

Register of Australian Herbage Plant Cultivars

B. Legumes

17. Jointvetch

Aeschynomene americana L. (American jointvetch) cv. Glenn

Reg. No. B-17b-1

Registered December 1984

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Origin

Derived from CPI 58491 collected in January 1971 by I.L. Miller, of the then Dep. Northern Territory, Darwin, near the coast, 45 km south of Tampeco, Mexico (altitude 15 m, latitude 22°N, mean annual rainfall 1000 mm). Cultivar Glenn was tested in the Mackay district on low-lying, seasonally wet, land for eight years and to a limited extent elsewhere. Submitted by the Queensland Department of Primary Industries, which will maintain breeders' seed, and recommended for registration by the Queensland Herbage Plant Liaison Committee. Registered December 1984.

Morphological description (1,3,4,,7,8)

A vigorous, erect-ascending, shrub-like, summer-growing, annual species to 2 m tall and 1 – 2 m wide. Lower stems are hard but pithy, 1 – 2 cm in diameter and hairless. Upper stems often turn reddish brown with maturity and are covered with dense hairs 1 – 2 mm long. Stipules glabrous or somewhat hispid at the point of attachment (5), 10 – 25 mm long, 1 – 4 mm wide, usually ciliate, leaf-like. Leaves 2 – 7 cm long, 20 – 60 foliate; leaflets 4 – 15 mm long, 1 – 2 mm wide (8). Leaflets fold together when the centre of the leaf is touched. The underside of the midrib carries a row of hairs 1 – 2 mm long.

Inflorescences few-flowered, loose, axillary racemes, as long or a little longer than the subtending leaves, the axes sometimes flexuous, hispidulous, bracts cordate, acuminate, glabrous, serrate-ciliate. Flowers pea-like, 5 – 10 mm long, calyx 3 – 6 mm long, glabrous to sparsely hispid; petals mauve to purple, 5 – 10 mm long, clawed, the standard sub-orbiculate to broadly obcordate, 5 – 10 mm wide, often ciliate at the apex (1,8). Pod flat, 3 – 9 articulate, the articles 2.5 – 5 mm wide and 3 – 6 mm long, separating readily during harvest at maturity. Upper margin of pod almost straight, the lower margin markedly constricted. Seeds 2 – 3 mm long, 1.5 – 2 mm wide, dark brown (8).

Glenn has leaves 4 – 8 cm long, 1 – 1.5 cm wide with 12 – 34 pairs of linear to linear-oblong leaflets (1). Stipules peltate, 10 – 15 mm long. Pods have 5 – 7 articles, each 5 mm long and 4 mm wide. Articles semi-circular, 190,000/kg. Seed colour ranges from grey-green to light or dark brown; 368,000 seed/kg. Seeds of Glenn are somewhat larger and darker than those of *A.falcata* cv. Bargoo. Glenn is more robust and bulky than the native *A. indica* (budda pea) which has yellow flowers, green glabrous stems and often grows in habitats to which Glenn is adapted.

Agronomic characters (1 - 7)

Rather similar to the material Florida Common (4) which has been utilised in Florida, USA, for some years. Glenn is adapted to low-lying, wet solodic soils of the coastal lowlands in the Mackay district (1,2). It is probably not as well adapted as the budda pea to very wet sites, but grows better than budda pea on more freely-drained soils (1). It is highly palatable. Steers have given average daily liveweight gains of 0.51kg/ha over 177 days (December to June) when grazing Glenn oversown into Kazangulu setaria pastures and stocked at 1.6 steers/ha (1). Under grazing the plants branch close to the ground and form a leafy sward, which produces ample seed for regeneration. The seeds spread widely by attachment to animals and in their dung. Glenn is a mid-season flowering type which begins flowering at Mackay in late April. Seed set is completed in late May – early June before the onset of frosts. Once frosted the plants rapidly decompose and cease to be a value until the next stand germinates in spring/early summer (1).

Glenn responds strongly to applied phosphorus on soils low in P (3 – 6 ppm available P), where application of 20 kg/ha P has given a 2- 4-fold yield increase (2). Seed is set readily, largely by self-pollination (6), and harvested easily with a header. Yields of 1500 to 2800 kg/ha seed in the pod have been obtained from small plots at Wilkamin Research Station (5). Seed production stands of cv. Glenn invariably show evidence of powdery mildew infestation but this does not appear to cause any damage

to the seed crop (1,5). Hardseed content is 55 – 90% for seeds in pod segments four month after harvest; this falls to 5 – 20% after dehulling. No embryo dormancy yet detected (1). Seeds can be sown in pod segments if moisture availability after seeding is uncertain, or dehulled seed can be sown if prompt germination of most seeds is required (4). Effective nodulation results from inoculation with cowpea type of *Rhizobium* (4); this is endemic in Queensland. Glenn is expected to meet the requirements for a pasture legume in many areas of coastal Queensland for which no other suitable legume is known at present.

References

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