



LUCERNE

AURORA - DORMANCY 6



OVERVIEW

AURORA is a dormancy 6 Lucerne variety, bred by the New South Wales Department of Agriculture. It is a general purpose variety which is suited to grazing and haymaking. It has very good pest and disease ratings and is suitable for both dryland and irrigated with good persistence.

AURORA shows very good resistance to the major aphid and nematode pests but only low resistance to Anthracnose Crown Rot (*Colletotrichum crown trifolii*), Bacterial Wilt (*Clavibacter michiganense*) and Fusarium Wilt (*Fusarium oxysporum*)

- Dormancy rating 6
- Good pest resistance
- Light grazing / hay / silage
- February - April
- Minimum rainfall 35mm

DROUGHT TOLERANCE	MEDIUM
PROTEIN CONTENT	HIGH
DISEASE RESISTANCE	MEDIUM
PRODUCTIVITY	HIGH
USAGE	HAY / GRAZING
SOWING PERIOD	Feb - April
SEEDING RATE	4 - 8 kg/ha dryland
SEEDING RATE	20 - 25 kg/ha irrigated



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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% lower.

Leaves: Comprise three smooth, slightly toothed, oval, wedge shaped to pointed leaflets, sometime 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 and as a medium-term legume in long term grass pastures in the subtropics. Additional uses, hay and silage for sheep, cattle and horses.



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WHERE IT GROWS

Rainfall

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

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 early-flowering 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 seed-moisture 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.

Lucerne is best sown between late August & October, ideally on a winter fallow. Late Spring sowings are dictated by wet years.

Inoculation: Treatment with specific inoculants is recommended.

Fertiliser: Consult your fertiliser representative.



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We're serious about seed.



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MANAGEMENT

Maintenance fertiliser: Maintenance fertiliser needs to be applied regularly in irrigated lucerne where large quantities of nutrients 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 week - 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 earthmite, spotted alfalfa aphid, bluegreen aphid, pea aphid, lucerne flea, jassids or leafhopper, vegetable jassid, whitefringed weevil, sitona weevil, small lucerne weevil, lucerne crownborers, lucerne leafroller, 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 (sometimes called common 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.



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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).

