



## L92 Alfalfa Highly Winter Active

### *Medicago sativa*

Dormancy 9 - L92 is set to become the leading winter active variety for the dual \_ purpose hay and grazing markets, where winter production is required. Developed in partnership with the NSW DPI Lucerne Breeding Program, L92 is a variety that exceeds the performance characteristics of its predecessor Pegasus by 3% and Sequel by 5% on average in dryland and irrigated conditions. The key undersowing market that requires quick establishment, fast recovery after grazing and high dry matter with long term nitrogen inputs is where L92 will excel. L92 has the ability to produce high quality forage in the winter period to meet the traditional graziers feed gap. L92 showcases high levels of pest and disease resistance and selection for hardiness that exceeds all other players in this segment. The selection for Triple race Anthracnose resistance allows L92 to be utilised in Irrigated enterprises that are looking for long term high quality hay. The ability for L92 to kick into hay production early in spring allows for hay producers to deliver first cut hay to their customers.

- Highest Forage yield in the highly winter active group
- Excellent seedling vigour to aid in quick establishment
- High Resistance to Multiple Pest and Diseases (MPR)
- Increased persistence for a highly winter active Lucerne

## Seed agronomy table

|                            |       |
|----------------------------|-------|
| Winter Activity            | 9     |
| 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  
Horse  
Hay & Silage

## 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).

## International Contact

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