Agnote

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American Jointvetch

(Aeschynomene americana)

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DESCRIPTION

American jointvetch (*Aeschynomene americana*) is a vigorous, erect annual or perennial summer growing legume herb or shrub. Plants can grow to 2 m tall and 2 m wide.

Stem bases are hard, hairless and up to 10 cm in diameter, while upper stems often turn reddish-brown and are covered with hairs 1-2 mm long.

Leaves are 2-8 cm long and contain 20-70 leaflets 4-15 mm long and 1-2 mm wide. Leaflets fold together at night, and when touched.

Flowers are pea-like and 5-10 mm long. Flower colour is yellow, orange or mauve, usually with red or purple stripes. Pods are flat, containing three to nine segments 2.5-5 mm wide and 3-6 mm long.

When mature, the segments of the pod separate readily. Seeds are 2-3 mm long, 1.5-2 mm wide and dark brown to black in colour.

There are two cultivars of American jointvetch available, Glenn and Lee.

- Glenn is an annual, erect cultivar with leaves 4-8 cm long and 1-1.5 cm wide with 12-34 pairs of leaflets. Stems are generally green in appearance. Flowers are 5.6 mm long and are mostly mauve. Pods have five to seven segments 5 mm long and 4 mm wide. There are 190 000 pods/kg. Seeds are grey-green to light or dark brown, 368 000/kg. Glenn flowers in mid April in the Top End.

- Lee is a late maturing annual in the Top End. It is regarded as a predominantly perennial cultivar in Queensland, where plants live for one to four years. In the Top End it generally behaves as an annual except in those years with a short dry season. Lee plants are more compact and more branched than Glenn, particularly near the base. Stems of Lee are generally reddish in appearance. Flowers are 7.6 mm long and bright orange in colour and slightly larger than those of Glenn. Pods are slightly longer than Glenn with six to eight segments but seeds are smaller (476 000/kg). Lee flowers later than Glenn in the Top End, in early-mid June.

CLIMATE AND SOILS

American jointvetch is a native of the Caribbean Islands and adjacent areas in North and South America between 30°N and 30°S.

While Glenn and Lee grow in areas of the Top End receiving 1100 mm or more of average annual rainfall, they are both tolerant of and best suited to wet, waterlogged and flooded soils in this rainfall zone.

Glenn has persisted on waterlogged soils receiving 900 mm of average annual rainfall. While both cultivars will grow and persist on a range of soil types including sandy earths, and solodics, they grow best on the more fertile clay soils of the sub-coastal plains of the Top End. Persistence has been lowest on sandier soils.

Glenn has tolerated three months of flooding in the Top End without any adverse effects on plant population or yield, but five months of flooding drastically reduced both plant population and pasture yield.

ESTABLISHMENT

Seed should be sown at a rate of 4-6 kg/ha of pods or 2-3 kg/ha of dehulled seed. For best results, seed should be sown into a well prepared seedbed.

Glenn and Lee are not specific in their Rhizobium requirements for nodulation and generally do not require inoculation.

Growth during the seedling phase is slow, but they show vigorous growth once established.

Both cultivars regenerate well from seed, and seed is spread in cattle dung. Freshly harvested seed has a high hard seed content. This falls with dehulling and/or storage.

MANAGEMENT

Fertiliser Requirements: American jointvetch grows best in the Top End in more fertile situations, i.e. fertile clay soils or areas with a history of fertilisation.

Generally superphosphate or its equivalent at 100-150 kg/ha should be sown with the seed. Maintenance dressings of 75-100 kg/ha should be applied annually.

Applications of potassium, zinc or molybdenum may be necessary on some soils.

Yield: Dry matter yields from 9000 to 14 000 kg/ha have been achieved. Seed yields of Glenn up to 750 kg/ha have been achieved in the NT.

Leaf and stem trash is a problem in harvesting and cleaning seed.

Grazing: Glen is more palatable to cattle than Lee. Glenn and Lee grow well in wet areas. These areas, if flooded should not generally be grazed during the wet season. In this situation the plants become stemmy and there is only a small proportion of leaf present when grazed in the dry season.

Both cultivars perform best in swards which can be grazed during the wet season. This keeps them shorter, more leafy and of better quality, and the leaf remains on the plants longer into the dry season.

Where a pasture can not be grazed during the wet season, the later flowering Lee is the preferred cultivar as it will hold green leaf later into the dry season.

Mixtures: Grasses which can be sown in mixtures with Glenn and Lee are pangola (*Digitaria eriantha*), Jarra, Strickland (*D. milanjiana*), Arnhem (*D. swynnertonii*), Kazungula (*Setaria sphacelata*), Common Guinea (*Panicum maximum*) and Tully (*Urochloa humidicola*).

Hay: Good quality hay can be made from Glenn and Lee provided it is cut early while it is green and leafy. Later cuts will be more stemmy and of lower quality.

PESTS AND DISEASES

Powdery mildew (*Oidium* sp) is commonly seen on Glenn in the late wet season-early dry season period. This does not appear to affect production, quality or acceptability to animals. Lee is less affected by powdery mildew than Glenn.

Flowers and developing seed pods can be attacked by *Helicoverpa* larvae. A severe attack can reduce or eliminate seed production in first year stands, and control of this pest may be required in seed crops.

WARNING

Pasture plants have the potential to become weeds in certain situations. To prevent that, ensure that pasture seeds and/or vegetative materials are not inadvertently transferred to adjacent properties or road sides.

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