

Aeschynomene*Aeschynomene americana* L. (American joint vetch)

cv. Glenn

(Reg. No. B-17b-1)

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 Tampico, 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 up 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-foliolate; 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, or sometimes truncate-flabelliform, about 2–4 mm long, 2–3 mm wide, glabrous, ciliate; bracteoles linear to linear-ovate, 2–4 mm long, 1–1.5 mm wide, acute to 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 suborbiculate 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).

Cv. 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 per kg. Seed colour ranges from grey-green to light or dark brown; 368 000 seeds per 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 (1,2,3,4,5,6,7)

Rather similar to the material Florida Common (4) which has been utilised in Florida, U.S.A. for some years. Cv. 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 0.51 kg ha⁻¹ over 177 days (December to June) when grazing Glenn oversown into *Kazungula setaria* pastures and stocked at 1.6 steers per 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. Cv. 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 of value until the next stand germinates in spring, early summer (1).

Cv. Glenn responds strongly to applied phosphorus on soils low in P (3–6 ppm available P), where application of 20 kg ha⁻¹ P has given a two to four 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⁻¹ seed in the pod have been obtained from small plots at Walkamin 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). Hard seed content is 55–90% for seeds in pod segments four months after harvest; this falls to 5–20% after dehulling. No embryo dormancy yet detected (1). Seed 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 the cowpea type of *Rhizobium* (4); this is endemic in Queensland.

Cv. 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 (2).

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