	1175
PGWC006	1105
Stamina 5	1091
FG61T711	967



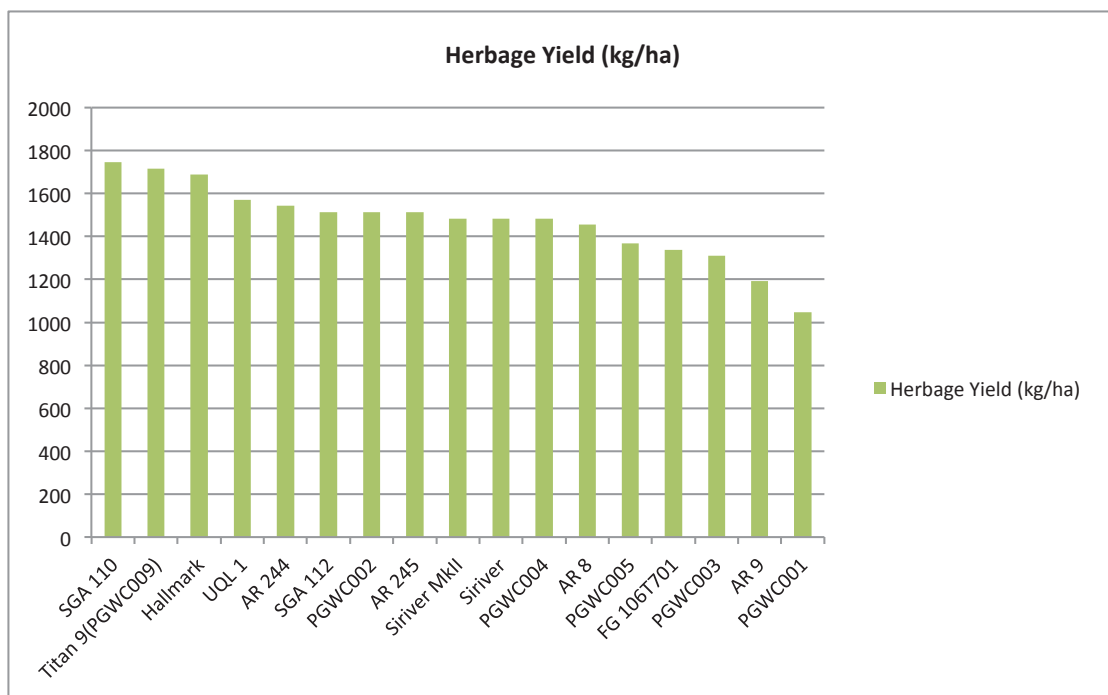
Ongoing Performance

Variety	Herbage Yield 2011 (kg/ha)	Herbage Yield 2012 (kg/ha)	Herbage Yield 2013 (kg/ha)	Running Average (kg/ha)
PGWC008	1876	3207	1382	2155
Stamina 5	2011	2749	1091	1950
FG61T711	1766	2749	967	1827
SGA61	1646	2698	1302	1882
Genesis 2	1731	2240	1175	1715
Aurora	1779	2070	1224	1691
PGWC006	1488	2138	1105	1577



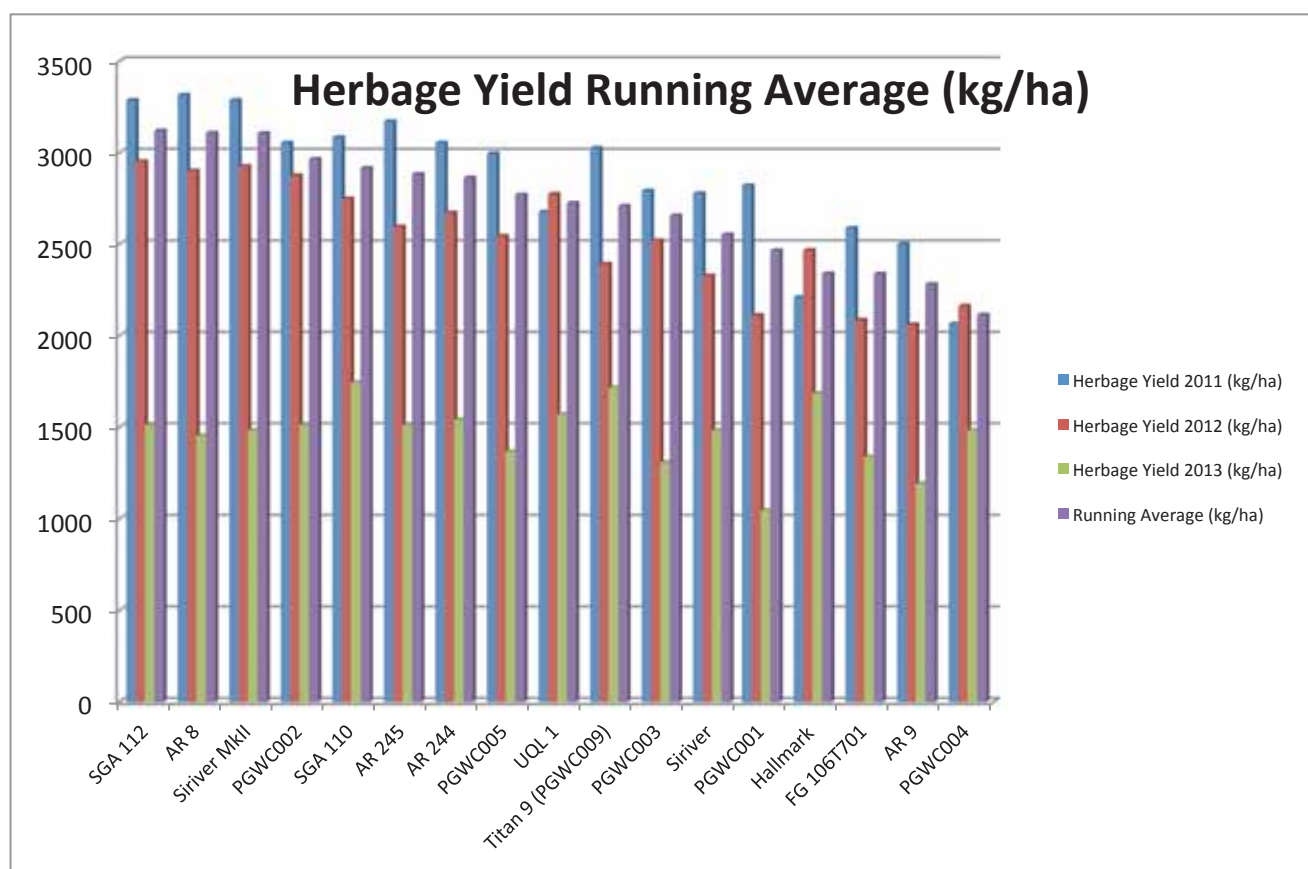
3.2 Herbage Yield Results for Varieties with a Winter Activity Rating of 8, 9 or 10

Variety	Herbage Yield (kg/ha)
SGA 110	1745
Titan 9(PGWC009)	1716
Hallmark	1687
UQL 1	1571
AR 244	1542
SGA 112	1513
PGWC002	1513
AR 245	1513
Siriver MkII	1484
Siriver	1484
PGWC004	1484
AR 8	1455
PGWC005	1367
FG 106T701	1338
PGWC003	1309
AR 9	1193
PGWC001	1047



Ongoing Performance

Variety	Herbage Yield 2011 (kg/ha)	Herbage Yield 2012 (kg/ha)	Herbage Yield 2013 (kg/ha)	Running Average (kg/ha)
SGA 112	3287	2953	1513	3120
AR 8	3316	2902	1455	3109
Sriver MkII	3287	2927	1484	3107
PGWC002	3055	2876	1513	2965
SGA 110	3084	2749	1745	2916
AR 245	3171	2596	1513	2884
AR 244	3055	2673	1542	2864
PGWC005	2996	2545	1367	2771
UQL 1	2676	2775	1571	2725
Titan 9 (PGWC009)	3025	2393	1716	2709
PGWC003	2793	2520	1309	2656
Sriver	2778	2329	1484	2554
PGWC001	2822	2113	1047	2467
Hallmark	2211	2469	1687	2340
FG 106T701	2589	2087	1338	2338
AR 9	2502	2062	1193	2282
PGWC004	2065	2164	1484	2115



MANAGEMENT PROGRAM

Season 2012/13

Date	Event
28/09/2012	<i>Broadleaf weed control applied - Spinnaker @ 140g/ha + Buttress @ 1.7L/ha + Dimethoate 250ml/ha + Hasten 1L/100L water</i>
17/10/2012	Irrigation – 44.2mm applied
22/10/2012	<i>Foliar Fertiliser + Insecticide application – Manganese + Copper sulphate @ 6L/ha + Pirimor 150g/ha + Wetter 1000 @ 0.1%</i>
05/11/2012	Irrigation – 65 mm applied
15/11/2012	First cut of hay Closed for seed production
28/11/2012	<i>Foliar Fertiliser + Insecticide application – Manganese + Copper sulphate @ 6L/ha + Alpha Cypermethrin @ 160ml/ha + Wetter 1000 @ 0.1%</i>
29/11/2012	Irrigation – 65mm applied
19/12/2012	<i>Foliar Fertiliser + Insecticide application – Manganese + Copper sulphate @ 6L/ha + Alpha Cypermethrin @ 160ml/ha + Wetter 1000 @ 0.1%</i>
17/01/2012	Irrigation – 95 mm applied (2 laps)
08/01/2013	<i>Insecticide application – Alpha Cypermethrin @ 160ml/ha + Wetter 1000 @ 0.1%</i>
08/01/2013	Irrigation – 58mm applied
19/01/2013	Irrigation – 48mm final application
26/02/2013	Crop Desiccated – Sprayseed 2.5L/ha
15/03/2013	Trial Site Harvested

Total water 3.4 meg/ha (Total 102megs/ 29.42ha)

LUCERNE AUSTRALIA VARIETY TRIALS, KEITH

SEED VARIETY SUPPLIERS

Company	Variety	Contact Name	Phone	Email
PUBLIC VARIETIES				
	Aurora			
	Siriver			
PBR VARIETIES				
PGG WRIGHTSON SEEDS	PGWC001	Bruce Guy	1800 619 910	bguy@pggwrightsonseeds.com.au
	PGWC002			
	PGWC003			
	PGWC004			
	PGWC005			
	PGWC006			
	PGWC007			
	PGWC008			
	PGWC009			
	AR 244			
	AR 245			
	AR 8			
	AR 9			
	Hallmark			
	Siriver Mk II			
	UQL 1			
SEED GENETICS INTERNATIONAL	SGA 110	Peter Gibbs	08 8755 1144	pgibbs@sgiseeds.com
	SGA 112			
	SGA 61			
SEEDMARK/HERITAGE SEEDS	FG 106T701	Craig Myall	08 8234 9333	c.myall@seedmark.com.au
	FG 61T711			
	Genesis 2			

The Lucerne Australia variety trials are a joint RIRDC and Industry funded project that amounts to \$94,000 over five years with the addition of many volunteer hours provided by the Lucerne Australia executive and trial site committees and in particular, Joe Sandford for hosting the variety trials on Kinyerrie and Cox Rural for their agronomy expertise