

Lucerne; grazing for production and persistence



Radically changed management of lucerne at Bonavaree Farm has been a major driver of improved profitability, despite sustained drought. Advice and inspiration on lucerne has come from Professor Derrick Moot, who provided the following general information on establishing and managing this crop.



Lucerne at Bonavaree, South Marlborough, in January 2008.

The lucerne cycle

Autumn recovery (Feb/Mar)

- Allow at least 50% of the lucerne stems to have an open flower sometime from mid summer to autumn, to encourage root recharge.
- Graze if drought is 'terminal' (ie stops plant growth), but then allow recovery after rainfall until growth stops.

Winter weeds (June/July)

- Hard graze with large mob once frosts stop growth.
- Apply weed control 14 days later.
- Node accumulation on stems sets up spring potential.
- Late spray or early 'green pick' drastically delays spring growth and reduces yield.

Spring production (Sept/Oct/Nov)

- Begin grazing with ewes and lambs at crop height ~20cm (1500 kg/ha).
- 7-10 day break e.g. 60 ewes+lambs/ha.
- 5-6 paddock rotation (35-42 days recovery).
- 'Salt the chips' – lucerne is low in foliar sodium so offer salt licks.
- Post weaning - lambs only eat lucerne leaf – stock at about 70/ha. Ewes follow.
- 2.5-4.0 kg DM/head allowance.
- Minimum of 6-8 weeks on lucerne to maximize liveweight gain.
- High quality leaf (ME >12, protein >24%).
- Low quality stem (ME~8, protein <14%).
- Crop doesn't want to flower – graze before flowering.
- Delayed harvest increases proportion of stem.

Summer holiday (Dec/Jan)

- Go fishing.
- Shorter rotation, 30-35 day return.
- Water stress accelerates flowering but leaf is still high quality.
- Conserve a true surplus.



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Lucerne; agronomy

Establishment

- Test soil to ensure a pH>6.0.
- Ensure 5-7 kg/ha of inoculated bare seed equivalent.
- Allow 50% flowering in spring establishment crop.
- Soil should be free draining.
- Modern cultivars are pest resistant.

Weed control

- Graze at 20 cm if weedy, then allow flowering.
- Annual and perennial weeds should be controlled in early to mid-winter.
- Paraquat burns leaves so early control is essential.

Fertiliser

- Lucerne is hungry for nutrients if always conserved, eg 20kg potassium/ha/t DM removed.
- Use potassic based fertiliser.
- Nitrogen is not required.

Animal health

- Sodium is stored in roots so may be deficient for animals, use salt.
- Bloat is a risk on high quality feed so make fibre available, especially when feed is lush.
- Red gut can be caused by rapid passage of high quality feed. Watch for in early spring.
- Offer suitable supplement, e.g. meadow hay to reduce possibility of red gut.
- Flushing is possible on young fresh lucerne. Avoid lucerne with leaf spots.

Conservation

- Leaf is the high quality component.
- Bale with dew.
- Silage should be wilted and may need an inoculant.
- Spring crop is heaviest and vegetative (but why bale it?)

Irrigation

- Minimal irrigation is recommended at establishment, to encourage root growth.
- Irrigate 10-14 days after grazing. (No leaf=no demand).
- Irrigation encourages weed seed germination
- Sitting water rots roots.



Never set-stock lucerne!

Lucerne at Bonavaree.