

Greater lotus

Scientific name(s)

Lotus pedunculatus (*Lotus uliginosus*)

Strengths

- Perennial legume, adapted to very waterlogged soils and low pH soils.
- Spreads by rhizomes and is non-bloating.

Limitations

- Seedling establishment is slow.
- Needs moist conditions to assist with summer persistence.

Plant description

Plant: Perennial herbaceous with stolons and shallow rhizomes with a crown located under the soil surface. Herbaceous, erect to prostrate growth habit, with growth mostly over summer.

Stems: Stems are usually hollow to 80 cm long.

Leaves: Leaves are usually hair-less, 4-25 mm long and 3-15 mm wide and occur as five leaflets (pentafoolate), three terminal and two basal. Basal leaflets are often mistaken as stipules.

Flowers: Flowers occur as an umbel in groups of 5 to 12 (-15). Corolla is yellow, often but not always with red veins.

Pods: Pods are straight, long cylindrical in shape 15 to 40 mm in length and shatter to disperse seed as they dry.

Seeds: Seeds are greenie yellow to brown about 0.9 mm long (2 x 106 seeds/kg).

Pasture type and use

Greater Lotus is growing in coastal areas of Australia or in high rainfall subtropical areas. It is also very tolerant of waterlogging and acid soils. Greater Lotus is also grown in combination with Kikuyu or Paspalum and is suitable for cattle or sheep.

Where it grows

Rainfall

> 900 mm average annual rainfall

Soils

Suited to a wide range of soils particularly infertile soils.

Temperature

Cold and frost tolerant.

Establishment

Companion species

Compatible with grasses such as Kikuyu and Paspalum.
Compatible with legumes such as strawberry clover.

Sowing/planting rates as single species

3 to 6 kg/ha (not commonly sown by itself)

Sowing/planting rates in mixtures

1 to 3 kg/ha

Sowing time

Autumn or spring sowing with careful management of weeds. Previously established pasture species should be grazed pre and post sowing. Sowing depth is best at 0.5 to 1 cm into a firm, level seedbed.

Inoculation

Special *Lotus pedunculatus* inoculant.

Fertiliser

Phosphorus and any other nutrients required to avoid deficiencies.

Management

Maintenance fertiliser

Olsen P soil test for phosphorus above 12

Grazing/cutting

Establishing stands should be allowed to reach 10% flowering before light grazing is applied. Grazing in subsequent years can be much harder however some leaf area should be left after each grazing. Greater Lotus is more tolerant of grazing than *Lotus corniculatus*. Under grazing can be a problem where companion grass species reduce light.

Seed production

Seed crops should be cut or grazed to about 10 cm before locking the paddock up for flowering. Irrigation is needed to ensure that stands do not undergo moisture stress during seed-set. Seed yields range from about 100 kg/ha to 400 kg/ha depending on the variety environment and management.

Ability to spread

Spreads primarily via rhizomes.

Weed potential

Medium as it can spread via rhizomes and seed, although its area of adaptation in Australia is much smaller than that of *Lotus corniculatus*.

Major pests

Heliothis caterpillars are the major insect problems in Australia.

Major diseases

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Herbicide susceptibility

Susceptible to broadleaf hormone herbicides and benazolin based herbicides at the seedling stage. Grass selective herbicides present no phytotoxic problems.

Animal production

Feeding value

Dry matter digestibility 65 to 75%, Crude protein 18 to 25%.

Palatability

Tannins are between 4 and 12% of dry weight. Tannin levels above 7% may impact on intake in monoculture stands.

Production potential

Dry matter production is commonly in the order of 3 to 9 t/ha.

Livestock disorders/toxicity

Can produce cyanogenic glucosides however levels of production are very unlikely to cause cyanide poisoning.

Cultivars

Cultivar	Seed source/Information
Sharnae	Australian Herbage Plant Cultivars Contact local seed merchant for seed
Grasslands Maku	Contact local seed merchant for seed
Grasslands Sunrise	Contact local seed merchant for seed

Further information

Contact Graeme Sandral at NSW Department of Primary Industries or Daniel Real at the Department of Food & Agriculture WA.

Acknowledgements

Livestock disorders provided by Dr Chris Bouke, Principal Research Scientist, NSW Department of Primary Industries.

Author and date

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