



A collaboration between AWI, GRDC, MLA, RIRDC and Dairy Australia

Timothy

Scientific name(s)

Phleum pratense

Strengths

- Produces high quality forage, for grazing and hay.
- One of the most legume friendly grasses due to its non-competitive nature.
- Will tolerate poorly drained soils.
- Tolerates short periods of waterlogging.
- Highly palatable.
- Free from any substances known to be toxic to stock.

Limitations

- Has a shallow root system, making it susceptible to root feeding pasture pests.
- Does not tolerate drought, high temperatures or close grazing.
- Can be slow to establish, as seedling vigour is poor.
- Requires high levels of fertility.

Plant description

Plant: A densely tufted, cool-season perennial with a shallow fibrous root system.

Stems: Erect, leafy, growing to 1 metre under ideal conditions.

Leaves: Smooth and hairless, rolled in bud, becoming flat and pointed, growing to 30cm.

Seed heads: Dense cylindrical spikes growing to 15cm in length.

Seed: Very small, with approximately 3,000,000 seeds per kilogram.

Pasture type and use

Used in cool humid, temperate, high rainfall regions for grazing, primarily by cattle. Because of its high feed quality, timothy is considered an important hay producing species.

Where it grows

Rainfall

Best suited to areas receiving >900mm average annual rainfall with a reliable summer rainfall.

Soils

Timothy is best adapted to damp clay loam soils with high fertility and a pH of between 5.5 to 7.0.

Not tolerant of high soil aluminium levels.

Temperature

Tolerant of cold winter temperatures.

Does not tolerate periods of prolonged high temperatures above 25°C.

Optimum temperatures for growing 18°C - 22°C with night temperatures above 10°C.

Establishment

Companion species

Grasses: Temperate grasses which have comparable seedling vigour such as cocksfoot and tall fescue. Timothy is not compatible with the more aggressive temperate grasses such as perennial ryegrass or pasture brome grasses.

Legumes: With all temperate legumes including red clover, white clover, strawberry clover, Talish clover and birdsfoot trefoil.

Grazing herbs: Chicory and plantain.

Sowing/planting rates as single species

6-8 kg/ha.

Sowing/planting rates in mixtures

1-3 kg/ha.

Sowing time

Autumn, when soil moisture is adequate is more reliable, however, can be sown in spring in areas receiving reliable rainfall.

Inoculation

Not applicable.

Fertiliser

New sowings will require fertiliser to promote early root development and enhance seedling vigour. Major nutrient requirements are phosphorous, nitrogen and sulphur depending on soil fertility.

Soil test results and local knowledge of soil type and fertiliser history should determine rates to be applied.

Management

Maintenance fertiliser

Timothy is highly responsive to fertiliser, which should be applied regularly. If legumes are absent from the pastures apply nitrogen fertiliser. Maintain Olsen soil P level above 25.

Grazing/cutting

Not tolerant of heavy grazing. Grazing management should be lax leaving a residual of 30-50 mm.

New tiller production is dependent on the reserve of carbohydrates stored in corms at the base of tillers, in order to build up these reserves Timothy should be grazed infrequently during late spring/early summer.

Cut for hay or silage just prior to flowering or in the early flower stage.

Hay quality decreases rapidly after flowering.

Seed production

Commercial seed crops yield about 250 kg/ha in New Zealand.

Ability to spread

Will regenerate from seed, but is unlikely to survive the competition from established plants due to poor seedling vigour.

Weed potential

Low weed potential.

Major pests

Susceptible to Argentine stem weevil, pasture scarab larvae (cockchafer grubs, white curl grubs), Oncomera (corbie grubs), field crickets, slugs and snails.

Other insects such as blue oat mites and redlegged earth mites should be monitored.

Major diseases

May suffer from stem and stripe rusts.

Herbicide susceptibility

Susceptible to grass selective herbicides.
Herbicides are available for selective broadleaf weed control.

Animal production

Feeding value

Timothy has a reputation as high quality forage with feed values similar to perennial ryegrass.

Palatability

Highly palatable grass.

Production potential

Little data available under Australian conditions. In trials conducted on the Northern Tablelands of NSW between 1958 and 1961 timothy out yielded phalaris and Italian ryegrass, but produced less than tall fescue, cocksfoot and perennial ryegrass.
Annual production yields of around 5 t/DM/ha have been measured from a pure sward in European trials.

Livestock disorders/toxicity

No problems have been reported for stock eating Timothy.

Cultivars

Cultivar	Seed source/Information
Grasslands Kahu	Agriseeds New Zealand
Grasslands Charlton	University of Melbourne - pasture species database Agriseeds New Zealand
Ceres Viking	PGG Seeds

Further information

NSW Department of Primary Industries - Timothy Agnote 404

University of Melbourne - pasture species database

Acknowledgements

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Author and date

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