

Lucerne (Medicago sativa)

Grows best:

Prefers well-drained neutral to alkaline soils including sand and sandy loams, with 400–800 mm rainfall.

Best suited to the Haines/ MacGillivray area.

Generally non waterlogged soils which grow phalaris are well suited to lucerne.

Key benefits

- ✓ **Excellent for finishing livestock** especially over the summer months with minimum labour – a lot cheaper than buying in equivalent feed and running a feedlot.
- ✓ **High protein and digestibility.**
- ✓ **Ability to stay green through summer months** means it can act as a **fire break**, assuming it rains and/or there is a shallow water table.
- ✓ **Deep-rooted, drought-tolerant.**
- ✓ **Rapid regrowth** in spring, summer and autumn after rain means it is **valuable in filling feed gaps.**

Critical factors for persistence & productivity

- Performs best in **well-drained, deep neutral to alkaline soils**
- Lucerne has a **substantially high phosphorus requirement** – up to 1.5 times greater than the critical soil test for clover.
- **Not tolerant of extended waterlogging.** However, the stand does dry the soil profile out over summer and therefore can reduce the risk of waterlogging.
- **Must be rotationally grazed.** Avoid set stocking.
- **Spell lucerne in late summer/ early autumn and allow to flower** to permit the root reserves to build up before going into winter. This is critical in the longevity of the lucerne stands.
- **Aluminium needs to be below 5%** for lucerne to grow well or persist.
- **Does not tolerate high acidity.** Best if sub soil pH (20-40cm) is above pH 6.0_{CaCl2}
- **Generally, lucerne only covers 20-50% of the soil** resulting in a large part of the paddock being bare in winter. This enables grass and broadleaf weeds to take over, requiring ongoing weed control and/ or oversowing with cereals/annual ryegrass.
- **Lucerne is susceptible to MCPA** so spray grazing is not always possible for broadleaf weed control.
- **Lucerne is very 'showy'.** When there is a large percentage of bare ground and tall lucerne growth, there is often less available livestock feed than on first impressions.



Establishment tips

- Sow into clean, weed-free seedbed with 2 years of seed set control.
- Lime paddocks before sowing – incorporate lime if required to distribute throughout the profile.
- Can be autumn or spring sown.
- Inoculate seed with correct rhizobia strain, particularly in low pH soils.
- Snail and insect control critical at emergence.

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Grazing management

- Delay first grazing until it is difficult to remove the smallest plants by tugging.
- First graze at first flowering. If you graze before 10% flowering you will reduce persistence. Rotational grazing initially, but set stocking can occur through summer. There will potentially be some thinning of plants (depending on how dry the summer is and how hard it's grazed) but it will come back.
- As the growth slows in Autumn, rest the paddock until it flowers, then graze again. If it doesn't rain, don't graze it until it rains and then set stock over winter. Note in dry years you will get less recovery as the plants are stressed.
- Practise a long rotation with at least 4 paddocks with 2-3 weeks grazing and a 6-9 week spell per paddock. If it doesn't rain, make the spell period longer. More paddocks allow a longer spell, i.e. 6 paddocks = up to 10-15 week spell if each paddock is grazed for 2-3 weeks.
- It's not hard to manage but you need to be disciplined when you graze it.
- Varieties with a winter activity rating of 6-7 handle the grazing pressure better than highly winter active varieties.
- SARDI 7 Series 2 has improved acid soil tolerance.
- If you rotationally graze then you get a more consistent feed wedge in front of the mob.
- Susceptible to heavy and continuous grazing, meaning rotational grazing is essential.
- Potential for winter clean, or cut for hay/silage every 2 or 3 years to clean up weeds.
- Winter clean can help preserve soil moisture especially in dry years, resulting in more lucerne growth in early summer.

Farmer insights:

‘ Lucerne provides approximately an additional 2t DM/ha over summer and still produces as much dry matter as annual pastures in winter and spring. This allows winter grasses such as ryegrass etc. and annual clovers to grow over winter alongside the lucerne.’

— Nathan Bell, Menzies

Would they plant it again?

- ✓ **Yes, on free draining, alkaline, deep soil with sufficient scale**
- ✗ **No, in wet poorly drained, shallow, acidic soils**



Challenges

- Not suited to waterlogged or acid soils.
- Bloat risk and red gut issues with livestock especially in early winter. Don't put empty stock into lucerne, and always provide ad lib good quality low protein hay.
- It's important to have enough area to set up a full rotational graze; there is no point just having a paddock or two, as stock would then go from lucerne to dry feed etc.
- If there is insufficient suitable area to set up lucerne paddocks, it may not warrant the time for stock to adjust to the feed.
- Make sure stock are fully vaccinated with a 5:1 vaccine.
- Persistence drops under poor grazing management, leading to a lot of bare ground with little production and weed encroachment.
- Lucerne flea can cause significant damage; needs to be regularly sprayed with insecticide.
- Requires effort to keep weed free.
- Easy to overgraze.

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Above: Newly sown lucerne.

Below: Young stock on fresh lucerne.

Photos: Nathan Bell.

Contact

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