Department of Primary Industries

primefact

Phalaris

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Pastures Unit

Description

Phalaris (*Phalaris aquatica*) is a temperate, or cool season, perennial grass which grows mainly in late autumn, winter and spring. With appropriate management, it is very persistent.

A mature phalaris plant

Phalaris leaves emerge rolled from the tiller base

Required rainfall

Minimum annual rainfall: 450 mm in Southern NSW and 700 mm in Northern NSW

Area of adaptation

Northern, Central and Southern Tablelands; Central, Southern and Northern Slopes; Eastern Riverina; Hunter; irrigated areas and some coastal use

Advantages

- Very persistent and drought-tolerant
- Once established, competitive and capable of aiding in the control of many serious weeds
- Vigorous sward habit reduces erosion
- Some varieties tolerate prolonged, heavy grazing
- Good tolerance to insects
- Tolerates flooding and moderately saline soils.

Disadvantages

- Tends to be dormant or partially dormant during summer
- Is not productive when soil fertility is low
- Potential to cause phalaris poisoning, including staggers.

Soil requirements

Best suited to moderate to high fertility soils. Tolerates wet conditions and moderately saline soils. Is well suited to strongly acid soils, but best results in these soils are achieved when sown following liming and with the selection of varieties more tolerant of acidity.

Select varieties on the basis of:

Plant habit: Prostrate types are more competitive with weeds, and when well-established tend to be more persistent. However, they tend to be less productive in winter compared to erect types. Erect types require more careful grazing management, particularly in spring, to ensure persistence.

Need for summer dormancy: In drier areas where summer rainfall is infrequent and erratic, such as the northern slopes and western areas of NSW, summer dormancy is a defence mechanism that may enhance persistence. In these areas, select cultivars with summer dormancy.

Seedling vigour: Reducing competition from broadleaf weeds and annual grasses is vital in the establishment phase as phalaris seedlings are not very vigorous. This is particularly important in low rainfall, marginal areas. Erect varieties have greater seedling vigour than prostrate types.

Phalaris poisoning potential: While all varieties can potentially cause poisoning, some have been selected to reduce the risk of phalaris staggers. In areas with a known problem, selection of varieties on the basis of this characteristic may assist.

Acid soil tolerance: Some varieties have been developed for improved tolerance of acidic soil conditions. In marginal situations, the use of these varieties, particularly following lime application, may improve establishment and long term productivity and persistence.

Performance: Seek local trial results (if available) for seasonal yields and persistence.

Grazing tolerance: Some phalaris varieties are renowned for their grazing tolerance. These varieties are preferred in pastures that are set stocked, or where there is a lax grazing rotation in place.

Adaptation: The majority of phalaris lines were developed for permanent pastures in the Tablelands but some varieties have been bred for lower rainfall environments.

Varieties

Prostrate, semi winter-dormant, low summer dormancy:

- Australian
- Uneta
- Grazier
- Australis®
- Australian II*
- Fosterville

Semi-erect to erect, winter-active, low summer dormancy:

- Sirosa
- Sirolan- suits lower rainfall areas
- Holdfast
- Holdfast GT* - improved persistence under heavy grazing pressure
- Landmaster - improved tolerance of acid and lower fertility soils
- Advanced AT* - improved acid soil tolerance

- Lawson
- Stockman
- Confederate
- Amplify*
- SF Maté

Erect, winter-active, medium to high summer dormancy:

- Atlas PG * - suits lower rainfall areas

(* These varieties are protected by Plant Breeders' Rights (PBR))

Sowing rates

2-4 kg/ha alone, 1-3 kg/ha in mixtures

Sowing times

Autumn/early winter (March to June). In higher altitude, high rainfall tableland districts, spring sowings (August to September) are often successful and may be preferable.

Companion species

Legumes (white, red and subterranean clovers, lucerne, lotus), herbs (chicory, plantain) and other temperate grasses (tall fescue, cocksfoot, perennial ryegrass)

Pests

Established pastures are usually highly tolerant of most pests although young pastures are sometimes damaged by blue oat mite, red-legged earth mite, field crickets, pasture scarabs, slugs and snails.

Disease

Disease rarely causes problems in established phalaris. Stem rust can occur in moist springs. This reduces feed value but does not kill the plant.

Management

Phalaris is renowned for persisting under poor grazing management but the presence of a legume and good grazing management will result in better production and persistence.

Summer: Towards the end of summer, if soil erosion is not likely to be a problem, aim for 10–15% of bare ground, to assist the establishment of annual legumes. Phalaris herbage and leaf litter can adversely affect the establishment of sub clover.

Autumn: Rest to establish regrowth of at least 1000 kg DM/ha and apply moderate grazing pressure once clover is established. Avoid grazing below 700 kg DM/ha.

Winter: Grazing management in winter is not critical, particularly for the semi winter-dormant varieties. Rotational grazing is recommended for the more erect winter-active cultivars and will strengthen stands of all varieties - but at a cost of lower clover content.

Spring: Avoid repeated or continuous heavy grazing or cutting once the first node can be felt at the base of the stems until seed head emergence. Avoid grazing below 1200 kg DM/ha to assist summer survival. On the South-West, Central-West and North-Western Slopes exclude stock or reduce stocking rate for 4-6 weeks once stem elongation commences as this will improve summer survival.

Livestock disorders

All varieties can cause phalaris poisoning. Phalaris staggers is sometimes a problem, particularly when rapid regrowth occurs after a cold or dry spell, but can be avoided by not grazing affected stands at that time or by dosing stock with cobalt. Occasionally, phalaris sudden death syndrome can occur.

Additional tips

Establishment problems are often encountered and these are frequently associated with slow early growth. Control of weed competition, correct sowing depth, sowing time and soil nutrition are particularly important.

More information

For more information contact Local Land Services, seed suppliers or your preferred agricultural advisor. Relevant publications by NSW DPI include Agfact P2.5.1 *Phalaris pastures*.

For updates go to www.dpi.nsw.gov.au/agriculture

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Photo: Clare Edwards, formerly NSW DPI, Armidale

Warning

Pasture improvement cautions

Pasture improvement may be associated with an increase in the incidence of certain livestock health disorders. Livestock and production losses from some disorders are possible. Management may need to be modified to minimise risk. Consult your veterinarian or adviser when planning pasture improvement.

The *Native Vegetation Act 2003* restricts some pasture improvement practices where existing pasture contains native species. Inquire through the NSW Office of Environment and Heritage for further details.

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