White clover

Scientific name(s)

Trifolium repens

Strengths

- High nutritive value and year round growth.
- Well adapted to grazing.
- Some Australian cultivars have relatively high heat tolerance.

Limitations

- Vigour limited by viral diseases.
- Low tolerance to summer moisture stress.

Plant description

**Plant:** rhizomatous, prostrate perennial with stolons from crown rooting at nodes. Some stolons may be buried.

**Stems:** smooth, hairless. Stipules short, needle-point on bluntish end. Spherical seedhead

**Leaves:** trifoliate, leaflets oval or heart shape may have light crescent mark on upper side. Smooth, hairless

**Flowers:** 30-40 white/seedhead; dense clusters on long stalk; globe shaped to 2.5 cm diameter; pale pink/white, fade to brown

**Pods:** small, oblong pods containing 3-4 seeds

**Seeds:** brown/yellow; egg/heart-shape; ~1.6 million/kg

Pasture type and use

Most productive perennial for high rainfall/irrigated pasture; can maintain presence through ability to recruit seedlings. Vigorous growth in spring/summer can facilitate considerable nitrogen fixation by dominant stands

Where it grows

**Rainfall**

> 700 mm

**Soils**

Suited to a wide range of soil pH > 4.5; optimum 5.3. Tolerates low exchangeable aluminium and poorly drained soils. Well suited to peaty soil.

**Temperature**

Cold and frost tolerant. Optimum range, 18-30°C

Establishment

**Companion species**
**Grasses:** most temperate and subtropical spp. including perennial ryegrass, phalaris, tall fescue, kikuyu, paspalum, Rhodes grass and Setaria

**Legumes:** strawberry clover, red clover and sub. clovers

**Herbs:** plantain, chicory

**Sowing/planting rates as single species**
2-4 kg/ha; sow at 5-15 mm into a clean, finely worked seed bed and roll

**Sowing/planting rates in mixtures**
0.5-2 kg/ha

**Sowing time**
Autumn or spring

**Inoculation**
Group B

**Fertiliser**
Correct any nutrient deficiencies, especially K, P, Mo, S, Cu, B

**Management**

**Maintenance fertiliser**
For optimum growth Olsen soil P > 15

**Grazing/cutting**
Very suitable for silage/hay. Excellent cattle pasture. Can be grazed hard but is susceptible to sustained heavy grazing by sheep in dry conditions; densely stoloniferous but varies with cultivars, small leaved cultivars are less susceptible.

**Seed production**
Prolific seeder. Yields >1 t/ha but varies with cultivar.

**Ability to spread**
Recruits seedlings well; cattle effectively spread seed via dung

**Weed potential**
Moderate on disturbed land free of competitive species only. Prolific seed set and some hard seed dispersed by livestock

**Major pests**
Red legged earthmite, lucerne flea, corbies, cockchafers, webworm, nematodes, cutworms, budworms, reticulated slug

**Major diseases**
Fungal: Clover rot (Sclerotinia trifoliorum)
Wart disease (Physoderma trifolii)
Viral: Alfalfa Mosaic Virus, White Clover Mosaic Virus, Clover Yellow Vein Virus
Mycoplasma: Phyllody

**Herbicide susceptibility**
A wide range of weeds may be encountered. When choosing selective herbicides, consider the stage of growth of the white clover 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 decline with maturity is considerably less than for most other species

Palatability
Highly palatable

Production potential
Good autumn and spring/early summer vigour; good winter-active cvv are available for districts (eg coastal) with milder winter

Livestock disorders/toxicity
High bloat risk if dominant in spring. May contain cyanogenic glucoside compounds; the concentration is rarely sufficient to be significant

Cultivars

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

**Further information**

**Acknowledgements**

CSIRO, Departments of Primary Industry

**Author and date**

KFM Reed

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