

Australis

AUSTRALIAN PHALARIS *Phalaris aquatica*



Seeding Rate	kg/ha
Dryland	3 - 5
High Rainfall/Irrigation	6 - 8

Seed Treatment	None/XLR8™ optional
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Description
An improved variety selected from Australian phalaris for persistence and productivity

Market Segment/Target
Beef, sheep and long-term pasture

Features
Very persistent
Drought tolerant
Summer active type

Benefits
Reliable persistence
Drought tolerance
Summer growth

Range	
Low Bloat™	N
Super N Fixer™	N
XtraLeaf®	N

SEED AGRONOMY TABLE

Maturity	N
Hard Seed Level (description)	N
Waterlogging Tolerance	N

ESTABLISHMENT GUARANTEE™

At S&W Seed Company Australia we're so confident about our seed genetics and seed quality, we will replace seed at half the original purchase price if it fails to establish satisfactorily in the first thirty days*

STRENGTHS

Excellent drought survival ability
High cool season
Productivity of good quality
Responsive to increased soil fertility
Tolerates heavy grazing once established (particularly semiwinter dormant cultivars)
Grows well on a wide range of soil types
Tolerates waterlogging and moderate salinity
Few pests and diseases
Deep root system helps dry soil profile and reduces rate of soil acidification

LIMITATIONS

Relatively slow to establish, similar to cocksfoot and tall fescue; winter-active cultivars have higher seedling vigour than semi-winter dormant cultivars
Low production in the establishment year
Seedlings are sensitive to competition from annual grasses
More sensitive to soil acidity than alternative species such as cocksfoot
Not suitable for low fertility soils
Potential to cause phalaris poisoning
Requires good management to enhance survival in marginal drier/hotter areas (e.g. North West Slopes of NSW)

PASTURE TYPE AND USE

Used widely in the inland high rainfall zone and adjacent higher-rainfall cropping areas of southern Australia for all types of grazing stock, but mainly sheep and beef cattle. Suitable also for hay and silage.

WHERE IT GROWS

Rainfall: Minimum average annual rainfall 400 millimetres in South Australia, 400 to 450 millimetres in Victoria, 500 to 550 millimetres in southern NSW and 650 millimetres on the North West Slopes of NSW.

Soils: Grows best on deep, fertile, heavier textured soils, but adapted to a wide range of soil types from moderately shallow, sedimentary derived soils to deep clay soils. Generally survives well if there is clay subsoil and adequate fertility. Moderately sensitive to acid soils below pH 4.5 (CaCl2) but many good phalaris stands grow on soils with surface pH below 4.5. Cultivars have been bred for improved acid soil tolerance. Lime application improves establishment on strongly acid soils. Poorly suited to soils where strong acidity extends deep into the subsoil. Tolerant of elevated Mn. Tolerates waterlogging and moderate salinity.

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Temperature: Grows best in the temperature range 15 to 25°C. Survives severe frosts well. Well adapted to Tablelands and upper Slopes in NSW and similar temperature zones in other states. Survives high summer temperatures in the dormant state but struggles when making new vegetative growth in summer rainfall areas where mean daily maximum temperatures exceed 30°C. Susceptible to damage from summer grazing in hotter northern NSW Slopes areas.

PLANT DESCRIPTION

Plant: Tufted, robust, deep-rooted temperate perennial grass, growing 1 to 2 metres tall at maturity, and spreading by short underground stems (rhizomes). Main growth period autumn-winter-spring. Usually dormant in summer but can respond to summer rainfall particularly in cooler districts. Semi-winter dormant cultivars are slower growing in winter and less erect than winter-active cultivars.

Stems: Flowering stems are hollow and erect, with a waxy coating giving the plant a blue-green appearance. They may be over 1 centimetre diameter at the base at maturity.

Leaves: Hairless, to 40 centimetres long and almost 2 centimetres wide, arising mainly from the base but also from higher nodes as the flowering stems elongate; the leaf sheaths often reddish in colour. Winter-active cultivars have larger leaves than semi-winter dormant cultivars.

Seeds: Cream to pale brown, smooth and shiny, flat, about 3 millimetres long. 880,000 seeds per kilogram.

ESTABLISHMENT

Grasses and/or Cereal: Other slow-establishing grasses such as cocksfoot and tall fescue. Sowing with perennial ryegrass is not recommended.

Legumes: Clover (subterranean, white), greater lotus, lucerne in appropriate regions.

Sowing/Planting rates in mixtures: 1 to 3 kilograms per hectare. Sowing time: Can be sown in autumn (all areas) or late winter/ early spring (Victoria, South Australia, Tasmania, Tablelands of NSW).

Sowing/Planting rates as single species: 2 to 4 kilograms per hectare, normally 3 kilograms per hectare.

Inoculation: If soil is low in phosphorus (P), apply P fertiliser at sowing and maintain regular applications in later years. Use molybdenum (Mo) for clover component where recommended. Apply sulphur (S) in deficient soils. Starter-type fertiliser can be used where nitrogen (N) levels are low.

MANAGEMENT

Maintenance fertiliser: A productive pasture requires good levels of P, N, S and K. Build up soil P to maintain a vigorous clover component since productivity will decline if clover disappears. Maintain S and K in deficient soils. N fertiliser can be effective in the absence of a companion legume or to boost seasonal production if required.

Grazing/Cutting: Phalaris is sensitive to grazing/cutting in the year of sowing. Autumn sown stands can often be grazed briefly during spring in higher rainfall areas, otherwise do not graze until after seed fall. Rotational grazing is recommended for production and persistence, particularly for winter-active cultivars. Semi-winter - dormant cultivars are highly grazing tolerant and withstand long periods of set stocking. Spelling during autumn-winter can be used to strengthen phalaris stands. Graze heavily enough in spring to maintain nutritive quality. Spelling to allow reproductive growth in spring-early summer can help strengthen stands if needed. In higher rainfall areas, maintain pastures in range 1500 to 3000 kilograms DM per hectare. In drier districts, adjust grazing to allow at least some heading for persistence. Reducing stocking rate or destocking for 4 to 6 weeks in early stem elongation and after autumn break promotes persistence on North West Slopes of NSW. Apply moderate grazing pressure during summer to remove dry residues by the end of March to promote clover regrowth. In warmer summer rainfall areas, delay removal of stem residues until late summer to inhibit summer growth, protect any new growth that does occur and reduce soil erosion around crowns.

Ability to Spread: Spread by seed is not rapid due to low levels of seedling recruitment. However, some spread from seed occurs in ungrazed areas where soil conditions are suitable. Semi-winter dormant cultivars have higher vegetative spread under grazing than winter-active cultivars. Allowing reproductive development increases the number and size of buds at the base and hence shoot numbers in the following season.

Weed Potential: Some weed potential principally along roadsides and in drainage lines where moisture and deeper soil create suitable conditions and grazing is infrequent or absent. Weed potential derives mainly from the tall growth that smothers other plants. Weed threat unlikely in low fertility soils.

Major Pests: Mature stands are generally unaffected by pests. Seedlings are susceptible to damage from red-legged earth mite, blue oat mite, aphids, field crickets, white curl grubs (scarab grubs) and slugs and snails. Seed-harvesting ants can be a problem in removing surface-sown seed.

Major Diseases: There are no diseases of major importance to phalaris production in Australia. Stem rust is reasonably common in wet, mild seasons but the plants generally grow out of the infection with no long term consequences for survival. Grazing will remove the infected leaves and encourage new growth.

Herbicide Susceptibility: Sensitive to glyphosate and grass specific herbicides but large plants may require higher rates to be killed.

ANIMAL PRODUCTION

Feeding value: Phalaris is a high quality grass often considered intermediate between ryegrass and tall fescue in this regard. During vegetative growth, digestibility is typically in the range of 75 to 80 percent and metabolisable energy around 11 to 12 megajoules to kilograms DM. Nutritive value declines as the flowering stems develop and mature.

Palatability: Vegetative growth is highly palatable but palatability declines as flowering stems mature and dry off during summer.

Production Potential: Production potential is high provided soil fertility is adequate. Peak spring growth rates typically 50 to 80 kilograms per hectare per day of dry matter. Winter growth rates are typically 10 kilograms per hectare per day in cooler areas e.g. NSW Tablelands), varying from 5 to 20 kilograms per hectare per day depending on locality and cultivar. Phalaris-clover pastures good for live weight gain and fattening. Under good conditions, dryland mixed pastures based on phalaris can carry an average of 1 to 2.5 steers per hectare (300 kg live weight or 10 to 15 DSE per hectare) during April to November and produce live weight gains of 0.9 to 1.2 kilograms per head per day.

Livestock Disorders/Toxicity: Phalaris can cause toxicity in sheep and sometimes cattle due to the presence of alkaloids although problems are rare. There are two main conditions: Phalaris "staggers" can occur any time when green phalaris is predominant in the diet, classically a few weeks after the break of season. Stock that show staggers symptoms usually recover when removed from the pasture but may not recover where exposure is prolonged. The risk is highest in cobalt deficient soils or where conditions lead to low cobalt availability and is preventable with cobalt supplementation. "Sudden death" can result in losses within two days of introducing stock to a phalaris pasture. Losses typically have occurred on new shoots of phalaris after moderate rains in an otherwise dry period. The new growth is moisture stressed and may be affected by frost. Most at risk are stock which are very hungry and unaccustomed to green phalaris and which have been deprived of feed because of transport or shearing. This problem is more prevalent in rotational grazing systems. Potential for sudden death disappears after about 2 days on pasture.



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