LUCERNE

Lucerne is a high protein, leguminous forage crop, which can be stored as clamp or big bale silage. Lucerne thrives very well on well drained soils with a sufficient content of Lime, Potash and Phosphate.

Characteristics

- Lucerne is a high protein with high digestibility legume which is usually grown for cutting
- Lucerne's high protein makes it extremely useful as a complementary forage to grass and maize
- It has a deep tap root system and is able to withstand severe drought
- It is a productive plant with high nutritional value
- Lucerne can be grown successfully on a wide range of fertile free-draining sites and soil types
- Lucerne will not thrive in waterlogged soils, so the general advice is to avoid heavier land and cold wet soils
- To minimise the threat of pests and diseases, a period of five years should be allowed in the rotation between Lucerne crops
- Lucerne is a legume that leaves significant residual Nitrogen for following crops
- Lucerne forage increases animal fibre intake
- Don't over graze in the winter or drive on the crop in wet conditions to avoid damage to the crown
- Will remain productive and thrive for 3 – 4 years

Annual P and K requirements for 3-cut system (kg/ha)

SOIL P & K INDEX	0	1	2	3	4
P	130	105	80	20	0
K	340	290	250	90	0

Some of the P and K can be supplied in manures / slurry. Eg 40 m3/ha dairy cow slurry may supply up to 48kg/ha P and 140 kg/ha K.

Sowing and Establishment

Lucerne should be sown when soils are warm into a fine and firm seedbed to a depth of 0.5-1cm.
Spring sowing (from late April) tends to be more common with Lucerne as this ensures strong plants going into the first winter. Lucerne can be sown successfully up to the middle of August.

Inoculation

Lucerne seed should always be inoculated with a culture of live Rhizobia Meliloti bacteria to ensure successful root nodulation and efficient Nitrogen-Fixing.

T: 01531 822833 F: 01531 822866

LUCERNE

Crop Management

Key points in Lucerne persistency:

- Allow plants to flower once a year; this ensures storage of nutrients in the tap root to improve Winter hardiness and boost Spring growth
- Cut when 10% of flowers are showing (early bud stage)
- Aim for an optimum cutting height of 7cm to promote regrowth

Cutting, grazing and feeding Lucerne

Ensiling best practice to bale or clamp

- Aim for a target dry matter of 30-40% for clamp silage and 50% for bales
- Chop to 3-4cm and roll well in the clamp
- For bales, wilt to 40-60% dry matter and ensure at least four layers of plastic to minimise the risk of stems piercing the wrap
- Always use an additive as Lucerne is low in sugars and difficult to ferment, we recommended Biotal Maxcool

Variety Choice

'Provence' types are very drought tolerant and have a long growing season, but are not Winter hardy in the UK. In comparison the 'Flemish' types are more cold-tolerant, due to their Winter dormancy, and will yield well over three or four large silage cuts annually.

Winter dormancy ratings range from 1 (very dormant in Winter) to 12 (virtually no Winter dormancy), and the optimum for UK conditions is 4 to 5.

Our UK selected varieties are Flemish dormant types with medium thick stems. Good early Spring growth and a very vigorous growth in Summer and Autumn, the flowering time is early. The dormancy rate is 4-5. As well as high resistance ratings to stem nematode and Verticillium wilt.

UK proven varieties available from Green Farm Seeds Daisy, Timbale, and GalaxyMax.

CHARACTERISTIC	RED CLOVER	WHITE CLOVER / GRASS	LUCERNE
Soil type	All types	All types	Well drained
Ideal pH	5.8-7.5	5.8-7.0	6.2-8.5
Establishment rate	Fast	Medium	Medium
Inoculation needed	No	No	Yes
Drought tolerance	High	Medium	Very high
Persistence	Low	Very High	Medium
Regrowth rate	High	High	High
Yield	10-15 tonnes DM/ha	4-10 tonnes DM/ha	10-15 tonnes DM/ha
Silage quality	ME 9.8-11 MJ/kg/DM CP 16-22% pH 4-4.5	ME 9.8-12 MJ/kg/DM CP 16-20% pH 3.5-5.5	ME 9.0-11 MJ/kg/DM CP 18-24% pH 4.3-4.4