

## Caucasian clover

### Scientific name(s)

*Trifolium ambiguum*

### Strengths

- Very long-lived perennial legume.
- Tolerant of acid soils and soils where soil Phosphorous is limiting.
- Resistant to pests and diseases.
- Once established, tolerates continuous heavy grazing.

### Limitations

- Very slow establishment.
- Poor winter dry matter production.
- Does not tolerate hot dry summers.
- Poor seed production.
- May cause bloat, particularly in cattle.

### Plant description

**Plant:** A rhizomatous perennial clover. Growth habit is prostrate to semi erect. Tap rooted with numerous lateral roots, spreading underground via rhizomes. Caucasian clover exists in three distinctly different forms depending on the number of chromosomes the plant contains. These are diploid (2 sets of chromosomes), tetraploid (4 sets of chromosomes) and hexaploid (6 sets of chromosomes).

**Stems:** Solid, smooth and hairless to sparsely hairy.

**Leaves:** Trifoliate with leaflets up to 5 cm long and 2.5 cm wide, pointed at the tip. Leaflets commonly have a distinct white V-shaped marking. Hexaploid plants usually have larger leaves than tetraploid or diploid plants.

**Flowers:** Rounded to oval, up to 4 cm long and 3 cm across, white or white with a pink tinge in colour.

**Pods:** 3 mm long, ellipsoidal, 1 to 2 seeds per pod

**Seed:** Light brown to brown, 1.2 mm across and approximately 400,000 seeds per kilogram.

Caucasian clover has a moderate level of hard seed > 40%.

### Pasture type and use

Caucasian clover is useful pasture plant for higher elevation areas of southeastern Australia, suitable for grazing by sheep/beef or dairy.

### Where it grows

#### Rainfall

Temperate regions receiving greater than 400 mm of annual rainfall.

Requires summer rainfall to perform to its full potential.

#### Soils

Adapted to a range of soil types pH 5.0 to 7.5. Grows best on well-drained soils, but will

tolerate intermittent waterlogging. Tolerates soils with low fertility, however, responds well to fertiliser.

Not suited to saline soils.

### **Temperature**

0 - 30°C, optimum growth in the range 15 - 20°C.

Highly tolerant of cold winter temperatures.

## **Establishment**

### **Companion species**

Grasses: Compatible with less competitive temperate grasses such cocksfoot, phalaris and tall fescue.

Legumes: Talish clover, strawberry clover, white clover and birdsfoot trefoil.

Grazing herbs: Compatible with both chicory and plantain.

Root and rhizome growth is restricted by dense sowings of companion grasses.

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

3 - 6 kg/ha\*.

\*ensure seed is treated to reduce hard seed levels.

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

2 - 4 kg/ha\*.

\*ensure seed is treated to reduce hard seed levels.

### **Sowing time**

Best sown in early Spring, when soil moisture is adequate.

### **Inoculation**

Inoculate with Group CC283b rhizobia.

### **Fertiliser**

New sowings will require fertiliser to promote early root development and enhance seedling vigour. Major nutrient requirements are phosphorous and potassium. Sulphur and molybdenum may be required in some areas.

Soil test results and local knowledge of soil type and fertiliser history should determine rates to be applied.

## **Management**

### **Maintenance fertiliser**

Although Caucasian clover is more tolerant of low fertility than many other clover species it is highly responsive to fertiliser.

For best performance maintain Olsen soil P level above 25.

### **Grazing/cutting**

Grazing should be minimal and lax in the year of establishment.

Once established Caucasian clover can tolerate persistent close grazing.

Best grown in a mixture with grass if used for hay or silage. If grown as a pure sward its prostrate growth habit and high moisture content can make drying difficult.

### **Seed production**

Poor seed producer with seed yields around 250 kg/ha or less.

### **Ability to spread**

Will vegetatively spread up to 30 cm a year through rhizomes.

Unlikely to spread from seed due to poor seedling vigour and competition from mature plants

### **Weed potential**

Low weed potential. Can easily be controlled with selective herbicides in cropping areas.

### Major pests

Resistant to pasture scarab larvae (cockchafer grubs, white curl grubs), Oncoopera (corbie grubs).

Susceptible to attack from redlegged earth mites and lucerne flea particularly in the seedling stage.

### Major diseases

Susceptible to powdery mildew under lax grazing in areas receiving high summer rainfall. Resistant to most viruses.

### Herbicide susceptibility

Susceptible to legume selective herbicides.

Herbicides are available for selective broadleaf weed control.

## Animal production

### Feeding value

High quality forage with typical feed values of protein 20%, digestibility 81% and metabolisable energy 12 MJ/kg DM).

### Palatability

Highly palatable legume.

### Production potential

With maintenance fertiliser herbage yields of 3 - 5 tonnes DM/ha should be achievable.

### Livestock disorders/toxicity

Risk of bloat, particularly with cattle grazing on pure swards.

## Cultivars

Group	Cultivar	Seed source/Information
Hexaploid	Kuratas 	Tasglobal Seeds
Hexaploid	Endura	University of Melbourne - pasture species database

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

## Further information

NSW Department of Primary Industries - Caucasian clover Primefact 319

University of Melbourne - Pasture species database

Plant Breeders Rights - database search

Tasglobal seeds Kuratas Caucasian clover fact sheet

## Acknowledgements

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## Author and date

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