Haifa

White Clover

Trifolium repens

INTERNATIONAL

KEY FEATURES

- Large leaf perennial clover
- Increased stolon density compared to Ladino types
- Haifa White Clover is best suited sown into a mix with more productive summer active white clover varieties particularly where irrigation is used
- Excellent heat tolerance and seeding ability
- High nutritive value/highly palatable
- Strong partner with perennial grasses and legumes
- Well adapted to lower rainfall and low fertility soils
- Performs well in sub-tropical regions
- Utilised in tropical coastal areas as partner with kikuyu pastures

HAIFA is a large leaved, perennial legume that provides good levels of autumn and winter forage production. HAIFA was selected for increased stolon density, (compared to a large leaved Ladino type). The variety demonstrates good seedling vigour with an erect growth habit and is tolerant to hot conditions. HAIFA can provide large quantities of high-quality feed and can be grown well in combination with various temperate and sub-tropical grasses assisting in providing a balanced diet to animals. It will also provide excellent levels of soil nitrogen along with an effective disease break.

Growing Conditions

Soil Type:
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.

Sowing Rate:
Mixes 0.5 - 2kg/ha
Pure 3 - 8kg/ha Dryland/ Irrigated

Rainfall:
700mm+

pH:
4.5 - 7.0 ($CaCl_2$).

Inoculant:
Group B Rhizobium

Pest Resistance

Susceptible to attack from red-legged earth mite (Halotydens destructor). Control measures are required prior to or soon after germination. Other insects that require monitoring include pea aphid (Acyrthosiphon pisum), blue oat mite (Penthaleus major), and cut worm (Agrotis munda), whilst it is also susceptible to soil borne pests such as clover cyst nematode (Heterodera trifoli) and stem nematode (Ditylenchus dipsaci). Areas which are known to be infected with these pests should be avoided.

Disease Tolerance/Resistance

Just like a lot of legume species, Haifa is also susceptible to a wide range of diseases that include alfalfa mosaic virus (Alfamovirus spp.), white clover mosaic virus (Potexvirus spp.) and several root rots caused by various fungal pathogens.

Management

Given the seedling size of Haifa is small, seedling vigour will not be strong until plants have developed their root systems. As a result, rotational grazing management is advised during the year of establishment and should be closely monitored. Following establishment, continuous and heavier grazing may be enacted whilst growth is active during winter, spring, and early summer. When grazing, plants should not be grazed down under 5cm in height and grazing should not commence until plants are a minimum of 15cm tall.

During period of hot weather or moisture stress, the grazing pressure on Haifa should be reduced to ensure long term persistence.

White Clover Agronomic Information

Scientific name *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 characteristics

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.

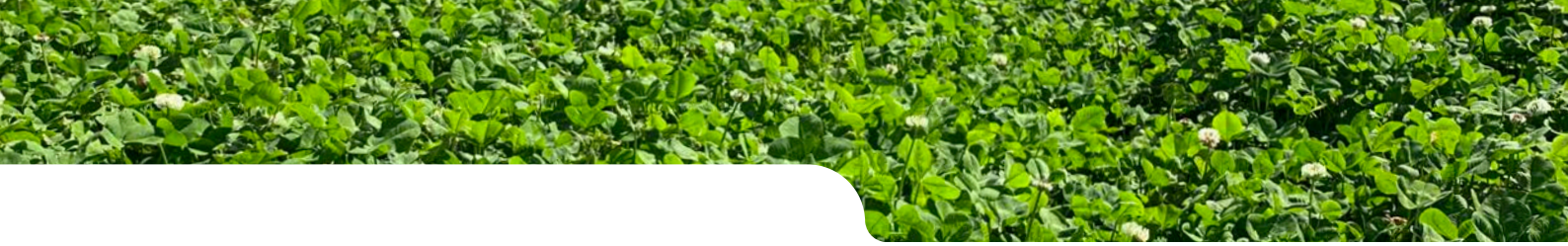
Establishment

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.

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 (e.g., 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.

Source: Pastures Australia

Australian Government
Rural Industries Research and Development Corporation
RIRDC www.rirdc.gov.au

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