Lucerne Advisor



AlfaGen® SEEDS



Establishment Guarantee

At AlfaGen Seeds, we stand behind the quality of our proprietary seed and always aim for the best outcome for our farmers.

Our Establishment Guarantee is straightforward: if your seed doesn't establish successfully within 30 days, we'll replace it at half the original price. It's a commitment that helps you save on replanting costs and plant with confidence, knowing we're here to support you.

Plant with confidence, backed by the support of AlfaGen Seeds.

Terms and conditions apply

It all starts with a seed

Why choose AlfaGen Seeds?

At AlfaGen Seeds, our roots run deep into the land we love. No jargon, just real talk about how we can make a real difference. We understand the soil under your fingernails, the early morning starts and the sheer determination it takes to make things grow. With decades of hands-on experience and local know-how, we're here to share what we've learned. Australian grown, our knowledge comes straight from the field, farm-tested for Aussie conditions.

Our aim is simple - to support Aussie farmers with the best seeds, the right information and a helping hand. We'll provide you with not only top-notch seeds but also the knowledge and tools to help you grow.

It all starts with a seed.



AlfaGen® SEEDS

World-leading lucerne varieties

For over 40 years, AlfaGen Seeds has been at the forefront of developing world-class lucerne varieties. Based in Australia, our global breeding program is tailored to the unique needs of Australian environments.

We focus on both dormant and non-dormant lucerne varieties, offering high forage yield, exceptional quality, and strong resistance to pests and diseases. Our varieties are designed to thrive in diverse conditions, including areas with elevated salinity, ensuring reliable performance across a wide range of environmental challenges.

Collaboration with our sales team keeps the breeding program aligned with customer needs. End-user feedback informs every stage of development, from plant selection to seed production, ensuring our varieties meet real-world demands.

Our process involves selecting plants from major lucerne-growing regions and crossing them to produce first-synthetic-generation (syn 1) seeds. These breeding lines undergo rigorous trials for dormancy, forage yield, salt tolerance, pest resistance, and more. Only lines meeting AlfaGen's high standards progress to seed build-up and eventual commercialisation—a process that takes up to seven years to perfect.

This meticulous approach guarantees elite genetics in every product - including some exciting new varieties on the horizon!

We offer a complete range of dormancy levels from 3 to 10 to meet the needs of your farming system, from cut-and-carry to grazing. When you choose AlfaGen Seeds, you're investing in premium, high-performing lucerne seeds backed by decades of expertise and innovation.



Why choose AlfaGen Seeds lucerne?

1. Global lucerne breeding program
2. Range of winter activity, with dormancy available from 3-10
3. Elite forage yields and quality
4. Rapid regrowth after cutting or grazing
5. High resistance to pests and diseases
6. Suited to a variety of environmental conditions
7. AlfaGen Seeds Establishment Guarantee



Highly winter active

Highly winter active lucerne varieties are suited to areas with a long growing season and systems where a high level of winter forage production is required. They are early maturing with rapid regrowth, producing high forage yields.

L91®

LUCERNE

: Medicago sativa



L91® lucerne is a top choice among highly winter active varieties in the Australian market, ideal for forage production in short cropping rotations. With a good pest and disease resistance package and superior yields compared to Sequel, L91® offers a more profitable solution for farmers.

Dormancy	Highly winter active 9
Grazing tolerance	Low — X — High
Sowing rate	
Dryland	4-10kg/ha
High rainfall/irrigation	18-25kg/ha
Seed treatment	Goldstrike XLR8®

⊕ **Economical choice**

Offers great value, delivering strong quality and yield at an affordable price point

⊕ **Rapid establishment in cooler months**

Increased planting window

⊕ **Highly winter active**

Maximising year round production

L97

LUCERNE

: Medicago sativa



L97 lucerne sets a new standard in the highly winter active category, delivering excellent forage yields without compromising quality. Bred in saline conditions, it extends the range of soils where lucerne can thrive. With outstanding winter growth, L97 ensures consistent, high-quality feed year round, for grazing or cutting.

Quick Seed Facts

Dormancy
- Highly winter active 9

Sowing rate
- Dryland 4-10kg/ha
- High rainfall/irrigation 18-25kg/ha

Suitability
- Hay, silage, grazing

Grazing tolerance
Low — High

Seed treatment
- Goldstrike XLR8®



Autumn
- Ideal autumn sowing is in April while soil temperatures are still warm and there is soil moisture available

Spring
- Ideal spring sowing starts in late August when soil temperatures start to rise and there is available soil moisture

- **Increased salt tolerance**

  A leading variety in trials evaluating cultivars for salt tolerance

  Allowing for faster, more reliable establishment in adverse conditions

  Suited to a range of soil types, producing exceptional forage in both saline and non-saline conditions

- **High quality, dual purpose**

  Increased leaf-to-stem ratio, producing high quality forage, suitable for both grazing & hay production systems

- **Bred in Australia, specifically for Australian conditions**

  Promotes sustainability by offering a seed variety that is aligned with the needs of Australian farmers

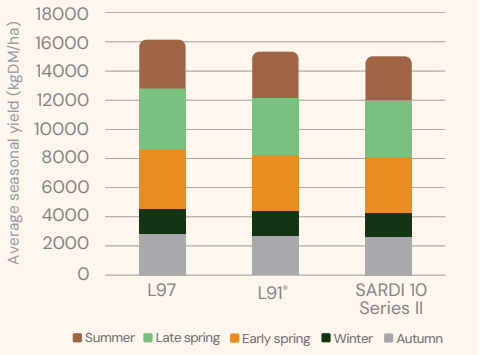
- **Highly winter active**

  Producing high forage yields all year round

  Extended cutting and grazing opportunities in autumn and winter

L97 average total seasonal forage yield. Multi year, multi site 2016-2026.

L97 was the highest-performing variety, producing average seasonal forage yield of 16.4tDM/ha - an 8% increase over check variety.



Seasonal LSD (P = 0.05; kg DM/ha): Autumn = 871.7, Winter = 824.9, Early spring = 899.6, Late spring = 710.1, Summer = 677.4

Results are based on a Multi-Environment Trial (MET) analysis of forage yield trials conducted across southern and eastern Australia from 2016-2026. Values represent the average total seasonal dry matter production from multiple locations, years and harvests, providing an estimate of long-term varietal performance across the target production region.

Pest & disease rating

Spotted alfalfa aphid	HR
Bacterial wilt	MR
Bluegreen aphid	R
Fusarium wilt	R
Pea aphid	HR
Stem nematode	MR
Phytophthora root rot	R
Root knot nematode	HR
Anthracnose	LR

Pest & disease rating scale:

High resistance	(HR)	=	> 50%
Resistance	(R)	=	31-50%
Moderate resistance	(MR)	=	15-30%
Low resistance	(LR)	=	7-14%
Susceptible	(S)	=	0-6%

L97

LUCERNE

Exceeded all expectations

When Trevor Kelly moved from Western QLD into the Eastern Downs area, he decided that he wanted to grow lucerne for the local hay market.

Trevor was racing the clock to plant in the desired window (August) with no prior experience in growing the crop and a paddock that he had to start from scratch.

With the hopes of a La Nina influence and the help of a recently installed centre pivot, Trevor rolled the dice and planted in early November at approximately 25kg/ha.

Combined with cooler temperatures and regular rainfall, L97 got up and going. The first cut was taken in January and the quality of lucerne, leaf retention, and fine stemmed characteristics in the hay of the first cut have been impressive.

"I'm also pleased with the regrowth and how it got growing again after the January cut" indicated Trevor.

L97 was the preferred option when selecting a variety for Trevor as his irrigation water is a little "hard." It hasn't required much irrigation with the way the season has unfolded, but plenty of irrigation will need to be undertaken down the track with a traditional winter season.

The yield of L97 out of the peak of its season has also been impressive.

"The L97 has produced 1825 small square bales off the 34-acre paddock, which I'm very happy with" commented Trevor.





Top
Trevor Kelly in his paddock of L97

> *"The yield out of the peak of its season has been impressive"*
>
> Trevor Kelly
> Eastern Downs, QLD

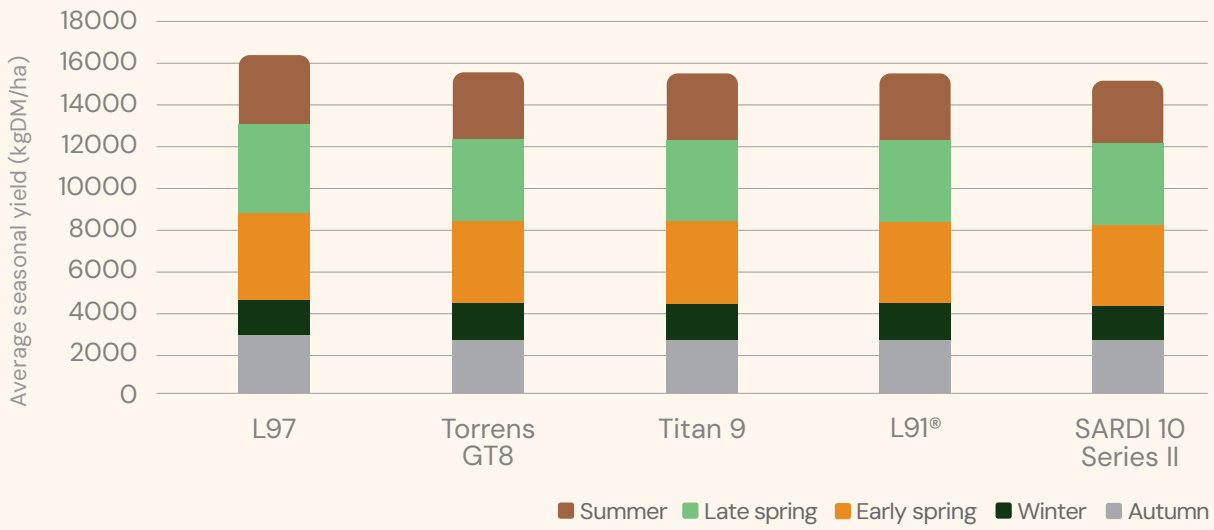
New highly winter active genetics

The AlfaGen Seeds lucerne breeding program has a long history of developing highly winter active lucerne varieties that combine outstanding forage yield, exceptional forage quality and robust pest and disease resistance. Our current commercial portfolio continues this legacy of research, providing growers with elite genetics developed for Australian production systems.

Over the past decade, through extensive breeding and evaluation across southern and eastern Australia, AlfaGen has developed the next generation of highly winter active (dorm 8–10) lucerne varieties. Multi-environment trial (MET) analysis conducted between 2016 and 2026 demonstrates that AlfaGen's elite varieties, L97 and L91®, deliver industry-leading forage production. L97 was the highest yielding variety evaluated, producing **approximately 8% more average seasonal dry matter than the commercial benchmark**, SARDI 10 Series II. L91® also demonstrated excellent productivity, consistently delivering seasonal forage yields compared with commercial comparators, across the MET program.

The seasonal distribution of forage production was remarkably consistent among varieties, indicating that differences in total yield were primarily due to overall productivity rather than changes in seasonal growth patterns.

Highly winter active average total seasonal forage yield. Multi year, multi site 2016-2026.



Seasonal LSD (P = 0.05; kg DM/ha): Autumn = 871.7, Winter = 824.9, Early spring = 899.6, Late spring = 710.1, Summer = 677.4

Results are based on a Multi-Environment Trial (MET) analysis of forage yield trials conducted across southern and eastern Australia from 2016-2026. Values represent the average total seasonal dry matter production from multiple locations, years and harvests, providing an estimate of long-term varietal performance across the target production region.





L97

LUCERNE

The ideal salt tolerant option

L97 lucerne was a clear leading variety in three salt evaluation trials, with assessment processes conducted in increasing levels of salt tolerance in the lab, greenhouse regrowth potential under non-saline and saline irrigation, and field production at a saline field site Pecos, TX, USA.

TABLE 1

Quality Parameter	Field	Field	Lab	Greenhouse
Type	Soil	Water	Water	Water
Source	Hoban silty clay loam	Pecos River alluvium	NAAIC[3]	NAAIC[3]
Total Dissolved Salts	2131ppm	2950ppm	0-20,000ppm	0 or 3840ppm
Electrical Conductivity	3.33 dS/m	4.06 dS/m	0-31.25 dS/m	6.00 dS/m
pH	8.9	7.1		
Sodium Absorption Ratio	13.6	11.7		
Sodium (Na)	1491ppm	702ppm		
Classification/Rating	Sodic Soil[1]	Class 5: Unsuitable[2]		

[1]Sodic Soil if: EC > 4.0 dS/m, pH > 8.5, SAR > 13 (Waskom et al 2007; Havlin et al 1999)
[2]Class 5: Unsuitable if: TDS > 2100 ppm (Fipps 2003; Provin and Pitt 2022)
[3]Water solution prepared according to NAAIC protocols

Table 1: Summary of soil and water quality parameters for field, lab and greenhouse methods (Scasta J. D., Trostle C. L., Foster M. A., 2012)

Table 2: Summary comparison of Lucerne cultivars across three experiments assessing germination under increasing levels of salt tolerance in the laboratory, greenhouse regrowth potential under non-saline and saline irrigation, and field production at a saline field site Pecos, TX, USA (Scasta J. D., Trostle C. L., Foster M. A., 2012) Scasta J. D., Trostle C. L., Foster M. A. Evaluating Alfalfa (Medicago sativa L.) Cultivars for Salt Tolerance Using Laboratory, Greenhouse and Field Methods. Journal of Agricultural Science, Vol. 4, No. 6; 2012

The findings

In trials evaluating lucerne cultivars for salt tolerance assessing germination in the laboratory, greenhouse for regrowth potential and forage yields in field production, it was found that L97:

- Was the leading variety in the field evaluation, producing the highest yield (kg/ha) in salt conditions of 2131ppm in soil and 2950ppm in irrigation water
- Germinated in saline levels up to 20,000ppm
- Produced high forage and good regrowth under 3840ppm of irrigation water

TABLE 2

Laboratory				Greenhouse			Field	
Percent germination at three salinity levels (1.0%, 1.5% & 2.0%)			IC (50)	Average saline yields	Salt control ration (SCR)		Three year fresh forage average per cut	
Cultivar	**1.0%**	**1.5%**	**2.0%**	**MPa**	**grams**	**SCR value**	**kg/ha**	**Final rank**
Sala	98[a]	82[ab]	86[a]	-3.40	2.87[ab]	0.949[a]	11 534[abc]	1
L97	98[a]	96[a]	32[bcde]	-1.03	2.88[a]	0.901[abc]	12 008[a]	2
CW59	98[a]	96[a]	34[bcd]	-1.07	2.73[abc]	0.805[bcd]	11 312[abc]	3
A801	100[a]	90[ab]	34[bcd]	-1.02	2.97[abc]	0.792[cd]	11 668[ab]	4
A802	98[a]	88[ab]	42[bc]	-1.10	2.60[bcd]	0.761[d]	11 944[a]	5
P58N	96[a]	80[ab]	26[bcde]	-0.86	2.89[a]	0.932[ab]	9982[a]	[t]6
CW39	100[a]	88[ab]	32[bcde]	-0.99	2.59[bcd]	0.744[d]	10 794[abcd]	[t]6
FGR1	90[a]	84[ab]	36[bcd]	-1.01	2.56[cd]	0.798[cd]	10 962[abcd]	8
TS80	84[a]	76[b]	38[bcd]	-0.97	2.67[abcd]	0.913[abc]	10 063[cd]	9
TS00	82[a]	78[ab]	24[bcde]	-0.79	2.61[bcd]	0.804[bcd]	9620[d]	[t]10
FG91	88[a]	78[ab]	8[de]	-0.72	2.58[bcd]	0.800[cd]	10 771[abcd]	[t]10
Bars	96[a]	76[ab]	6[de]	-0.72	2.46[d]	0.812[bcd]	10 197[bcd]	[t]10
†AZ90	NE	NE	NE	NE	2.48[d]	0.984[a]	NE	
†Mesa	90[a]	78[ab]	36[bcd]	-0.94	NE	NE	NE	
†Malo	86[a]	74[b]	50[b]	-1.17	NE	NE	NE	
‡ AZ88	NE	NE	NE	NE	1.836[e]	0.690[d]	NE	
‡ Sara	78[a]	80[ab]	10[cde]	-0.71	NE	NE	NE	
‡ Ramb	22[b]	2[c]	0[e]	-0.31	NE	NE	NE	
Mean ± SE	88 ± 4.7	78 ± 5.3	31 ± 5.1	NE	2.607 ± 0.06	0.914 ± 0.02	10 904 ± 233	
P-value	0.005	0.000	0.009	NE	0.000	0.004	0.021	
LSD (0.05)	23	22	33	NE	0.250	0.132	919	

Means within columns followed by the same letter are not different according to Fisher's protected Least significant differences (LSD) at the 5% level of significance (a = 0.05).

NE - Indicates a check cultivar 'Not Evaluated' in that experiment or for significance
SE - Standard Error
† - Tolerant check cultivar
‡ - Non-tolerant check cultivar; [t]tie

Winter active

Winter active lucerne varieties are suited to areas where some winter feed is required and longer growing seasons occur. These varieties are the perfect option in a dual purpose system, where persistence and extended grazing potential are important.

L70

LUCERNE

: Medicago sativa



L70 lucerne has become a leading winter active lucerne variety in the Australian market and an excellent fit for both grazing and forage production. L70 has a good pest and disease package with superior yields over Aurora, making it a more profitable option.

Dormancy	Winter active 7
Grazing tolerance	Low — X — High
Sowing rate	
Dryland	4-10kg/ha
High rainfall/irrigation	18-25kg/ha
Seed treatment	Goldstrike XLR8®

⊕ **Improved genetics over Aurora**

Greater leaf-to-stem ratio, boosting overall yield

⊕ **Cost-effective option**

An affordable choice without compromising on quality and yield

⊕ **Good pest and disease package**

Increased production and performance compared with Aurora

GTL60®

LUCERNE

: Medicago sativa



GTL60® sets the standard for grazing tolerant varieties. Its outstanding tolerance allows for more frequent grazing rotations.

Dormancy	Winter active 6
Grazing tolerance	Low — X — High
Sowing rate	
Dryland	4-10kg/ha
High rainfall/irrigation	18-25kg/ha
Seed treatment	Goldstrike XLR8®

⊕ **Unparalleled for grazing tolerance**
⊕ **A true-to-type grazing tolerant variety**
⊕ **Bred specifically for Australian conditions**
⊕ **High forage quality**

The L70 advantage

- ⊕ L70 offers higher winter growth over Aurora
- ⊕ Superior forage genetics - higher leaf-to-stem ratio
- ⊕ Minimum 85% germination standards exceed the current minimum certified standard for Aurora of only 65%
- ⊕ These attributes, combined with superior plant genetics, makes L70 an excellent new alternative to Aurora

L70 offers producers higher returns and allows them to plant with confidence knowing they are covered by the Establishment Guarantee program, whereas common lucernes are not.



Leaf trait comparison

L70 (left) exhibiting higher leaf carrying trait compared to older plant genetics exhibited in Aurora (right)

Agronomic features

AlfaGen L70 has become a leading winter active lucerne variety in the Australian market and an excellent fit for grazing or forage production. The L70 advantage compared to Aurora include the following agronomic characteristics:

- ⊕ **Better establishment vigour**

  Consistently faster to establish, providing a competitive edge. Ideal for undersowing crops or in pasture mixes
- ⊕ **Higher winter production (activity rating of 7 vs. 6)**

  Faster to recover after cutting or grazing and extends growth to bridge late-autumn and early spring feed gaps
- ⊕ **High resistance to more pests and diseases**

  Improved persistence across all rainfall zones
- ⊕ **Very good forage quality**

  Fine stems and superior leaf retention compared to other winter active varieties

Disease rating comparison

Variety	Spotted alfalfa aphid	Bluegreen aphid	Phytophthora root rot	Anthracnose	Bacterial wilt	Stem nematode
L70	HR	HR	R	R	R	R
Aurora	HR	HR	R	MR	LR	R

L70 vs. Aurora

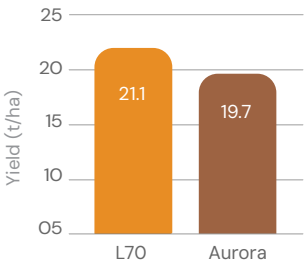
Yield results & pricing comparison

L70 offers very competitive pricing to Aurora and therefore similar hectare input seed costs

	L70	Aurora
Total yield	21.1 t/ha	19.7 t/ha
Hay returns/ha at $450t	$9495/ha	$8865/ha
Extra hay returns	**$630 per hectare, per year**	

AlfaGen Seeds, 2023-2025 dry matter production trial, Keith SA

Trial results



7% yield increase

	Increased forage quality	Better disease profile	Higher DM production	Increased germination %	Establishment Guarantee
L70	✓	✓	✓	✓	✓
Aurora	✗	✗	✗	✗	✗

Q63

LUCERNE

A lucerne system that pays

Angus and Josie Zilm set out to build a fodder system that they could trust season after season.

Based at Llowalong, in Victoria's Gippsland region, the couple run a mixed farming operation spanning fodder crops, maize silage, and beef fattening. They grow a number of paddocks of lucerne both for sale and their own use on the farm.

Angus has been sowing Q63 and Q31® lucerne from AlfaGen Seeds, and developed a system that's delivering consistent results. Paddocks are sprayed off late in autumn, ready for a spring sowing of lucerne. In the first year, his focus was on grazing and cutting, then bulking up the paddock by oversowing with a quality forage oat option in the following years.

This has proved very successful, leading to returns of $4,500-$4,900/ha.

"The last silage test indicated 11MJME/kg DM and 21% crude protein, making it an ideal feed for growing animals" says Angus

Q63 is a high-yielding, premium lucerne, consistently producing up to 5% more dry matter than other standard varieties on the market. With moderate winter activity, it offers strong production even outside the peak season.

Angus aims for five cuts off the Q63 and four off the Q31®, occasionally trading a grazing for an extra cut to maximise yield. The last cut of Q63 produced 53 bales of 580kg at an average of 87% dry matter. With lime and chicken manure going on and a forage oat oversowing to follow, the paddock is already being set up for the next round.

> *"We are very happy with the varieties we are using from AlfaGen Seeds and will be looking to sow more"*

Angus Zilm
Llowalong, VIC





Top
Angus Zilm

Bottom
Angus checking the Q63 growth

Q63

LUCERNE

: Medicago sativa



Q63 is a high-yielding, premium-quality lucerne variety. With moderate winter activity, it offers strong production even outside the peak season. It recovers quickly from grazing and fodder use, thanks to its high leaf-to-stem ratio that enhances forage quality. Q63 also boasts excellent resistance to pests and diseases.

Quick Seed Facts

Dormancy
- Winter active 6

Sowing rate
- Dryland 4-10kg/ha
- High rainfall/irrigation 18-25kg/ha

Suitability
- Hay, silage, grazing

Grazing tolerance
Low — High

Seed treatment
- Goldstrike XLR8®



Autumn
- Ideal autumn sowing is in April while soil temperatures are still warm and there is soil moisture available

Spring
- Ideal spring sowing starts in late August when soil temperatures start to rise and there is available soil moisture

- **The benchmark for high yielding, winter active lucerne**

  Consistently producing up to 5% more dry matter than other standard varieties on the market

- **Exceptional seedling vigour**

  Reduced time to first cut maximising profitability of lucerne stand from an early stage

  Increased flexibility in early herbicide application

- **Moderate winter activity**

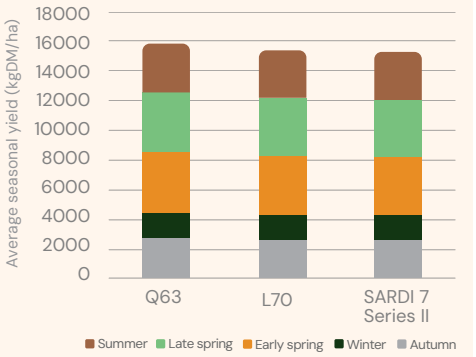
  Higher growth rates coming out of the winter period than winter dormant varieties

- **Excellent leaf-to-stem ratio with a large leaf size**

  High-quality hay and silage production

Q63 average total seasonal forage yield. Multi year, multi site 2016-2026.

Q63 was the highest-performing variety, producing 5% more average seasonal forage yield over check variety.



Seasonal LSD (P = 0.05; kg DM/ha): Autumn = 871.7, Winter = 824.9, Early spring = 899.6, Late spring = 710.1, Summer = 677.4

Results are based on a Multi-Environment Trial (MET) analysis of forage yield trials conducted across southern and eastern Australia from 2016-2026. Values represent the average total seasonal dry matter production from multiple locations, years and harvests, providing an estimate of long-term varietal performance across the target production region.

Pest & disease rating

Spotted alfalfa aphid	R
Bluegreen aphid	MR
Pea aphid	HR
Phytophthora root rot	R
Anthracnose	R
Bacterial wilt	R
Fusarium wilt	R
Stem nematode	MR
Root knot nematode	R

Pest & disease rating scale:

High resistance	(HR)	=	> 50%
Resistance	(R)	=	31-50%
Moderate resistance	(MR)	=	15-30%
Low resistance	(LR)	=	7-14%
Susceptible	(S)	=	0-6%

Q63

LUCERNE

Provides flexibility & resilience

High Country Hay in southern NSW supplies lucerne hay across the Southern Tablelands and Bega Valley. Owner, Josh Barron, has traditionally grown both winter active and winter dormant varieties, but was seeking something that could bridge the gap. He was after a variety that offered greater flexibility and resilience in his production system.

In the past, winter active varieties have struggled with persistence and frost damage resulting in leaf loss. Q63 provides a wider production window than dormant types, fitting perfectly into Josh's system. It has consistently delivered both the first and last cuts of the season, helping to boost overall production and strengthen the resilience of his business.

Q63 has also shown rapid germination and establishment, allowing greater management flexibility by shortening the time to first cut — a key advantage in environments like the Monaro where growing seasons and planting windows can be tight.

Josh said he has been impressed with Q63's quality and toughness as it has been "able to hold quality and yield in tough paddocks in tough conditions." A paddock sown in 2023 has maintained strong plant numbers without thinning or premature flowering under stress. Sown at 15kg/ha with a single disc parallelogram seeder and fertilised with 80kg/ha of Croplift 15, Q63 has proven to be a robust and consistent performer for High Country Hay.

> *"Q63 holds quality and yield in tough paddocks in tough conditions"*
>
> Josh Barron
>
> Cooma, NSW





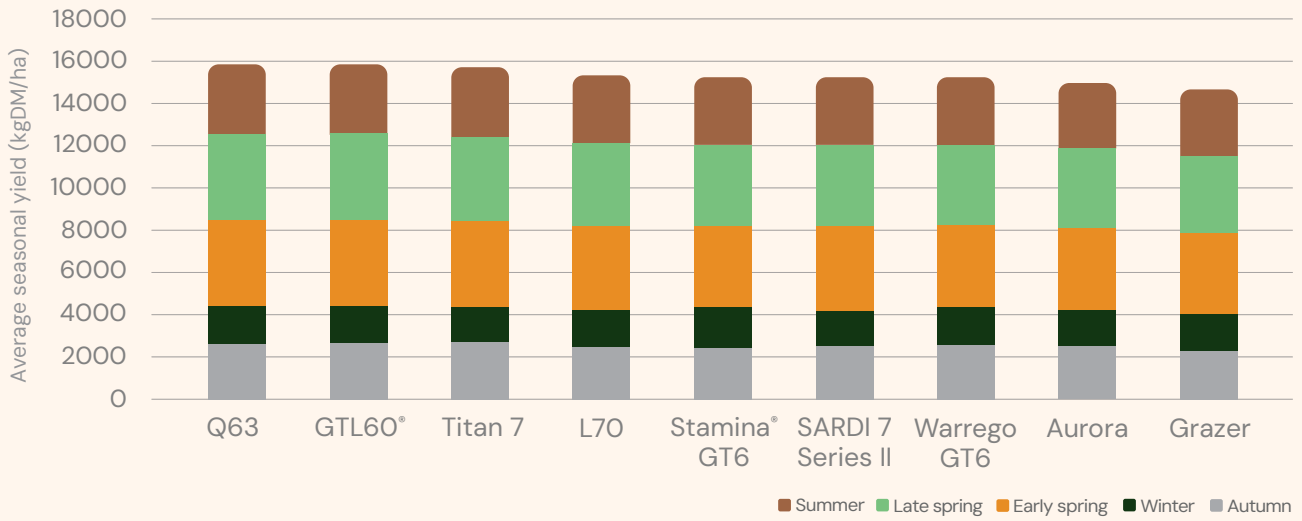
Top
Josh Barron at High Country Hay

Bottom
A paddock of Q63

New winter genetics out perform current varieties

The AlfaGen Seeds winter active lucerne breeding program continues to deliver high-performing varieties with outstanding forage production, forage quality and broad adaptation. Based on ten years of Multi-Environment Trial (MET) data (2016–2026) conducted across southern and eastern Australia, AlfaGen's elite varieties Q63, GTL60® and L70 ranked among the highest yielding cultivars evaluated. These varieties consistently matched or exceeded the performance of other leading commercial varieties, providing growers with reliable seasonal dry matter production across a wide range of environments.

Winter active average total seasonal forage yield. Multi year, multi site 2016-2026.



Seasonal LSD (P = 0.05; kg DM/ha): Autumn = 871.7, Winter = 824.9, Early spring = 899.6, Late spring = 710.1, Summer = 677.4

Results are based on a Multi-Environment Trial (MET) analysis of forage yield trials conducted across southern and eastern Australia from 2016-2026. Values represent the average total seasonal dry matter production from multiple locations, years and harvests, providing an estimate of long-term varietal performance across the target production region.



Dormant and semi-winter-dormant

Winter dormant lucerne varieties have no growth in winter and semi-winter-dormant lucerne varieties have little growth over the winter months. These varieties are the perfect option in systems where winter growth is not critical. They have excellent persistence and outstanding hay and forage quality.

L56®

LUCERNE

: Medicago sativa



L56® is the ultimate dual-purpose lucerne variety for Australian conditions suiting a wide range of soil types and enterprises. With its low and broad crown and excellent pest and disease rating, L56® can produce high-quality hay or a persistent grazing paddock, depending on the grower's needs.

Dormancy	Semi-winter-dormant 5
Grazing tolerance	Low — High
Sowing rate	
Dryland	4-10kg/ha
High rainfall/irrigation	18-25kg/ha
Seed treatment	Goldstrike XLR8®

⊕ **Exceptional seedling vigour**

Reduced time to first cut, maximising profitability of lucerne stand from an early stage

⊕ **Versatile all-rounder**

Suitable for a wide range of enterprise systems including livestock grazing and fodder production on both dryland and irrigation, making it a versatile choice for farmers

⊕ **Strong pest and disease rating**

Forms the basis of a healthier plant stand that provides increased persistence across a range of environments

⊕ **Ability to retain leaf under stressful conditions**

Increases the production of fodder as well as the plant's ability to recover from either a defoliation event or prolonged periods of dry spells

Q31®

LUCERNE

: Medicago sativa



Q31® lucerne sets the benchmark for hay quality in the Australian market. It is a winter dormant variety with excellent leaf retention and large leaf size. Q31® lucerne is a high-quality option with flexible cutting times. Its increased tillering ability and fine stems make it a perfect option in premium-grade hay, chaff, and silage systems.

Quick Seed Facts

Dormancy
- Winter dormant 3

Sowing rate
- Dryland 4–10kg/ha
- High rainfall/irrigation 18–25kg/ha

Suitability
- Grazing, hay, silage

Grazing tolerance
Low — High

Seed treatment
- Goldstrike XLR8®



Autumn
- Ideal autumn sowing is in April while soil temperatures are still warm and there is soil moisture available

Spring
- Ideal spring sowing starts in late August when soil temperatures start to rise and there is available soil moisture

- **High leaf-to-stem ratio**

  For premium quality hay and silage production
- **Winter dormant**

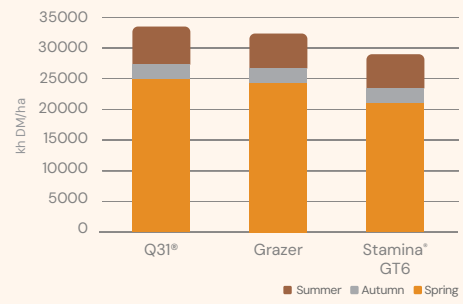
  Increased flexibility in cutting times
- **Low, broad crown**

  Improved tiller production delivering finer stems and higher quality hay/chaff
- **Strong summer production**

  Larger, less frequent hay cuts through critical hay production period

  Decreasing mechanical traffic – reducing cost of hay production

Forage yield production. Keith SA 2023-2024.



LSD (P=0.05) = 1801.9 CV = 15.47 Mean = 16476

Figure 1 shows the dry matter production from trials based at Keith in SA from 2023-2024. The forage data demonstrates an increase in forage production of Q31® when compared with other commercial varieties. This trial is still ongoing.

Pest & disease rating

Spotted alfalfa aphid	R
Bluegreen aphid	MR
Pea aphid	MR
Phytophthora root rot	HR
Anthracnose	HR
Bacterial wilt	HR
Fusarium wilt	R
Stem nematode	HR
Root knot nematode	HR

Pest & disease rating scale:

High resistance	(HR)	=	> 50%
Resistance	(R)	=	31–50%
Moderate resistance	(MR)	=	15–30%
Low resistance	(LR)	=	7–14%
Susceptible	(S)	=	0–6%

Grazing tolerant lucerne selection trial

PENFIELD RESEARCH STATION
TRIAL SOWN 14/09/2011 | GRAZED 24/11/2011 – 23/11/2016

AlfaGen Seeds has taken the term 'grazing tolerant' very seriously with its selection of new lucerne material. The ability to select plant germplasm through a 5-year intensive grazing trial has proven critical to giving farmers confidence in new lines coming through the AlfaGen lucerne breeding program. The strength of this trialling model will be replicated in the future with more selections being made with this key grazing tolerance trait.

The trial protocol was established in conjunction with NSW DPI and IP Australia to give a measure of true grazing tolerance. After the lucerne was established, it was grazed every 3 weeks (or when grazing was required) to a residual height of about 30mm.

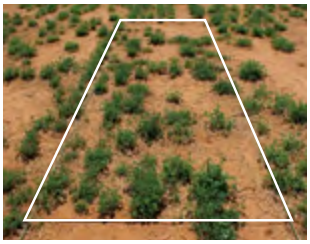
Approximately 20 Merino wethers were used for grazing the trial each time, this was the number of animals adequate to graze the trial down within at least a 3-4 day period so we could manage frequent grazing events but not expose the lucerne to extended periods of set stocking.

The basis of this grazing management was to make sure the lucerne was put under frequent grazing pressure but not deliberately set stocked. In the first 3-year period, the trial was grazed 32 times, and in the recent 2-year period, was grazed 18 times.

Plant counts were taken initially, and results have been measured based on the percentage of residual plant counts remaining after the 3 & 5-year periods.

Initially, the trial was established at a dryland sowing rate of 4kg/ha, resulting in an average starting plant count of 37 plants/m^2, which suited our target of 30-40 plants/m^2 based on our average annual 420mm rainfall.

The results shown in the graph on this page now indicate the updated results after 5 years of the trial period, which have shown some significant differences in the performance of varieties, and quite a variation in the results that were seen after the 3 year period was measured. In particular, some of the highly winter active material has distinctly dropped off in the recent 2 years.

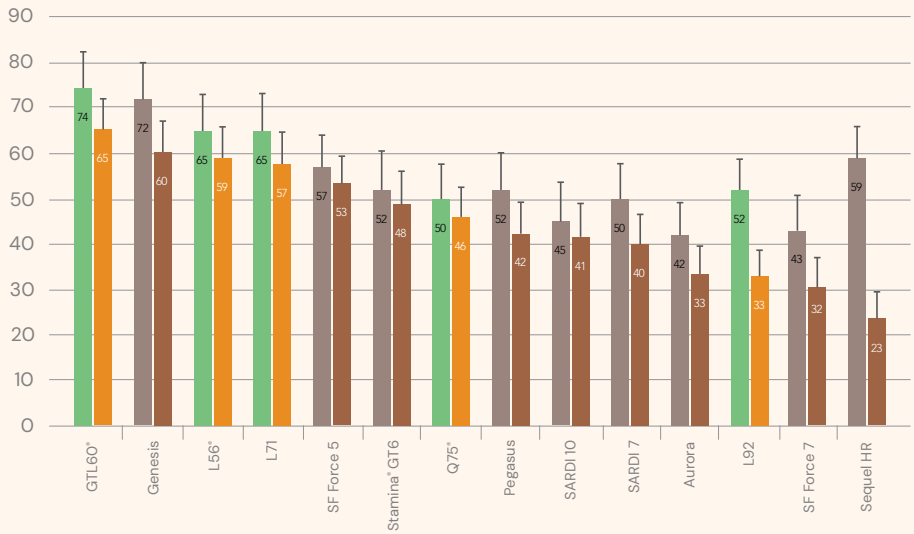


GTL60® lucerne



Stamina® GT6

Percentage of residual plants after three and five years of grazing



3 year count
November, 2014
Av.5%LSD=22.1

5 year count
November, 2016
Av.5%LSD=18.7

Lucerne stands are grazed to restrict flowering over a three year period to increase pressure on plants.

Dormant & semi-winter-dormant lucerne

Dormancy characteristics	
Growth	95% summer, 5% winter
Cutting schedule	38–42 days
Number of cuts	4–5 per season
Crown type	Broad with crown below ground
Utilisation	Specialist (hay/silage/chaff) Long-term hay or pasture mix High rainfall or irrigation
Stand life	7+ years with good management



Lucerne plant characteristic of dormant/ semi-winter-dormant varieties, demonstrating their subterranean crown

Recommended varieties
L56®, Q31®

Winter active lucerne

Dormancy characteristics	
Growth	90% summer, 10% winter
Cutting schedule	33–35 days
Number of cuts	5–7 per season
Crown type	Broader & lower crown
Utilisation	Dual purpose (grazing/hay) Longer-term pasture or hay Dryland and irrigation
Stand life	5–7 years with good management



Lucerne plant characteristic of winter active varieties, expressing low broad crown

Recommended varieties
L70, GTL60®, Q63

Highly winter active lucerne

Dormancy characteristics	
Growth	80% summer, 20% winter
Cutting schedule	25–28 days
Number of cuts	7–10 per season
Crown type	Narrow & higher crown
Utilisation	Dual purpose (grazing/hay) Short-term cropping rotation Dryland and irrigation
Stand life	3–4 years with good management



Lucerne plant characteristic of highly winter active varieties, showing the narrower and slightly raised crowns

Recommended varieties
L97, L91®

Pests and diseases



Phytophthora root rot
: Phytophthora medicaginis

DESCRIPTION: Plants turn yellow, wilt and die. Areas of light brown discolouration up to five centimetres long occur on the taproot up to 30 centimetres below the crown. The taproot below the discoloured area will rot away completely.

INCIDENCE: Occurs in Australia, particularly in heavy and/or poorly drained soils and wet conditions. The disease can be severe, killing large numbers of seedlings, scattered plants or large patches in mature seeds. In irrigated stands, plants can survive. Water availability keeps the taproots immediately below the crown alive, but forage yields are reduced.

SPREAD: The fungus spreads rapidly in water over considerable distances.

MANAGEMENT: Use resistant varieties and spell the paddock from lucerne. Do not rotate with chickpeas. Avoid waterlogging irrigated stands on heavy soils.



Colletotrichum crown rot or stem anthracnose
: Colletotrichum trifolii

DESCRIPTION: Brown-black spots on the stems develop into well defined boat shaped lesions that are up to 25 millimetres long, dark around the edges with pale centres, and covered in raised dark spots.

The fungus can also enter the crown, causing a blue-black discolouration of five to eight centimetres into the taproot. In mature stands, the dead stems are white or straw coloured with a shepherd's crook appearance. Plant death occurs gradually.

INCIDENCE: Occurs throughout Australia in warm environments with high humidity. It is more severe from late summer to autumn. It is less likely in drier and cooler climates.

SPREAD: Spores spread in warm, wet weather from plant debris and from the crown of infected plants by raindrop splash and harvesting equipment.

MANAGEMENT: Use disease resistant varieties and, if crown rot and anthracnose have been severe, rotate the crop every three years with non-host plants.



Pea aphid (PA)
: Acyrthosiphon pisum

DESCRIPTION: Green in colour, though some may be yellow or pink. They are four to five millimetres long with dark bands around the antennae and spine-like projections on both sides at the rear of their bodies. Adults may have wings. Nymphs are smaller and wingless.

DAMAGE: PA sucks sap from the leaves causing wilting, stunting and curling, and odd-shaped plants. The top leaves often turn light green while the lower turn yellow and die. Honeydew excreted by PA makes foliage sticky, affecting hay and pasture quality. PA is a significant carrier of the alfalfa mosaic virus.

INCIDENCE: Common in southern Australia, Western Australia and New South Wales during dry conditions in spring and autumn, although economic levels of damage are rare.

MANAGEMENT: Monitor beneficial insects. Irrigate or graze the stand to reduce PA numbers. In irrigated hay stands, use insecticides if the infestation is heavy.



Fusarium wilt
: Fusarium oxysporum f.Sp.Medicaginis

DESCRIPTION: Initially, plants are stunted with wilted shoots and yellow leaves. The infection then bleaches the leaves and stems, eventually causing plant death. Dark red-brown streaks develop in a layer under the bark at the base of the stem forming a reddish-brown ring in the centre of the root.

INCIDENCE: Fusarium wilt is not common. The Fusarium fungus is widespread but rarely causes wilt. Fusarium wilt has not been identified in New South Wales.

SPREAD: The fungus survives for long periods in decaying plants. It invades small roots or wounds in the taproot during warm, wet weather.

MANAGEMENT: Controlled by crop rotation and resistant varieties.



Stem nematode
: Ditylenchus dipsaci

DESCRIPTION: Microscopic eelworms are individually difficult to see with the naked eye. Sometimes they mass on or just below the surface to form visible "eel-worm wool." These can survive desiccation and be transported in hay to start new infestations.

DAMAGE: Plants are dwarfed and distorted, with swollen shoots. Leaves are distorted and clustered towards the ends of stems. Plants die in patches.

INCIDENCE: Occur in southern Australia, common in irrigated stands on river flats, with the greatest severity in the spring.

MANAGEMENT: Sow resistant varieties, plough out badly infested stands and practice crop rotation.



Bacterial wilt
: Clavibacter michiganensis ssp.Insidiosus

DESCRIPTION: Yellow and stunted plants with small leaves are scattered through the stand. The inner bark of the taproot is white, while the exposed root centre is yellowish.

INCIDENCE: Common in southern Australia but has not been reported in the southeast of South Australia. It often occurs in autumn in irrigated stands. It is not found in the dry, inland subtropics of Queensland and northern New South Wales.

SPREAD: The bacteria persist in soil for more than ten years. The disease is spread by stem nematodes and through hay and machinery.

MANAGEMENT: Sow certified seed of resistant varieties.



Photo supplied by Cesar Australia Pty Ltd.
Photographer: Andrew Weeks

Spotted alfalfa aphid (saa)
: Therioaphis trifolii

DESCRIPTION: Adults are pale yellowish-green, two millimetres long, with six or more rows of black spots along their backs. Adults may have wings. Nymphs are smaller and wingless.

DAMAGE: Adults and nymphs suck sap from the stems or the undersides of lower leaves. Before that, leaf veins become yellow or white, and the leaves curl and drop off. SAA inject a toxin that can kill seedlings and mature plants.

Honeydew excreted by SAA causes foliage to become sticky and develop a black, sooty mould.

INCIDENCE: Occur throughout Australia in dry conditions, mainly in the spring and autumn.

MANAGEMENT: Plant resistant varieties. Monitor beneficial insects. Irrigate or graze the stand to reduce SAA numbers. In irrigated hay stands, use insecticides if the infestation is heavy.



Photo supplied by Cesar Australia Pty Ltd.
Photographer: Andrew Weeks

Bluegreen aphid (bga)
: Acyrthosiphon kondoi

DESCRIPTION: Adults vary from pale green-grey to dark green-blue and are three millimetres long and have tube-like projections on either side at the rear of their bodies. Adults may have wings. Nymphs are smaller and wingless.

DAMAGE: Adults and nymphs suck sap from the leaves and stems at the growing points, causing shortened internodes between the leaves at the top of each stem, stunted plants, leaf curling, and leaf yellowing. Honeydew excreted by BGA makes the foliage sticky and affects hay and pasture quality. BGA does not kill mature plants.

INCIDENCE: Occur throughout Australia, and most active during the cooler months, particularly dry conditions.

MANAGEMENT: Plant resistant varieties. Monitor beneficial insects. Irrigate or graze the stand to reduce BGA numbers. In irrigated hay stands, use insecticides if the infestation is heavy.

Photos supplied by Queensland Department of Primary Industries.

Measuring the resistance of major pests

Resistance level	Ultra high resistance HR+	High resistance HR	Resistance R	Moderate resistance MR	Low resistance LR	Susceptible S	No data ND
Plant resistance	= 50-85%	= >50%	= 31-50%	= 15-30%	= 7-14%	= 0-6%	= No Data

Multiple pest and disease resistance chart

AlfaGen Seeds lucerne varieties stand out in the Australian marketplace with superior pest and disease ratings.

Variety	Winter activity	Spotted alfalfa aphid	Bluegreen aphid	Pea aphid	Phytophthora root rot	Anthracnose	Bacterial wilt	Fusarium wilt	Stem nematode	Root knot nematode
Highly winter active										
L97	9	HR	R	R	R	LR	MR	R	MR	HR
L91®	9	HR	HR	HR	HR	HR	R	HR	R	ND
Sequel	9	R	R	ND	MR	R	ND	ND	MR	ND
Winter active										
L70	7	HR	HR	ND	R	R	R	ND	R	ND
Aurora	6	HR	HR	ND	R	MR	LR	ND	R	ND
GTL60®	6	HR	HR	ND	HR	HR	HR	ND	R	ND
Q63	6	R	MR	HR	R	R	R	R	MR	R
Dormant & Semi-winter-dormant										
L56®	5	HR	HR	HR	HR+	HR	HR	HR	HR	HR
Q31®	3	R	MR	MR	HR	HR	HR	R	HR	HR





Lucerne born and bred for Australian conditions

By basing our global lucerne breeding program right here in Australia, we ensure a real local focus for the products we develop, and innovation for the right reasons — your farm's success.

We use this homegrown advantage to develop new lucerne varieties specifically adapted for Australian conditions. With a complete dormancy range, we offer a product for every unique farming situation, ensuring you can optimise yield and performance for your environment.

Lucerne best management practices

Paddock selection and preparation

Lucerne can be grown on a range of soils from deep sands to heavy clays. For best yield and persistence, select paddocks with:

- Optimal range soil pH($CaCl_2$) 5.0–7.5
- Good natural slopes (for good drainage within the paddock)
- Adequate fertility (nutrient levels)

A surface and subsoil soil test is recommended to determine the suitability for lucerne. Soil acidity affects every stage of lucerne production, from seedling establishment to stand survival.

Incorporate lime three to six months before sowing where topsoil pH($CaCl_2$) is below 5.0. Avoid soils with acid subsoils or high levels of subsoil exchangeable aluminium (above 5%). Apply gypsum to sodic soils (exchangeable sodium levels above six percent) to overcome surface crusting problems. Gypsum needs to be applied several months before sowing. Use deep ripping to break hard layers in the subsoil and to increase gypsum penetration to depth. Plan for weed control prior to and during the cropping phase to reduce the density and seed-set of major weeds. Lucerne is sensitive to herbicide residue problems.

The main carryover problems are associated with the triazines (e.g. simazine and atrazine), imidazolinones (e.g. Midas®, OnDuty®, Spinnaker® following dry seasons) and sulfonylurea herbicides (e.g. Glean®, Ally®, Logran® on high pH soils).

Test the soil using pots over summer or delay planting lucerne for at least one year after application of these residual herbicide groups.

Before sowing

If weeds are present before sowing, use knockdown herbicides. At sowing pre-emergent herbicides such as Trifluralin should be applied in autumn, between four weeks and seven days, and in spring, between four weeks and three days, before sowing occurs. These herbicides are a cheap option to control winter weeds (including annual ryegrass, wild oats, fumitory, annual phalaris, and wireweed). Maintain adequate stubble cover over summer but slash or late burn stubble before sowing. Use an appropriate cropping phase and/or sprays to reduce egg-laying mite populations in the growing season before lucerne establishment.
Monitor paddocks for soil-dwelling pests such as false wireworm and pink cutworm. Look for adequate soil moisture to 20cm at the time of sowing. Pre-irrigation (where possible) and sowing into moisture is the best practice for lucerne establishment.

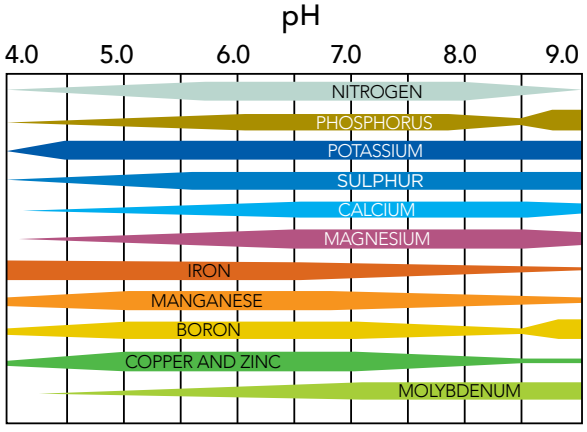
Fertiliser

Phosphorus is vital for early seedling growth and strong root development for better plant survival. Sow lucerne with a minimum of 15–20 units per hectare (dryland) and 20–40 units per hectare (irrigation). Banding fertiliser two to three centimetres below the seed is best. Molybdenum added to the fertiliser ensures good nodulation for greater nitrogen fixation by the lucerne. Lookout for adequate levels of sulphur, potassium, boron, and zinc.

Top-dress with P and K

After the seeding year, annual applications of Phosphorus (P) and Potassium (K) helps maintain stands and boost yields. Lucerne is a heavy user of soil nutrients, especially K.
The incidence of nutrient deficiencies of P and K is increasing, particularly in paddocks with a long-term history of cropping (without adequate fertiliser) or hay production. P deficient lucerne has fine, spindly stems; the leaves become narrow and often turn purple. A deficiency of K can reduce yield and is essential for efficient nodulation, plant health (especially leaf disease and retention under stress), stand persistence, and winter hardiness. White spotting of the leaf margins is a common characteristic of K deficiency in lucerne. A good fertiliser rule of thumb is to top-dress annually with 10–20 kilograms per hectare or after the first cutting (but before regrowth starts) with six kilograms of P and 25kg of K per tonne of forage harvested during the season. Always remove weeds before top-dressing.

Use soil test results and strip tests to determine actual application rates needed for adequate fertility levels.



Available nutrients in relation to pH

Weed control

Management practices that maximise lucerne growth will normally suppress weeds. The aim of post-emergent weed control in established lucerne is to suppress the weeds from excessive competition or setting seed and not necessarily eradicate all the weeds.

Removing grasses and other weeds in mid-winter with a selective herbicide (winter cleaning) improves spring production and quality extends the useful life of the stand, and increases the benefit for the following grain crop.

Sowing technique

Lucerne should be sown into a level, firm, and slightly cloddy seedbed. A separate small seeds box and narrow points allow accurate seed placement with reduced soil disturbance. Plant lucerne paddocks first in your cropping program. If stand density is patchy and below ten plants (dryland) or 40 plants (irrigation), consider stand removal and re-seeding.

Lucerne is suited to undersowing with winter crops or direct drilling into crop stubble after the grain harvest.
The seeding rate of the cover crop should be reduced by 50% and sown in skip (alternate) rows. A cover crop can help defray establishment costs and reduce soil erosion or wind sandblasting of lucerne seedlings on sand hills and sandy flats.

Seed depth and lucerne emergence

Depth (cm)	Percentage emergence		
	Sand	Loam	Clay
1.25cm (0.5 inches)	71	59	53
2.50cm (1.0 inches)	73	55	48
3.75cm (1.5 inches)	55	31	28
5.0cm (2.0 inches)	40	16	13

Seeding rates (kg/ha) and timing

Variety	Marginal dryland	Good dryland and tablelands	Irrigation and coast	Seeding time
L70, L91®, L97	2-4	4-10	18-25	Autumn, winter, spring
L56®, GTL60®, Q63	1-3	4-10	18-25	Autumn, spring
Q31®	1-3	4-10	18-25	Early autumn, spring

Guide to seeding rates of cover crops and companion species

Cover crops		Companion species	
Barley	20-30kg/ha	Sub clover and medics	2-3kg/ha
Lupins	40-50kg/ha	Phalaris	1kg/ha
Oats	25-35kg/ha	Cocksfoot	1-3kg/ha
Wheat	30-45kg/ha	Fescue	2-3kg/ha

Optimum plant populations per m²

Established plants per square metre (minimum density highlighted)

Situation	Cover crops or pasture mixes	Sown alone
Marginal dryland (<400mm annual rainfall)	5-15	10-15
Good dryland (400-600mm annual rainfall)	10-15	15-25
Very good dryland/tablelands (over 600mm annual rainfall cold climate	15-25	25-40
High rainfall/coastal (600mm annual rainfall warm climate)	25-40	40-60
Irrigation	Not recommended	60-130

Early management

Seed treatment or bare earth emergence spray for red-legged earth mites will pay dividends in the long run. Monitor seedlings carefully for aphids and use aphid-resistant varieties. Graze leniently the first time when the young stand is at least 20cm high and well anchored. Lucerne established under cover crops should be allowed to flower before first cut or grazing.

Grazing management

Rotational grazing is the preferred management system for lucerne. Grazing periods should be no longer than two weeks, followed by a three to six week rest period. This practice allows the plants to re-grow and replenish root reserves.

Larger mobs that fit the grazing unit (paddock size) allow quicker grazing. Alternatively, high stocking rates are greatly assisted with strip grazing and electric fencing. Changing to August lambing gives better utilisation of lucerne in pastures.

Maintain flexibility with stocking rates and grazing management. Conserve excess feed as hay or silage to fill feed gaps or provide additional income. Rotational grazing with all varieties during summer and autumn will maintain production and persistence at a high level.

Avoid grazing waterlogged paddocks because soil compaction and trampling will reduce yield and lead to poor persistence. Set stocking during spring in good years will not harm the stand and may reduce cattle bloat risk. To optimise stand longevity, allow lucerne to reach mid-flowering once during the year.

Too frequent cutting or set stocking for extended periods reduces overall yields, and reduces vigour, which allows weed invasion and ultimately results in the death of plants.

Irrigation

For high production of lucerne, irrigation management should aim to avoid any moisture stress. When water is in short supply, it is possible to extend the irrigation interval more than shallow rooted pasture to maintain lower levels of production.

Irrigation layout and practice should ensure water penetrates at least 80-100cm and permit drainage within eight hours to minimise waterlogging. Do not irrigate immediately after hay is harvested to reduce the risk of scalding, particularly during summer. Time the final irrigation to allow adequate dry-down of the soil surface to prevent soil compaction by harvesting machinery.

Sub-surface drip irrigation

Low volume emitters, moulded onto the internal wall of a polyethylene tube and buried 200-300mm below the soil surface is recognised as the most efficient means of irrigating lucerne (95% WUE) and is becoming increasingly popular as water availability declines and the cost of water increases. These sub-surface drip irrigation laterals are spaced across the paddock at distances from 0.3-0.8m apart, depending on soil and crop requirements. As the water (and fertiliser) is delivered right to the root zone (where it is needed) in measurable and adjustable quantities, it not only saves water but has a positive effect on plant productivity, longevity and health.

As opposed to flood and spray irrigation, excess water does not collect on the surface, and hence growers can manage their cutting times more effectively, there is less weed growth, and no compaction is caused by harvesting equipment. Sub-surface drip irrigation also requires very little labour to operate and maintain.

Livestock health

Frequent observation of stock on lucerne is essential. Cattle grazing lucerne pastures during the bloat season (winter and spring) are susceptible to bloat. To manage bloat, use high stocking rates and avoid placing hungry stock on immature lucerne.

Allowing stock access to grass, stubble, or hay while grazing lucerne and using bloat oil and/or rumen capsules will effectively reduce the incidence of bloat. Vaccinate stock with "5 in 1" to prevent pulpy kidney, which is sometimes confused with bloat. Red gut can affect sheep and lambs that are grazing pure stands of lucerne during similar weather conditions, resulting in bloat. At the first sign of red gut (sudden death) affected flocks should be removed immediately. Manage red gut the way you would bloat for cattle.

Bloat reduction option

AlfaGen SOWsmart® Bloat Fighter Blend has been specially designed as a pasture blend option to reduce the incidence of bloat on straight lucerne-based pastures. This mix has incorporated two lucerne companion species with Zulumax® arrowleaf clover and Balance chicory to deliver proven anti-bloating.

Haymaking

Before adopting a haymaking enterprise, organise a market in advance and consistently meet market requirements. Generally, aim for high quality and high yields to optimise animal performance and long-term profitability. Mechanical field losses during haymaking can be large (20-40%). Aim to mow early in the day and minimise handling during the curing process.

Chaff varietal selection

The traditional chaff market has been based around the horse feed industry. Lucerne has been a sought after product to meet the market requirements. When selecting a lucerne variety to target chaff quality, we look for material with a high leaf-to-stem ratio. There are 3 AlfaGen lucerne varieties that can be utilised, Q63, L56® or Q31® lucerne. The management of each line is essential to achieving the desired quality. With winter active lines, it is important to cut in the earlier stage of maturity to maintain maximum leaf compared to the stem. As the lucerne plant approaches budding, the stem elongates and thickens, and the leaf-to-stem ratio drops. With winter active varieties, the cutting and regrowth cycle is much shorter; therefore, the window of opportunity to cut at the right time is much narrower. However, with semi-winter-dormant varieties, the regrowth cycle and time to maturity are much longer, giving more flexibility in cutting time to achieve the highest quality across a high percentage of cuts.

Nutrient removal

To maintain the health of lucerne stands, replace soil nutrients removed in hay. Soil and leaf tissue tests conducted annually in early spring help ensure other nutrients are adequate.

Nutrient removal

Nutrients	Amount in 1t DM harvested	Seasonally in 15t DM harvested
Nitrogen (N)	20-30kg	375kg
Phosphorus (P)	2-3kg	37kg
Potassium (K)	15-20kg	262kg
Sulphur (S)	2-4kg	45kg
Calcium (Ca)	13-17kg	225kg
Magnesium (Mg)	3-4kg	52kg

Source: University of Nevada, Reno. All values on a dry matter basis.

Re-sowing and crop rotation

High-producing lucerne will generally require re-sowing after four to seven years. Winter active stands will often decline sooner than winter dormant ones. Thickening up an old and thinning lucerne stand fails more than it succeeds. It is best practice to completely remove old lucerne plants and allow at least three weeks between herbicide application and re-sowing. There are significant benefits in rotating lucerne paddocks with winter cereal or canola crops to control weeds, use soil nitrogen, break disease and insect cycles, manage in-crop herbicide resistance, and increase whole farm profits.

Measuring forage quality

Weight gain effect based on feed quality (180 to 275kg steer calves)

Nutrients	Pre-bud	Bud	Early	Full
CP	23	20	17	14
ADF	21	26	34	43
DDM	73	69	62	55
Intake	3.5	3	2.5	2
Daily gain (kgs)	1	0.86	0.55	0.36

Intake = % of body weight, CP = % crude protein, ADF = % acid detergent fibre, DDM = % digestible dry matter.

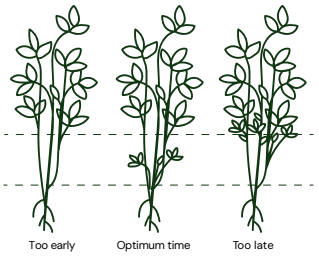
Cutting and grazing tips

Variety	Recommended grazing practice/ number of paddocks	Recommended cutting interval
L91®, L97	Strict rotation/6 - 7 paddock rotation	25 - 28 days
L70, GTL60®, Q63	Flexible grazing period (up to 3 weeks)/3 - 4 paddock rotation	33 - 35 days
L56®, Q31®	Flexible grazing period (up to 3 weeks)/3 - 4 paddock rotation	38 - 42 days



Bud development

The appearance of 2cm long shoots from the crown on just over half the plants are the most reliable indicator of when to cut or graze for maximum productivity and persistence of lucerne.



Seed treatment options

At AlfaGen Seeds, we're dedicated to embracing new technology, continually enhancing our range to deliver cutting-edge solutions and superior performance in our leading forage products.

Goldstrike®

AlfaGen Seeds Goldstrike® is a high-quality seed coating with innovative technology which supports the crop during establishment and throughout the season, allowing for stronger and more vigorous plant growth. With Goldstrike®, farmers can be assured of a reliable establishment and higher yields of top-quality forage.

⊕ **Goldstrike® for legumes**

Every seed receives a micro-nutrient package and rhizobia inoculant, and Apron® XL fungicide is applied to lucerne and sub clover.

The rhizobia inoculation helps to improve nitrogen fixation and nutrient uptake, while the micronutrient package provides additional essential nutrients for optimal plant growth.

The premium fungicide, applied to lucerne and sub clover, helps to protect the seeds from soil-borne diseases during the critical early stages of plant growth.

XLR8®

XLR8® seed treatment is a film coating of Poncho® Plus insecticide on every seed, designed to give seedlings the best possible start. Poncho® Plus represents a significant advancement in seed treatments, offering broader pest control than any other insecticidal option. Its two powerful active ingredients protect eight crop and pasture types from a range of damaging pests for up to four weeks after sowing.

Goldstrike XLR8®

Goldstrike XLR8® combines the benefits of Goldstrike® and XLR8® into one complete treatment for lucerne. It delivers micronutrients, rhizobia inoculant, fungicide and insect protection in a single pass, supporting rapid establishment and strong early growth under a range of conditions.

All AlfaGen Seeds proprietary lucerne products come with Goldstrike XLR8® seed treatment



Goldstrike®

Insecticide comparison chart

		Seed treatment		
		XLR8® broadleaf pasture	XLR8® grass pasture	Gaucho®
Registered claims benefits	Red-legged earth mite	✓	✓	✓
	Lucerne flea	✓	✓	
	Blue oat mite	✓	✓	✓
	Cutworm	✓	✓	
	Yellowheaded cockchafer		✓	
	African black beetle		✓	
Benefits	May offer Stress Shield™ benefits	✓	✓	✓
	Up to four weeks systemic protection for emerging seedlings	✓	✓	✓
	Protection against some soil pests	✓	✓	
	Low impact on beneficial species	✓	✓	✓
	Targeted chemical placement	✓	✓	✓



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