



GTL 60 Lucerne Winter Active

Medicago sativa

The new Grazing Tolerant Lucerne GTL 60 was selected and bred by Pasture Genetics Pty Ltd. Parent germplasm was selected for a broad and low set crown, high forage values, high ruminant palatability with high disease and pest resistance ratings. The parent germplasm was tested under an arduous series of strict grazing protocols over a number of years. This enabled tolerant parent plants to prove their integrity and expression of true grazing tolerant characteristics, to meet the criteria of the grazing tolerant Lucerne GTL trial protocol. The final stage of testing was a 3 year grazing trial where it was grazed on a 3 week set rotation. This continuous stress load put immense pressure on all the candidate lines and was very quick to expose lines with minimal tolerance. The 3 year time frame was set up to simulate traditional Australian practices where the expectation on plant survivability was more than 3 years and beyond.

Bred in Australia, GTL is ideal for extensive graze farming where rotations cannot be as rigorously implemented as in more intensive rotation systems. GTL 60 is the first grazing tolerant to be released in the Australian market, having originated from such a strict and lengthy selection and trialling criteria system to specifically prove grazing tolerance in Lucerne.

GTL 60 is ideally suited as a dual-purpose variety for grazing and hay operations where


persistence is more important than winter growth. GTL 60 offers growers a forage plant that is capable of offering high feed quality in bale or grazing situations. Maintaining a critical trait to retain leaf through the drying and bailing process offers greater flexibility to hay producers. Quick recovery after defoliation gives GTL 60 the ability to store plant energy into the crown to give it outright longevity. High levels of resistance to major pests and diseases, and good adaptability to a wide range of soil types helps ensure stronger stands for longer. GTL 60 sets the new Australian benchmark for grazing tolerant Lucerne in Australia with the home bred advantage.

Seed agronomy table

Winter Activity	6
Min Rainfall (mm)	250
Seeding Rate	Kg/Ha
Dryland	4-8
High Rainfall / Irrigation	10-20

Enterprises this seed is being used for

Sheep
 Beef Cattle
 Dairy Cattle
 Horse
 Hay & Silage



Goldstrike® the premium seed treatment that assists with establishment vigour and plant development.



Establishment Guarantee® replacement of your crop if it fails to establish satisfactorily in the first thirty days.*

VARIETY	Winter Activity	Spotted Alfalfa Aphid	Blue Green Aphid	Pea Aphid	Phytophthora Root Rot	Anthrax-Nose	Bacterial Wilt	Fusarium Wilt	Stem Nematode	Root Knot Nematode
GTL*60	6	HR	HR	ND	HR	HR	HR	ND	R	ND

HR = High Resistance, R = Resistance, MR = Moderate Resistance, LR = Low Resistance, S = Susceptible, ND = No Data.

Strengths

- Perennial, year round production.
- Deep rooting, extracts water and nutrients from depth, restricts water table recharge.
- Moderate tolerance of soil salinity and sodicity.
- Responds quickly to spring and summer rainfall (or irrigation).
- Dual purpose (grazing and hay).
- Highly productive.
- High nutritive value.

Limitations

- Short-term persistence in some regions (mainly due to disease susceptibility).
- Susceptible to waterlogging.
- Needs rotational grazing.
- Can cause bloat in cattle.

Plant Description

Plant: Deep rooted, upright, perennial legume.

Stems: Erect from 40 - 80 cm high at 10% flower.

Leaves: Comprise three smooth, slightly toothed, oval, wedge shaped to pointed leaflets, sometimes with white crescent shaped markings. Leaf veins strong, straight with little branching. Broadly triangular stipules with one or more small teeth occur at the point of leaf attachment to the stem.

Flowers: Pea flowers, mostly purple in colour, and about 8 mm across, borne in clusters up to 4 cm long at the tops of branches.

Pods: 4 - 5 coils in a spiral, spineless with a hard outer surface; produced in clusters; 1 - 5 seeds/pod.

Seeds: Small, green to yellow to light brown in colour; kidney shaped; 440,000 - 500,000 seeds/kg.

Pasture type and use

Medium term perennial (3 - 5 years); year-round production, predominantly in the spring/summer but with varying levels of winter production (winter activity). Used for conservation, particularly hay production; as a 'ley' legume in cropping rotations (often called a 'phase' legume in such systems in southern and Western Australia); and as a medium-term legume in long term grass pastures in the subtropics.

Where it grows

Rainfall: In rain grown stands, 500 - 1200 mm/annually (subtropics); 250 - 800 mm/annually

(southern and Western Australia).

Soils: Lucerne requires deep, well-drained soils (sands to moderately heavy clays) with a slightly acid to alkaline pH. It is intolerant of high levels of exchangeable aluminium and even short periods of waterlogging.

Temperature: Optimum temperatures for dry matter production range from 15 - 25_C in the day and 10 - 20_C during the night. However, this will vary with the winter activity level of the cultivar.

Establishment

Companion species: Lucerne is often sown as a pure sward. It is very competitive but if sown at a low rate it will grow with species such as earlyflowering sub clover/annual medics, phalaris and Mediterranean types of tall fescue to boost winter production. It can be grown with chicory and a range of tropical grasses.

Sowing/planting rates as single species: 2 - 12 kg/ha for dryland hay or grazing, depending on annual rainfall. 8 - 20 kg/ha for irrigated hay production. Sow into a finely worked, moist, weed-free seedbed at 1-2 cm; cover with light harrows/weldmesh. On light soils rolling is desirable to improve seedmoisture contact. Direct-drilling can work but failures occur and caution is warranted. Ensure seed is Gold Strike treated

Sowing/planting rates in mixtures: 0.25 - 1.0 kg/ha in a grass pasture, depending on the makeup of the legume component of the stand. Ensure seed is Gold Strike treated.

Sowing time: Early autumn to early winter; late April is ideal. In southern Australia districts with an 8 month or more growing season, lucerne is best sown between late August & October, ideally on a winter fallow. Late Spring sowings are dictated by wet

years.**Inoculation:** Treated. The use of XLR8 seed treatment is recommended to reduce damage from insects at seedling stages.

Fertiliser: On marginal fertility soils, responses to magnesium, manganese, zinc, molybdenum, boron and copper can occur. Establishment on acid soils is often made possible following the spreading/incorporating 1-5 t lime/ha. Aluminium toxicity can occur on soils with pH of lower than 5.5 (water) or 4.7 (calcium chloride). Based on soil test, potassium (K), phosphorus (P) and sulphur (S) levels need to be maintained at the following levels: K: 0.3 m. equiv/100g; P: 25 mg/kg; S: 10 mg/kg.

Management

Maintenance fertiliser: Maintenance fertiliser needs to be applied regularly in irrigated lucerne where large quantities of nutrient are removed in hay. Based on soil test, potassium, phosphorus and sulphur levels need to be maintained at the levels indicated above.

Grazing/cutting: Timing of grazing or cutting should be matched to the build up of carbohydrate reserves in the plant's roots. Levels in the roots are lowest about 2 weeks after grazing or cutting and reach their maximum at full bloom, somewhere between 4 - 8 weeks after the previous defoliation (dependent on time of year and winter activity level of the

cultivar used). Cutting for hay is best done at 10% flower or when the basal shoots are 3 - 5 cm in length. It should be rotationally grazed for long term persistence, whether grown as a pure stand or in mixed swards. It should be grazed off in 1-2 weeks followed by spelling for 4-8 weeks, depending on time of year and winter activity level of the cultivar used.

Ability to spread: Low. Lucerne is usually cut or grazed before seed matures. If lucerne seed is dropped or spread by livestock, it rarely establishes effectively owing to soil and soil water constraints. In lucerne producing environments, it may be found on road verges but not in adjacent paddocks subject to grazing.

Weed potential: Low, in keeping with its inability to spread.

Major pests: Red legged earth mite, spotted alfalfa aphid, blue green aphid, pea aphid, lucerne flea, jassids or leafhopper, vegetable jassid, white fringed weevil, sitona weevil, small lucerne weevil, lucerne crown borers, lucerne leaf roller, weed web moth or cotton webspinner, cutworms, wingless grasshoppers, thrips, lucerne seed web moth, native budworm, lucerne seed wasp, mirids, mites, snails.

Major diseases: Seedling disease: Damping off.

Leaf and stem diseases: alfalfa mosaic virus, lucerne yellows, bacterial leaf and stem spot, witches broom, common leaf spot, Stemphylium leaf spot, Leptosphaerulina leaf spot or pepper spot, rust, downy mildew, Cercospora leaf spot, Phoma black stem, powdery mildew.

Root and crown diseases: Phytophthora root rot, Colletotrichum crown rot, Rhizoctonia canker (most significant,) violet root rot, Acrocalymma crown and root rot, Stagonospora crown and root rot, Fusarium wilt, bacterial wilt, Sclerotium blight and Sclerotinia rot.

Herbicide susceptibility: Herbicides can be used to take out grasses or broadleaved weeds selectively, or can be used pre-planting or post-planting to tackle weeds at different stages of crop development. Mature lucerne is difficult to remove with herbicide. Follow agronomist recommendations and check labels for the herbicides that are registered for use in lucerne or to remove lucerne.

Animal production

Feeding value: Lucerne is highly digestible (60 - 75 %), is a good source of crude protein (15 - 25 %), and has high levels of metabolisable (8 - 11 MJ/ kg DM).

Palatability: Very palatable.

Production potential: Daily live weight gains for beef cattle range between 0.7 kg/head/day from stemmy lucerne to 1.5 kg/head/day from young, leafy regrowth. Live weight gains of 300 - 400 g/head/day are achievable with lambs.

Livestock disorders/toxicity: There are few problems. To avoid cattle bloat, nitrate poisoning and red gut, do not graze immature/lush lucerne, especially with hungry stock (pre-feed with dry roughage).

	PRE-SOWING	POST EMERGENT, SEEDLING & ESTABLISHED LUCERNE							
Herbicide	Trifluralin	Fusilade*, Verdict*	Select*	Broadstrike™	Spinnaker*	Raptor*	Bromoxynil	Jaguar*	2,4D-B Trifolamine
GROUP	D	A (Fop's)	A (Dims)	B	B	B	C	C & F	I

GRASS WEEDS

Ryegrass						Suppression			
Barley Grass									
Brome Grass									
Wild Oats									
Silver Grass						Suppression			

BROADLEAF WEEDS

Capeweed									
Wild Radish				Suppression		Suppression			
Wireweed				Suppression		Suppression			
Wild Mustard									
Wild Turnip									
Doublegee				Suppression		Suppression			
CROP STAGE	PS	1+ Leaf	1+ Leaf	2+ Leaf	1+ Leaf	2+ Leaf	1+ Leaf	3+ Leaf	2-6 Leaf
WEED STAGE	PE			2-6 Leaf	PE-3 Leaf		PE-3 Leaf		

ESTABLISHED LUCERNE ONLY

Herbicide	Broadstrike™	Diuron - Diurex*	Simazine - Gesatop*	Spray.Seed*	Paraquat - Gramoxone*
GROUP	B	C	C	L	L

GRASS WEEDS

Ryegrass					
Barley Grass					
Brome Grass					
Wild Oats					
Silver Grass					

BROADLEAF WEEDS

Capeweed					
Wild Radish	Suppression				
Wireweed	Suppression				
Wild Mustard					
Wild Turnip					
Doublegee	Suppression				
CROP STAGE	At Least One Year Old				

Broadstrike™ herbicide will control Capeweed, Wild radish, Wireweed and Doublegee/Spiny emex when used in conjunction with a mixing partner.
 □ = control of named weeds; Leaf = true leaf; PS = pre-sowing; PE = pre-emergent A: Aryloxyphenoxy propionates, Cyclohexanediones B: Imidazolinones C: Nitrates, Urea, Triazines D: Dinitroanilines, Benzoic acids, Pyridines F: Nicotinanalides L: Bipyrldies. Herbicides for weed control in lucerne as indicated by shading.
 Before using any herbicide consult your agronomist and the product label regarding safe and effective use



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