



PUNA II CHICORY

What is Puna II chicory?

Puna II chicory is a broad-leaved perennial forage crop that offers high yields of very palatable and nutritious fodder for grazing livestock. Extensively proven in New Zealand, Puna II chicory is now being grown successfully in the UK.

How is it best used?

- Pure stand, or in a mixed sward with grass and clover
- Medium – Long term rotationally grazed leys (2-6 yr persistency)
- Ideal for finishing lambs and provides high quality fodder for cattle
- High yield and forage value within grazing mixtures

What are the main benefits?

- Outstanding animal performance
- High mineral content, including zinc, potassium and copper
- Good tolerance to drought, acid soils and major pests
- Rapid regrowth after grazing
- Reduces the effect of internal parasites and does not cause bloat
- Can deliver lamb growth rates of 300-400g/day
- Provides high quality feed through the summer

Finishing lambs on Puna II chicory

Typical mixture

18%	Puna II	Perennial Chicory
18%	Tonic	Plantain
27%	Aber@Chianti	Red Clover
18%	Aber@Claret	Red Clover
18%	Aran	Large White Clover

Sowing Rate (Kg/Acre)

13.5

Crop establishment

Sowing:

- Control broad-leaved weeds before sowing
- Sow in spring or (mixed swards only) early autumn
- Seed rate 0.5-2kg/ha (with grass/clover); 4-6kg/ha (pure stand); 4kg/ha (white/red clover)
- Well-drained soils
- Drill to a maximum depth of 10mm, or broadcast
- Use slug bait to improve establishment

Crop nutrition:

- Moderate – high soil fertility
- Similar N, P and K to grass at establishment
- Responds well to N (does not fix nitrogen)

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Persistency, vigour and uniformity

- Selection strategy in breeding Puna II chicory has included tolerance to the fungal disease Sclerotinia
- Independent screening also selects for a more erect and winter-active plant, resulting in a more ergonomically versatile variety

Grazing management

- Graze when crop height reaches 150-200mm (when plants are resistant to uprooting)
- Rotationally graze for best results (ideally short, light spells)
- Grazing strategy should aim to avoid flower heads developing (except once in the autumn as this can aid persistency)
- Avoid damage to the crown (e.g. hard grazing in wet conditions), as this will reduce productivity and persistency
- Limit milking cows to 25% of total dry matter intake to avoid risks of milk taint
- If chicory gets out of control, either graze with cattle or top
- Grazing is preferable because topping can allow water to penetrate the hollow stem and this can kill the plant
- Growth rates will drop if temperature falls below 10°

TONIC PLANTAIN

- Tonic Plantain is a broad leaved perennial herb with a fibrous root system which can produce a forage crop that can be fed to both cows and sheep
- Plantain suits a range of soil types and can be grown on its own or mixed with a grass and clover ley
- As herbs, both Tonic Plantain and Puna II Chicory are ideal companions in multi species swards along with other grasses and legumes

Benefits

- It is highly productive and can produce improved live weight gain in livestock
- Improved dry matter production and quality at key times of the year. Tonic plantain can produce over 15 tonnes of dry matter per ha per year
- Tonic has a positive impact on animal performance by improving the supply of some trace elements
- Ideally suited to intensive or rotational grazing systems, with rapid regrowth post grazing in dry summers

Sowing Rate (Kg/Acre)	2.5
Mixture Inclusion Rate (Kg/Acre)	1