



# Perennial ryegrass

## Scientific name(s)

*Lolium perenne* (Table 1)

*Lolium x boucheanum* Kunth (Table 2) - Refer Hybrid ryegrass fact sheet for details re description etc.

## Strengths

- Easily established, highly productive and nutritious under grazing, moderate winter and summer growth, rapid regrowth from cutting/grazing; regenerate well from self-sown seed if allowed to seed

## Limitations

- Requires moderate to high soil fertility. Does not withstand heavy grazing pressure through drought. Susceptible to cockchafer and cricket damage

## Plant description

**Plant:** Densely tufted, multi-tillered perennial with fibrous root system

**Stems:** 30-90 cm

**Leaves:** fine (~7 mm), dark green, hairless, under surface shiny, blade folded about mid-rib in young shoot, leaf-base usually dark red

**Seedhead:** spike ~20 cm, spikelet usually <10 florets/spikelet; awnless lemma

**Seeds:** fawn, flat, awnless, ~6mm long. Approx. ~520,000/kg (diploid cvv) or ~350,000/kg (tetraploid cvv)

**Tetraploid cvv.:** these have double the number of chromosomes, larger cells, leaves and seed. Compatability with clover maybe enhanced

## Pasture type and use

Grazing and fodder conservation. Most widely sown pasture grass in temperate regions

## Where it grows

### Rainfall

> 650 mm; >500 mm re South coast WA

### Soils

Medium-heavy texture, moderate-high fertility (eg Olsen P >12, 0-10 cm). Tolerates slight salinity

### Temperature

Cold and frost tolerant, growth constrained by high temperature, mild summer desirable

## Establishment

### Companion species

**Grasses:** phalaris, cocksfoot

**Legumes:** white clover and sub clover

**Sowing/planting rates as single species**

7-20 kg/ha

**Sowing/planting rates in mixtures**

3-10 kg/ha

**Sowing time**

Autumn and spring

**Inoculation**

Not applicable.

**Fertiliser**

P & possibly N at sowing

**Management**

**Maintenance fertiliser**

Perennial ryegrass requires fertile soil to persist. ~10 kg P/ha. Monitor S, K, Cu especially. Supply N by clover/fertiliser. Maintain Colwell P ~30 (WA), Olsen P >12

**Grazing/cutting**

Tolerates close, continuous grazing - except if drought-stressed. Graze at 3-leaf stage to optimise yield under rotational grazing. Well suited to hay/silage

**Seed production**

Prolific seeder; commercial yields up to 2 t/ha

**Ability to spread**

Will spread on fertile soil if allowed to seed

**Weed potential**

Widely naturalised on fertile soils in temperate Australia

**Major pests**

Red and black-headed cockchafer, black field cricket, white-fringed weevil, African black beetle, corbies, underground grass caterpillar

**Major diseases**

Crown rust, stem rust, barley yellow dwarf virus, ryegrass mosaic virus

**Herbicide susceptibility**

A wide range of weeds may be encountered. In selecting selective herbicides consider the stage of growth of the ryegrass and what non-target companion species are present. For detailed information consult local weed agronomists or visit NSW DPI - Weed control in Lucerne and Pastures 2007

**Animal production**

**Feeding value**

High nutritive value

**Palatability**

Palatable

**Production potential**










High yields; highly responsive to fertiliser and irrigation

### Livestock disorders/toxicity

Cultivars with wild endophyte can cause perennial ryegrass toxicosis and ill-thrift. Bacterial infection of seedhead can occasionally occur and result in ergot poisoning.

### Cultivars

Table 1 - Perennial ryegrass cultivars

Flowering group <sup>2</sup>	Cultivar	Origin of germplasm	Endophyte options	Seed Source/Information
Very early	Boomer 	NSW	Low <sup>3</sup>	Valley Seeds
	Skippy	NSW	Wild	VicSeeds
Early	Everlast 	NSW	Wild	Seed Distributors
	Fitzroy 	NSW	Wild	Wrightson Seeds
	Meridian 	NZ x NSW	AR1	Heritage Seeds
	Roper 	NSW	Low	Valley Seeds
Early-Mid	Bolton 	Victoria	Wild	VicSeeds
	Drylander	Victoria	Wild	Seed Distributors
	Victorian	Victoria	Wild	Australian Herbage Plant Cultivars VicSeeds
	AusVic 	Victoria	Low	VicSeeds
Mid	Bronsyn 	NZ	AR1	Specialty Seeds
	Camel 	Mediterranean	Low	Valley Seeds
	Ceres Cannon 	NZ	Wild/Low	PGG Seeds
	Ceres Kingston 	NZ	Wild/Low	PGG Seeds
	Extreme	NZ	AR6/AR1/ AR37	AusWest Seeds
	Grasslands Commando	NZ	Wild/AR1/ AR37	PGG Seeds
	Grasslands Lincoln 	NZ x Spanish x Italian	Wild/Low	Wrightson Seeds
	Grasslands Nui	NZ	Wild	Australian Herbage Plant Cultivars Specialty Seeds
	LM9928C		Low	Valley Seeds
	Prolong 	NZ x NSW	Low	Valley Seeds
Mid - Late	Rich			Specialty Seeds
	Tomson	NZ	Wild	Seed Distributors
	Arrow	NZ	AR1	Heritage Seeds

	Avalon $\Phi$	Victoria	Wild	Australian Herbage Plant Cultivars VicSeeds
	Grasslands Samson $\Phi$	NZ	Wild/AR1/ AR37	PGG Seeds
	Jackaroo $\Phi$	Tasmania	Wild	Wrightson Seeds
	Victoca $\Phi$	Victoria	Wild	TasGlobal Seeds
	Wintas	Spanish	Wild	TasGlobal Seeds
Late	Aberdart	Europe	AR1	Specialty Seeds
	Alto $\Phi$	NZ	AR1	Pasture species database - University of Melbourne Heritage Seeds
	one-50 $\Phi$	NZ x Spanish	Wild/AR1	PGG Seeds
	Optima (4n)	Denmark	Low	Seed Distributors
	Sierra (4n)	Spanish	Low	Pasture species database - University of Melbourne
Very Late	Bealey $\Phi$ (4n)	NZ	Advanced	Pasture species database - University of Melbourne Heritage Seeds
	Grazmore (4n)	NZ	Low	-
	Quartet $\Phi$ (4n)	NZ	Wild/AR1	Wrightson Seeds

Table 2. Relatively persistent/"long rotation" hybrid ryegrass cultivars

Flowering group	Cultivar	Origin of germplasm	Endophyte options	Seed source/Information
Medium	G <sup>5</sup> . Ohau $\Phi$ (4n) <sup>4</sup>	NZ	AR1/Low <sup>3</sup>	PGG Wrightson
	Horizon $\Phi$ (4n)	NZ	Wild	PGG Seeds
Late	G. Supreme $\Phi$	NZ	Low	AusWest Seeds
	G. Supreme <sup>PLUS</sup> $\Phi$	NZ	AR1/Low	PGG Seeds
	G. Impact $\Phi$	NZ x Spanish	AR1	Heritage Seeds
	G. Sterling $\Phi$ (4n)	NZ	Wild/AR1	PGG Seeds
	Blitz (4n)	?	Not given	Specialty Seeds
	Banquet $\Phi$ (4n)	NZ x Spanish	Wild	Wrightson Seeds
	Banquet II $\Phi$ (4n)	NZ x Spanish	AR5	Wrightson Seeds
	Matrix <sup>5</sup> $\Phi$	?	Wild/Low	Cropmark Seeds NZ
	Revolution <sup>5</sup> $\Phi$	?	AR1	Cropmark Seeds NZ

Footnotes:

1. "Vic." is classed as an ecotype, not a cultivar; it shows extreme variation between seedlines.
2. NZ base: days relative to Grasslands Nui: Early -20 to -7; Mid -6 to +7; Late +8 to +21.
3. "Low" endophyte status is given to cultivars by a seed company endeavouring to supply a seedline without endophyte.
4. Tetraploid.
5. has some *Festuca pratensis* parentage

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

### **Further information**

Comparing Cattle Growth on Short Rotation and Perennial Ryegrass Pastures in a Cropping Rotation  
Australian Herbage Plant Cultivars - Grasses  
Greener pastures for SW Vic (2006) Vic DPI (Nie & Saul, eds.)  
Perennial Pastures for WA (2007) WA Dept Food & Agric Bull 4690 (Moore, Sanford & Wiley, eds.)

### **Acknowledgements**

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### **Author and date**

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