Agwest Bartolo

Bladder Clover

Trifolium spumosum

INTERNATIONAL

KEY FEATURES

- Aerial seeded annual legume
- Targeted at low to medium rainfall zones
- Flowering 105 days
- Good companion with sub clover and other annual legumes
- Good hard seed levels for continual regeneration

AGWEST BARTOLO is the first cultivar of bladder clover (Trifolium spumosum) commercially available to world agriculture. It can be grown successfully across mildly acid to alkaline sandy-loam and loam soils and is suited to regions with 325-500mm annual rainfall.

Bladder clover is a self-pollinating species and produces small pink flowers. Seeds are contained in a papery pod which is surrounded by a bladder-like, papery calyx; the basis for the common name of bladder clover. One inflorescence may produce up to 150 seeds. Individual seeds are round in shape, approximately 2mg in weight, and range in colour from yellow to orange brown.

Agwest Bartolo is a semi-erect cultivar, flowering approximately 105 days after emergence in Perth. It is adapted to sandy-loam and clay-loams soils of mildly acid to alkaline reaction (pH 5.0-8.0 CaCl2), provided it is reasonably fertile. It is not adapted to saline soils or to long periods of waterlogging.

Bladder clover has an advantage for seed-setting over subterranean clover on hard setting soils, where subterranean clover is unable to bury its burrs. Agwest Bartolo can be sown alone or is an ideal companion plant in mixtures with other legumes such as subterranean clover or yellow and French serradellas.

Growing Conditions

Soil Type:
Very well adapted to mildly acid and alkaline sandy loam and loam soils

Sowing Rate:
Dryland 10 - 14kg/ha
High Rainfall / Irrigation 15 - 20kg/ha

Rainfall:
325mm+

pH:
5.0 - 8.0 ($CaCl_2$)

Inoculant:
Group C rhizobium (strain WSM 1325)

Bladder Clover Agronomic Information

Strengths

- Productive annual forage tolerant of heavy grazing in medium-low rainfall areas
- Suited to self-regenerating ley or short-term phase farming systems
- Protection against false breaks
- Very well adapted to mildly acid and alkaline sandy-loam and loam soils
- High level of hard seed enables regeneration after cropping
- Ideal companion plant in mixtures with other legumes such as subterranean clover or serradella

Limitations

- Not adapted to waterlogged soils

Plant characteristics

Bladder clover is an aerial seeding, self-regenerating annual legume.

Pasture type and use

Bladder clover is a pasture legume for grazing in ley or short-term phase farming systems. It is a lower cost alternative to subterranean clover and annual medics in many situations due to its high seed yields that can be direct harvested by grain harvesters.

Where it grows

Rainfall

Suited to regions with 325 to 500 mm annual rainfall. with a predominantly autumn-winter-spring distribution.

Soils

Bladder clovers grow on a range of soils with pH ranging from 5.0 - 8.0 ($CaCl_2$) and soil textures, provided they have reasonable fertility.
Not tolerant of prolonged waterlogging or salinity.

Temperature

Susceptible to severe frosts.

Establishment

Companion species

Compatible with many annual legumes (e.g. subterranean clover, biserrula, serradella, crimson clover, rose clover and gland clover, annual medics) and perennial grasses (e.g. Italian ryegrass, consol lovegrass and premier digit grass).

Sowing/planting rates as single species

Sowing rate for seed production and pure pasture swards should be between 5 and 10 kg/ha. Sow shallow at 0.5 cm. Rolling after sowing is an advantage.

Sowing/planting rates in mixtures

Sow at 1 to 5 kg/ha in mixtures with other pasture legumes.

Sowing time

Sow bladder clover as close to the break of season in autumn as possible.

Inoculation

Seed of bladder clover must be inoculated with the new group C rhizobium (strain WSM 1325).

Fertiliser

Sow with 100 - 150 kg/ha superphosphate, or super/potash if on sandy soils.

Management

Grazing/cutting

Can be heavily grazed in winter. Reduce stocking rate at flowering time.

Ability to spread

Many seeds of bladder clover survive ingestion by sheep and can be easily spread around paddocks.

Weed potential

There have not been reported cases of bladder clover growing within native vegetation.

Major pests

Bladder clover is moderately tolerant to blue-green aphid and lucerne flea.

Major diseases

It has little or no sensitivity to clover scorch (Kabatiella caulivora) disease. Occasional infections of Pseudopeziza leafspot have been observed in high rainfall areas.

Herbicide susceptibility

Bladder clover is sensitive to many of the more common broadleaf herbicides including Bromoxynil, Spinnaker® and Raptor®. Broadstrike® appears reasonably safe and Tigrex® may offer an intermediate weed control option. Grass weeds can be safely controlled with common grass-selective herbicides.

Animal production

Feeding value

The feeding value of bladder clover is similar to subterranean clover. Digestibility of bladder clover in spring is usually around 82%, with 22% crude protein, these values decrease with senescence.

Grazing trials have shown no differences in liveweight change or wool growth between sheep grazing bladder and subterranean clovers.

Palatability

Moderately palatable

Production potential

The quantity of forage produced by bladder clover is generally equivalent or better than current pasture options. Peak dry matter yields in small un-grazed experimental swards have ranged between 4 and 7 t/ha.

Livestock disorders/toxicity

No livestock disorders have been reported but, as with most legumes, could cause bloat in cattle in very pure bladder clover swards.

Levels of formononetin (0.015%) and genistein (0.002%) in bladder clover are lower than in subterranean clover cv Dalkeith and are unlikely to cause a phyto-oestrogen effect in grazing animals.

Source : Pastures Australia

Australian Government
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