

FORAGE FOCUS

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For more information call 0800 805 505

PGG Wrightson Seeds

Chicory Best Practice

Chicory is a perennial forage herb characterised by high nutritional quality, and the potential to produce high dry matter yields from spring to late autumn. It has proven to be an excellent source of feed for finishing stock. Chicory produces leafy top growth and has a thick, deep taproot giving it excellent drought tolerance and mineral extraction.

Chicory has exhibited tolerance to acidity and for this reason has been successfully grown in low pH soils (chicory will remain productive at soil pH of 4.5, however pH greater than 5.5 is recommended). In addition to this chicory has good disease resistance and insect tolerance and with appropriate grazing management can provide viable stands for five or more years.

Advantages of Chicory

- Highly palatable forage.
- Excellent feed source for high livestock growth rates.
- Provides high quality feed through summer using summer rain, irrigation or stored soil water.
- Able to produce high quality forage on acid soils.
- Recovers quickly after grazing
- Does not cause bloat.
- Can be used for silage production as part of a pasture mix.

Management Considerations for Chicory

- Chicory must be rotationally grazed, therefore smaller and more accessible paddocks are needed.
- Chicory does not fix nitrogen therefore requires high inputs of fertiliser for maximum growth potential.
- Chicory is best used on deeper and more fertile soils. It won't be suitable for all paddocks.
- Chemical control of some broadleaf weeds can be difficult e.g. thistles.
- Chicory can be dormant in winter and grazing of companion species in winter must be done carefully so as to avoid damage to chicory's crown, especially when wet.

How to grow (Checklist)

- Control broadleaf weeds before sowing, as registered post-emergence herbicide options are limited. Paddock preparation should aim to start a year ahead.
- Chicory seed is sensitive to the cold therefore spring sowing is recommended, however early autumn sowing is possible, as long as the chicory has established before going dormant in the cool season.
- Chicory prefers well drained soils and moderate to high soil fertility. Apply phosphate at 20kg/ha P and nitrogen at 30kg/ha N at, or immediately prior to sowing unless soil P and N levels are high.
- Chicory combines well with other grasses and clovers and can be added to a pasture mix at 0.5-2.0kg/ha.
- Chicory stands are established at 4-6kg/ha (SUPERSTRIKE[®] treated seed) with white and/or red clovers at 6-10kg/ha. (NB. Chicory needs to be sown with a clover to provide it with Nitrogen.) Chicory combines well with most grasses and clovers and can be added to a pasture mix at 0.5-2 kg/ha.
- SUPERSTRIKE[®] seed treatment is recommended to improve establishment.
- Chicory is a very small, light seed and therefore should not be sown deeper than 1cm.
- Seed may be drilled or broadcast and has been successfully direct drilled under favourable conditions.
- Slugbait should be used to enhance establishment.



How to graze (checklist)

- Chicory is ready to graze when it reaches 150-200mm in height (generally about 80-110 days after sowing) and the taproot is well established. Grazing should be delayed until plants are resistant to being pulled out.
- Chicory grows rapidly from October to the end of April.
- Chicory should be rotationally grazed for best performance and persistence. Grazing in the first year should be quick and light to avoid overgrazing any young regrowth.
- Grazing management should aim at a compromise between controlling reproductive stems in late spring/summer and providing high yields of nutritious leaf, versus the need to have long spelling times to maintain tap-root reserves and plant populations. Two to three week spells may be preferred during the late spring, with longer spells of four to five weeks later in the growing season.
- Allowing chicory to flower once in late autumn can enhance persistence through buildup of root reserves. Chicories such as Puna II will persist for 2-6 years, depending on management, soil type and climate.
- Hard grazing, particularly after flowering or damage to the crown in wet conditions, will affect production and persistence.
- Early studies with dairy cows fed diets of chicory alone identified a potential to taint the milk, and for this reason dietary intake should be limited to only 25% of the total dry matter intake. Alternatively use of Choice chicory is recommended which has a lower risk of milk taint due to containing lower lactucin levels.



- High dry matter production
- A true perennial with good persistence
- Fast regrowth after grazing or cutting
- Semi-erect for better utilisation than Puna

Grasslands Puna II is a New Zealand bred broad-leaved, perennial forage herb bred from true perennial chicory parents. Puna II has high nutritional quality, producing high yields from spring to late autumn. Extensive animal data has been generated on chicory (much of it on Puna II's predecessor Grasslands Puna). Grazing evaluations and trials have confirmed Grasslands Puna II's high dry matter production, improved regrowth after grazing and good persistence.

Animal Health Benefits

Chicory is known to aid high animal performance and has been associated with reduced effects of internal parasites on lamb and weaner deer growth.

Sowing and Establishment

Chicory should be sown no deeper than 10mm. Seed may be broadcast or direct drilled under favourable conditions. Spring sowings are recommended, however, early autumn sowing is possible, as long as the chicory has established before going dormant in the cool season.

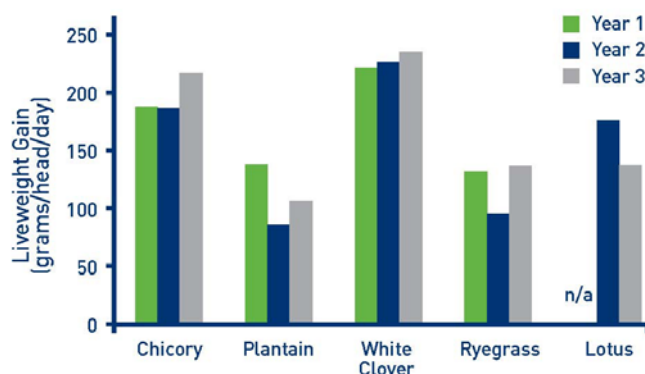
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Grazing Management

Grasslands Puna II chicory is cool season dormant, but with high growth rates over spring, summer and autumn. Chicory should be rotationally grazed for best performance and persistence. Hard grazing, particularly after flowering or damage to the crown in wet conditions, will affect production and persistence.

Trial Results

Effect of pasture species on lamb liveweight gain



Reference: Fraser, T.J. and Rowarth, J.S. 1996.
Proceedings of the New Zealand Grassland Association 58: 44-52.