



# LUCERNE AUSTRALIA

# 2012

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 RESULTS 2011-12

## **Comments: Lucerne Australia representative**

The Lucerne Variety Trial Committee, which is a subcommittee of Lucerne Australia, is pleased to present the trial results from the 2011/2012 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 Rabobank and WFI, major sponsors of Lucerne Australia.

## **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**

**2011/2012**

## **CHAIRMAN**

Scott Manser

## **COMMITTEE**

Simon Allen

Charlie Hilton

Chad Makin

Adam Desmazures

## **SARDI RESEARCH TEAM**

Trent Potter

Ian Ludwig

Matthew Hoskings

## **LUCERNE AUSTRALIA EXECUTIVE OFFICER**

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## **Industry Sponsors**

Rural Industries Research and Development Corporation (RIRDC)

Seed Genetics International

Seedmark/Heritage Seeds

PGG Wrightson Seeds

## **Site Description**

The variety trial 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 Wrightson Seeds.

The trial was sown on 10<sup>th</sup> 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 30<sup>th</sup> November 2011. 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

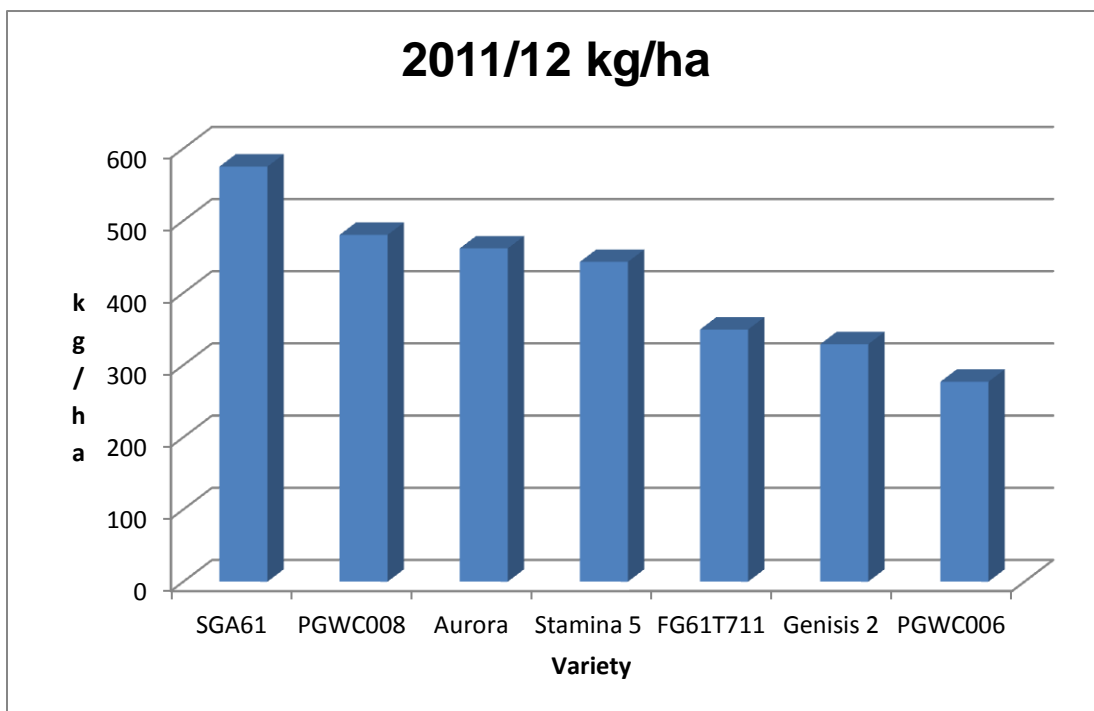
Variety	kg/ha	% site mean
SGA61	575	138
PGWC008	480	115
Aurora	462	111
Stamina 5	443	106
FG61T711	349	84
Genesis 2	329	79
PGWC006	277	67

Site mean	416.5
CV%	14.56
Isd(0.05)	97.32

**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

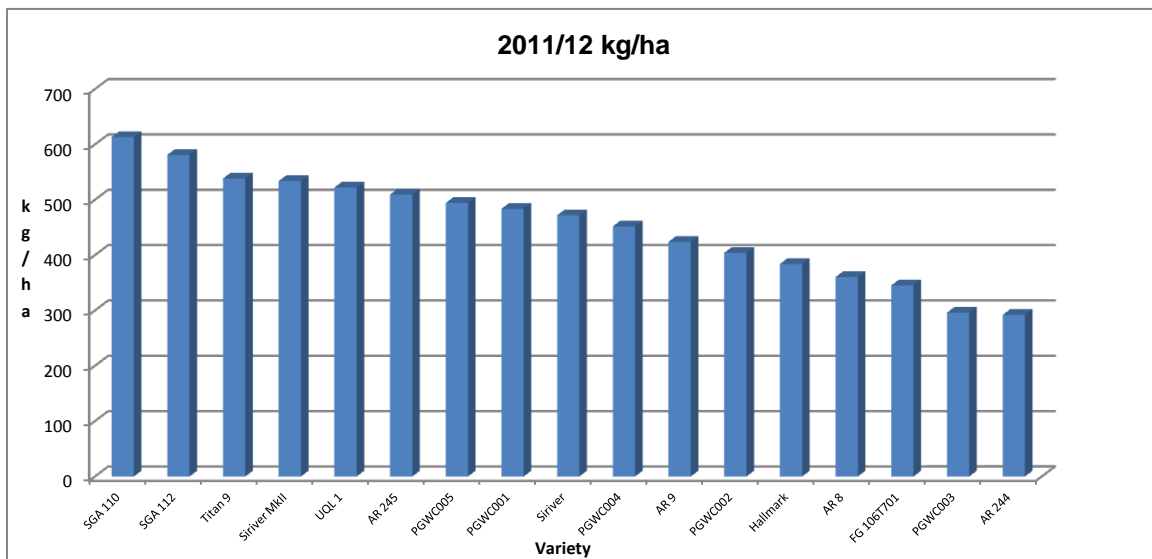
Variety	kg/ha	% site mean
SGA 110	613	135
SGA 112	581	128
Titan 9	539	119
Siriver MkII	534	118
UQL 1	522	115
AR 245	510	112
PGWC005	494	109
PGWC001	484	107
Siriver	472	104
PGWC004	452	100
AR 9	424	94
PGWC002	404	89
Hallmark	384	85
AR 8	360	80
FG 106T701	345	76
PGWC003	296	65
AR 244	292	64

Site mean	453.3
CV%	14.48
Isd(0.05)	110.5

**Please Note:**

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

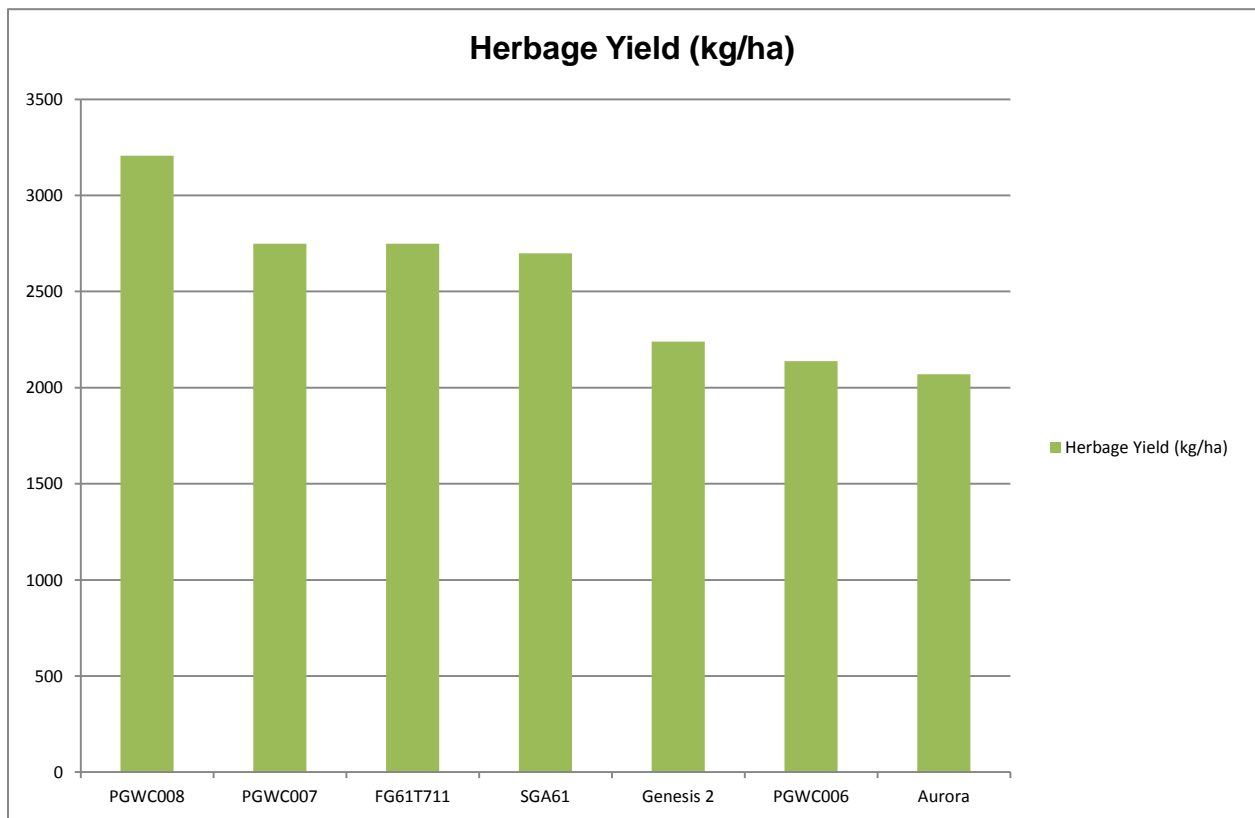
The right-hand column of the table compares the performance of each variety against the average yield for the trial.



### 3. Herbage Yield Results

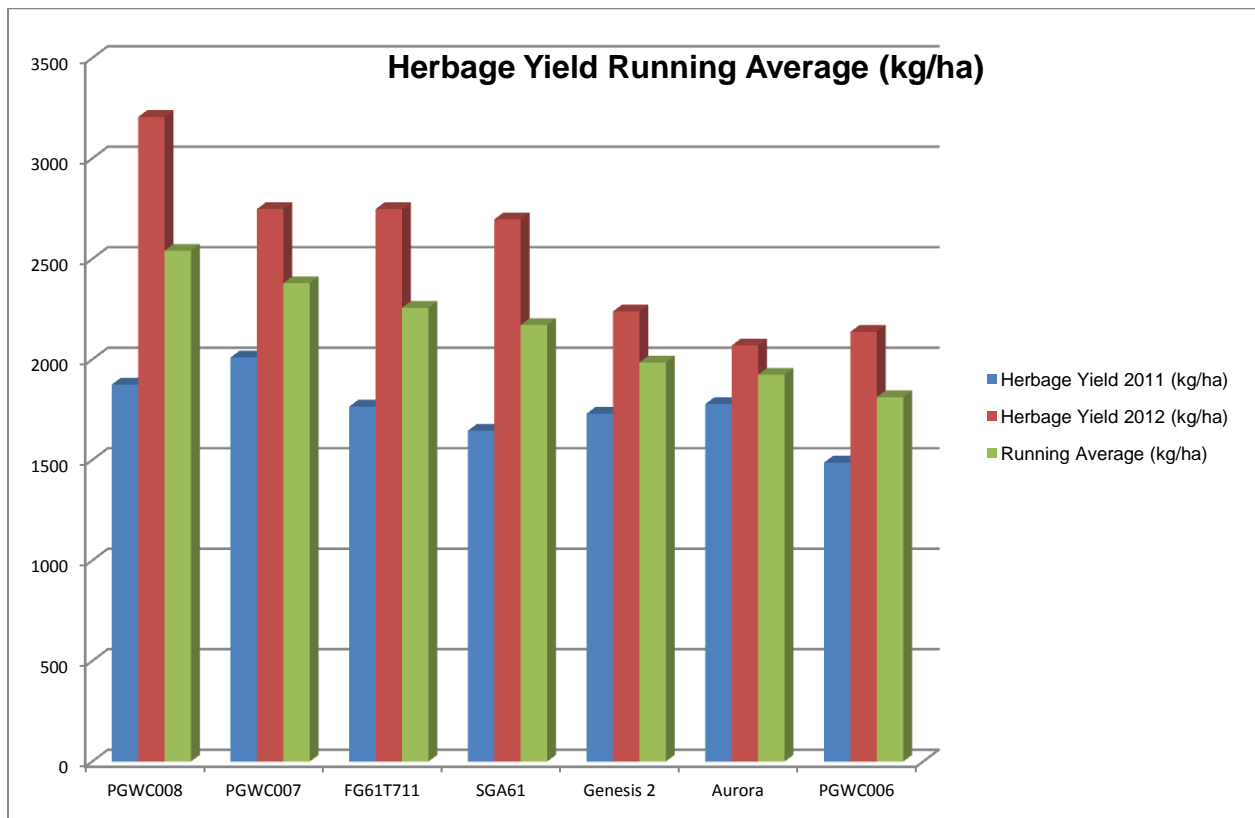
#### 3.1 Herbage Yield Results for Varieties with a Winter Activity Rating of 5, 6 or 7

Variety	Herbage Yield (kg/ha)
PGWC008	3207
PGWC007	2749
FG61T711	2749
SGA61	2698
Genesis 2	2240
PGWC006	2138
Aurora	2070



## Ongoing Performance

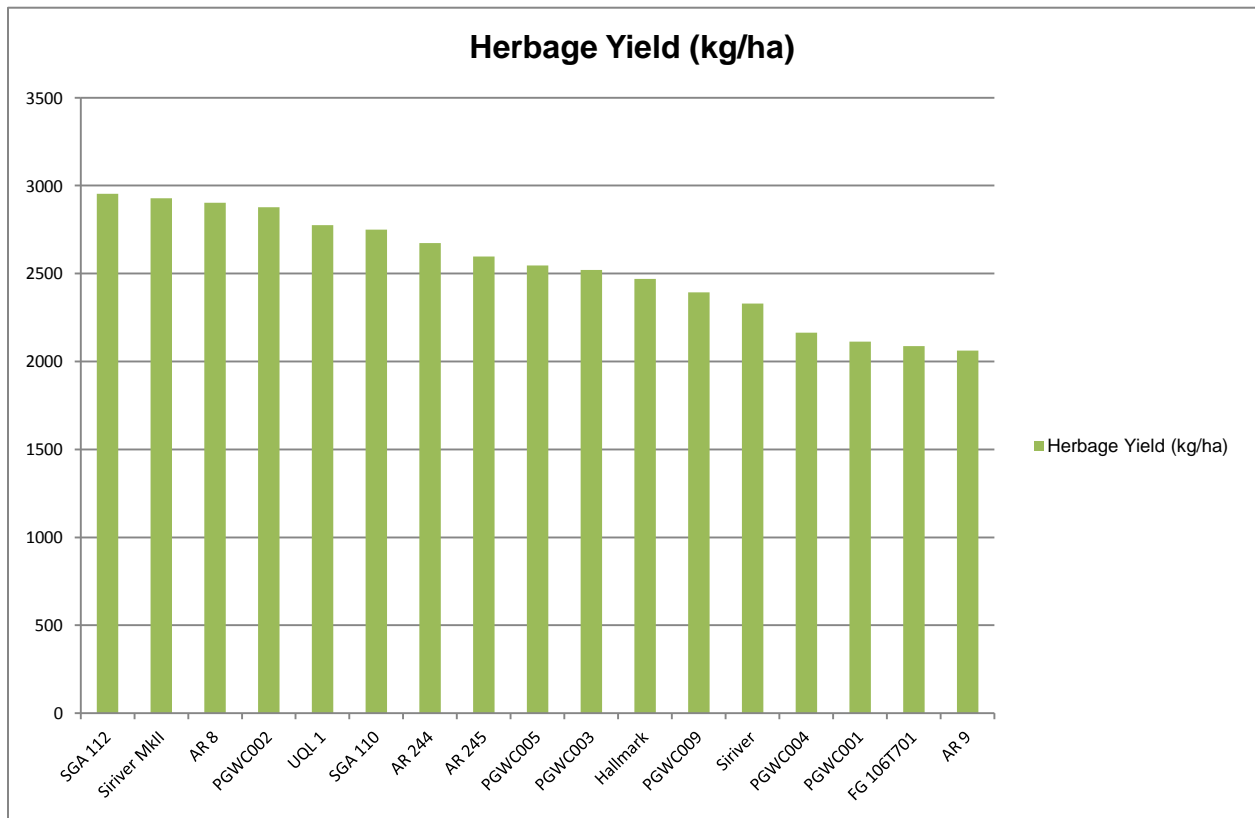
Variety	Herbage Yield 2011 (kg/ha)	Herbage Yield 2012 (kg/ha)	Running Average (kg/ha)
PGWC008	1876	3207	2542
PGWC007	2011	2749	2380
FG61T711	1766	2749	2258
SGA61	1646	2698	2172
Genesis 2	1731	2240	1986
Aurora	1779	2070	1925
PGWC006	1488	2138	1813





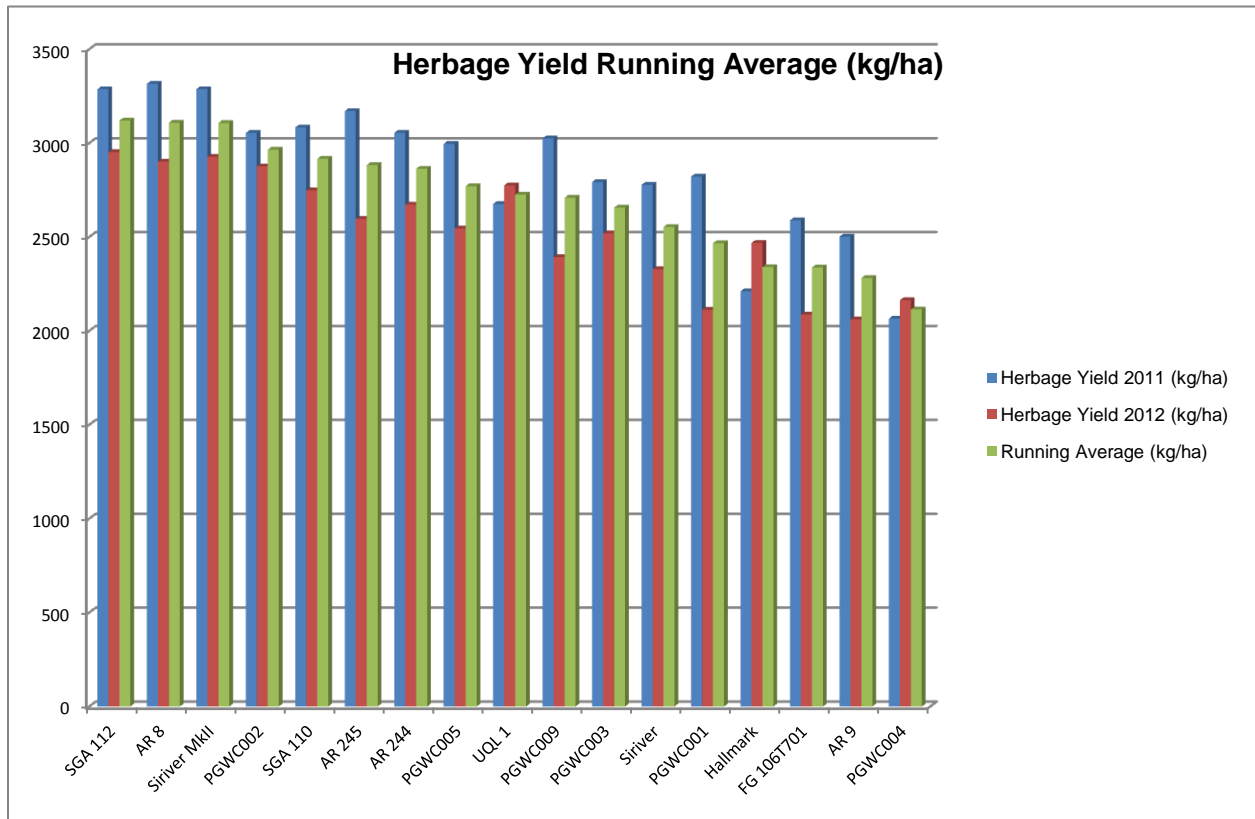
### 3.2 Herbage Yield Results for Varieties with a Winter Activity Rating of 8, 9 or 10

Variety	Herbage Yield (kg/ha)
SGA 112	2953
Siriver MkII	2927
AR 8	2902
PGWC002	2876
UQL 1	2775
SGA 110	2749
AR 244	2673
AR 245	2596
PGWC005	2545
PGWC003	2520
Hallmark	2469
PGWC009	2393
Siriver	2329
PGWC004	2164
PGWC001	2113
FG 106T701	2087
AR 9	2062



## Ongoing Performance

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



# MANAGEMENT PROGRAM

Season 2011/12

Date	Event
09/08/2011	<i>Broadleaf weed control applied - Broadstrike @ 30g/ha + Buttress @ 1.8L/ha + Dimethoate 100ml/ha + Hasten 500ml/100L water</i>
10/08/2011	Compost spread @ 4 tonnes/ha Humus Plus 60kg/ha and 5% Clay/ha
27/09/2011	Irrigation - 41mm applied
18/10/2011	<i>Foliar Fertiliser + Insecticide application – Manganese + Copper sulphate @ 6L/ha + Pirimor 150g/ha + Wetter 1000 @ 0.1%</i>
18/11/2010	<i>Summer Weed Control applied – Spinnaker @ 100g/ha + Buttress @ 2L/ha + Hasten 0.5%</i>
09/10/2011	Irrigation – 41mm applied
27/10/2011	First cut of hay (2.2T/ha)
14/11/2011	<i>Foliar Fertiliser + Insecticide application – Manganese + Copper sulphate @ 6L/ha + Alpha Cypermethrin @ 160ml/ha + Wetter 1000 @ 0.1%</i>
15/11/2011	Irrigation – 45mm applied
30/11/2011	Second cut of hay (3.4T/ha) Closed for seed production
11/12/2011	Irrigation – 65mm applied
19/12/2011	Irrigation – 75mm applied
28/12/2011	Irrigation – 136mm applied (2 laps)
02/01/2012	Bees arrived
03/01/2012	<i>Foliar Fertiliser + Insecticide application – Manganese + Copper sulphate @ 6L/ha + Alpha Cypermethrin @ 160ml/ha + Wetter 1000 @ 0.1%</i>
17/01/2012	Irrigation – 132.5 mm applied
01/03/2012	Trial Site field day
20/03/2012	<i>Pivot desiccated - Sprayseed 2.3L/ha</i>
27/03/2012	SARDI harvested trial site

**Total water use – 4 mega litres/hectare**

## LUCERNE AUSTRALIA VARIETY TRIALS, KEITH

### SEED VARIETY SUPPLIERS

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