

Cocksfoot

Scientific name(s)

Dactylis glomerata; *Dactylis glomerata* ssp. *hispanica*

Strengths

- Tolerant of acid soils.
- Persistent under low soil fertility but responds well to fertiliser.
- Free from any substances known to be toxic to stock.
- Contains no anti nutritional compounds.
- Continental type cultivars are highly summer-active.
- Mediterranean type cultivars have a high level of drought tolerance.
- Once established, cocksfoot is tolerant of most pests and diseases.
- Highly competitive and persistent once established.

Limitations

- Not well adapted to poorly drained or saline soils.
- Some cultivars are susceptible to leaf rust.
- Can be slow to establish.
- Well-established plants, particularly of the Continental type can be difficult to remove prior to cropping.
- Becomes bulky and rank under lax grazing.

Plant description

Plant: Perennial, tufted grass, which under moist conditions develops distinct clumps with seed heads up to 130 cm tall. When grown under dryland conditions plants are much smaller. There are two main types:

- broad leaved (Continental), suited to higher rainfall, growing mainly in spring/summer /autumn
- finer leaved (Mediterranean), summer dormant suited to drier climates, growing mainly in autumn/winter/spring.
- intermediate types

Leaves: greyish to bluish green in colour and hairless. The emerging leaf blade is strongly folded and the stem is flat. Leaves are 10 to 80 cm long.

Seedhead: dense and spike-like in appearance when it first emerges, but with maturity, it becomes open and branched.

Seeds: very small, with 95,000 to 1,300,000 seeds/kg.

Pasture type and use

A valuable forage plant used extensively in long term perennial pastures for medium to high rainfall sheep and beef production. Some Continental type cultivars have been developed for dairy production. Cocksfoot is also useful for hay production.

Where it grows

Rainfall

Some Mediterranean type cultivars have the ability to establish and persist in cooler areas that receive as little as 250 mm of annual rainfall. Intermediate type cultivars are recommended for the 425 to 700 mm rainfall zones. Continental type cultivars are recommended for areas

receiving greater than 650mm rainfall.

Soils

Cocksfoot will establish on poor soils, but requires well-drained fertile soils to grow to its full potential. It performs well on shallow or deep soils, with textures ranging from clay to gravelly loams and sands, but is not well adapted to saline soils. It is adapted to acid soils, but performs best in soils with a pH (water) range of 5.5 to 7.5. It is more tolerant of high soil aluminium levels than phalaris.

Temperature

Most cultivars available in Australia are tolerant of hot summers and cool winters. Strongly summer-dormant Mediterranean types are able to tolerate longer hotter and drier summers than are Continental types.

Establishment

Companion species

Grasses: phalaris, tall fescue, perennial ryegrass.

Legumes: subterranean, red and white clovers, lucerne.

Sowing/planting rates as single species

2 - 6 kg/ha.

Sowing/planting rates in mixtures

1 - 3 kg/ha.

Sowing time

Autumn is more reliable, however can be sown in spring in areas with longer growing seasons.

Inoculation

Not applicable

Fertiliser

New sowings will require fertiliser to promote early root development and enhance seedling vigour. Major nutrient requirements are phosphorous, nitrogen and sulphur depending on soil fertility. Soil test results and local knowledge of soil type and fertiliser history should determine rates to be applied at sowing.

Management

Maintenance fertiliser

Adequate levels of phosphorous, nitrogen and sulphur should be maintained for optimum growth.

Grazing/cutting

When grazing in the first year, it is best to leave at least 1200kg dry matter per hectare (about 5cm in height), to allow the plants to recover faster and aid strong establishment. Once the stand is established, grazing should be managed to maintain legume presence. Cocksfoot can compete aggressively with clover species particularly annuals, especially under lax grazing. If a pasture has become too cocksfoot-dominant, heavy grazing or cutting at the stem elongation phase of growth prevents seed set. This should be followed by grazing in late summer to remove litter, allowing greater opportunity for other companion species, particularly annual legumes, to germinate and establish. While sufficient grazing pressure is needed to utilise growth and maintain nutritive value, avoid overgrazing tillers going into summer if seed-set is required. Also, allow plants to restore energy levels after the autumn break through lenient grazing. Summer growing cultivars should not be allowed to become tall and rank approaching autumn.

Seed production

Seed yields of 250 and 300 kg/ha are achieved in specialist seed production paddocks.

Ability to spread

Cocksfoot will spread slowly through seedling recruitment.

Weed potential

While the weed potential is low, it does have some potential to invade disturbed native vegetation.

Major pests

Pasture scarab larvae (cockchafer grubs, white curl grubs), Oncoopera (corbie grubs)

Major diseases

Occasional leaf rust may occur in humid conditions in late summer.

Herbicide susceptibility

Susceptible to most grass selective herbicides.

Animal production

Feeding value

Cocksfoot herbage has marginally lower digestibility and crude protein than that of tall fescue, phalaris and perennial ryegrass. Some Mediterranean cultivars have higher levels of protein than Continental cultivars. However, feeding value of cocksfoot is largely a reflection of management rather than the inherent quality of the grass, and emphasises the need to manage cocksfoot to avoid the stand becoming bulky and rank.

Palatability

Grazing management is important in maintaining palatability. Cocksfoot is highly palatable up to the four leaf stage.

Production potential

Under optimum growing conditions cocksfoot peaks at 70-80 kg dry matter/ha/day in spring and autumn, dropping to 5-15 kg dry matter/ha/day in winter.

Livestock disorders/toxicity

No problems have been reported for stock eating cocksfoot.

Cultivars

Group	Cultivar	Seed source/Information
Mediterranean types (highly summer dormant)	Kasbah	Australian Herbage Plant Cultivars
	Sendace 	TasGlobal Seeds
	Uplands 	TasGlobal Seeds
Mediterranean types (moderately summer dormant)	Currie	Australian Herbage Plant Cultivars Seedmark/PlantTech
	Gobur	AusWest Seeds
Intermediate types (summer active)	Porto	Australian Herbage Plant Cultivars
	Oxen	Seed Distributors
	Yarck	VicSeeds
	Howlong	Heritage Seeds
	Cambria	-
	Grasslands Tekapo	Wrightson Seeds

Continental types (summer active)	Grasslands Wana	Cropmark Seeds
	Megatas 	TasGlobal Seeds
	Grasslands Vision 	Cropmark Seeds
	Grasslands Kara 	PGG Seeds
	Ella	-

 Denotes that this variety is protected by Plant Breeder's Rights Australia

Further information

TasGlobal Seeds
Stephen Pasture Seeds
Plant Breeders Rights - Database search
Seedmark -Pasture Grasses
AusWest Seeds - Pasture Guide
Grasslands Society of Victoria

Acknowledgements

Andrea Hurst, Tasmanian Institute of Agricultural Research Stuart Smith, Department of Primary Industries and Water, Tasmania

Belinda Hackney and Brian Dear, New South Wales Department of Primary Industries

Steve Clark, Department of Primary Industries, Victoria University of Melbourne

Grasslands Society of Southern Australia Inc. Australian Herbage Plant Register, CSIRO, 1967

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June 2007