



A collaboration between AWI, GRDC, MLA, RIRDC and Dairy Australia

## Persian clover (ssp. majus)

### Scientific name(s)

*Trifolium resupinatum* L. var. *majus* Boiss.

### Strengths

- High nutritive value.
- Extremely high production potential.
- Multi cut forage crop.
- Tolerant of seasonal flooding.
- Some tolerance of salinity.
- Free of oestrogen risks

### Limitations

- Poor regeneration

### Plant description

**Plant:** Erect, annual. Up to 750 mm height

**Stems:** Up to 35 mm diameter, hollow, soft

**Leaves:** trifoliolate, up to 25 mm long, plain, strongly veined, oval-shaped leaflets with serrated margins

**Flowers:** pink-violet flowers. Many-flowered cluster and mature in axillary, white, spherical, woolly seedheads to 15 mm diameter on long stalks

**Pods:** membranous, dehiscent at thickened sutures; one seeded

**Seeds:** ~1 mm long, ovoid, various colours (brown, olive, purple); ~1.5 million/kg

### Pasture type and use

A winter-growing, annual capable of excellent winter and spring growth. Suited to seasonal irrigation. A valuable fodder crop.

### Where it grows

#### Rainfall

> 500 mm in winter/spring rainfall zone for dryland use. Also used with irrigation. Tolerates water with up to 1500 S/cm on low salinity soils with adequate drainage.

#### Soils

Suited to clay soils, pH 5.5-8.5 (CaCl<sub>2</sub>). Tolerant of severe water-logging and mildly saline soil.

#### Temperature

Good heat tolerance. Quite tolerant of frost and cold but slow growing at low temperatures.

### Establishment

#### Companion species

Grasses: Italian ryegrass

Legumes: balansa clover, arrowleaf clover

### **Sowing/planting rates as single species**

5-10 kg/ha; broadcast onto a finely worked, weed free seed bed and cover lightly by a roller or drill seed at 5 mm depth into a clean, finely worked seedbed. High seed rate boosts winter yield and reduces weed invasion.

### **Sowing/planting rates in mixtures**

3-7 kg/ha

### **Sowing time**

February (if irrigating) to April

### **Inoculation**

Group O

### **Fertiliser**

Apply ~20-30 kg P/ha annually and correct any nutrient deficiencies, especially K, Mo, Cu, S.

## **Management**

### **Maintenance fertiliser**

For optimum growth Olsen soil P (0-10 cm depth) > 15

### **Grazing/cutting**

Suited to winter grazing. Set residues at 2-3 cm (winter) and 4-5 cm (spring) to avoid over grazing. Rotationally graze during the cool season when 15-20 cm tall; this stimulates tillering. If sown with grass must graze late winter/early spring to allow clover to contribute later.

Suited to hay/silage production; most valuable aftermath. Stems are nutritious but slow to dry; use conditioner to speed up drying. Fast regrowth facilitates second cut; remove bales promptly - hay quite susceptible to rain damage

### **Seed production**

Free seeding; some self pollination occurs; bees required to maximise seed yield. Yields 0.8-1.8 t seed/ha.

### **Ability to spread**

Poor recruitment; most cultivars produce little hard seed.

### **Weed potential**

Low. Seed very susceptible to sprouting in the head and to false breaks.

### **Major pests**

Red legged earthmite and lucerne flea need to be identified and controlled rapidly during establishment.

### **Major diseases**

Some cultivars susceptible to leaf and stem rust (*Uromyces trifolii-repentis*) and clover rot (*Sclerotinia trifoliorum*)

### **Herbicide susceptibility**

Glyphosate. Damaged by many broad-leaf herbicides.

## **Animal production**

### **Feeding value**

High (high soluble carbohydrate, high protein content & low NDF content). Retains excellent feeding value as dry standing hay during dry weather.

### Palatability

Palatable

### Production potential


Good winter, spring, summer

### Livestock disorders/toxicity

Low isoflavone content - no risk to breeding livestock.  
Low risk of bloat. Can be associated with photosensitization

### Cultivars

Maturity Group	Cultivar	Seed source/Information
Early	Flash	Seed Genetics Australia
Mid	Lusa 	Agriculture Victoria Services Pty Ltd, Melbourne
	Lightning 	PlantTech
Mid-late	Storm	Stephen Pasture Seeds
	Morbulk	PlantTech
Late	Maral	Seedmark
	Laser 	PlantTech
	RD 8	Seed Genetics Australia
	Leeton	AusWest Seeds
	Enrich	Specialty Seeds
	Turbo	AusWest Seeds Ballard Seeds
	Turbo Plus 	Belair Technology Pty Ltd, South Australia
	Anchor	Rich River Seeds

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

### Further information

Weblink:  
Irrigated Winter Forages in Northern Victoria - Mnaging Persian Clover (Vic DPI)

FAO - *Trifolium resupinatum* L.

Australian Herbage Plant Cultivars

### Acknowledgements

Departments of Agriculture, Seed companies

### Author and date

KFM Reed

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