

# Register of Australian Herbage Plant Cultivars

## B. Legumes

### 9. Annual Medics

#### *e. Medicago scutellata* (L.) Mill. (snail medic)

##### cv. Robinson

Reg. No. B-9f-1

Registered September 1977

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##### Origin (1, 6)

Snail medic was first introduced into Australia by Baron von Mueller (1) before the turn of the century. Its entry into South Australia is obscure but occurred soon after; being recorded by J.M. Black in 1909. It was the original annual legume sown at the Minnipa Research Centre from 1916-21 (6).

The cultivar Robinson was collected on the property of Mr J. Robinson, Noarlunga, S.A., as the type from which commercial stands have been developed throughout Australia. Breeders' seed is being maintained by the South Australia Department of Agriculture and Fisheries.

It was submitted by the South Australian Department of Agriculture and Fisheries and recommended for registration by the South Australian Herbage Plant Liaison Committee. Registered September 1977.

##### Morphological description (7)

Annual sem-erect herb branching at the base, becoming lax with growth. Stems angular and covered with simple and glandular hairs. Older leaves ovate to obovate 11-24 mm long and 10-20 mm wide, terminal leaves becoming oblanceolate 11-18 mm long and 5-10 mm wide. Leaf area rating 17-21 at eighth and succeeding nodes (7). Upper surface glabrous, lower surface with dominantly simple hairs. Leaves sparsely purple flecked early but plain after flowering. Margins serrate, central petiolule longer than lateral ones. Stipules prominent serrate, covered with glandular hairs, abaxial side with simple hairs also. Peduncles round, covered with simple and glandular hairs, shorter than the corresponding petiole. Florets 1-3 usually maturing 1-2 fruits. Calyx teeth equal and as long as the tube, covered with simple and glandular hairs. Corolla yellow and less than twice the length of the calyx. Pods large (150-385 mg per pod), pergamentaceous, cup shaped to spherical with 5.25-8 spineless, anti-clockwise whorls, the outer whorl enclosing each successive inner whorl, all being covered with glandular hairs. Robinson is intermediate for the species being *c.* 250 mg/pod.

Seeds yellow to yellow brown, reniform, large (15-30 mg/seed). Robinson is a small-seeded genotype, weighing *c.* 15 mg/seed. It establishes relatively easily and its early growth in autumn is rapid and erect making it susceptible to grazing mismanagement.

##### Agronomic characters (2, 3, 4, 5)

Although best adapted to a Mediterranean climate with mild wet winters and hot dry summers, snail medic also grows well in subtropical eastern Australia as far north as 23°S. Its native distribution extends throughout the Mediterranean Basin.

It grows well on neutral to alkaline soils of both heavy and light texture under rainfall of 300-500 mm. Under conditions of higher rainfall and longer growing season, a higher proportion of hard seed is formed on heavy soil types. The burrs may take 2 years to rot down and are attractive to stock. These two factors result in poor regeneration following a year of good seeding. The relatively slow rate of breakdown of hard seed sometimes results in spring germinations in cereal crops in the year following seed production. On lighter soils and in lower rainfall areas. (300-400 mm) not such a higher proportion of hard seed is formed and the rate of breakdown is more rapid, often resulting in better regeneration than in higher rainfall regions.

The pod is cup shaped, the distal coil being enclosed by successive whorls. There are *c.* 5-6 seeds per pod. (34% seed in the pod by weight.)

cv. Robinson has produced the highest seed yields of all annual medic cultivars tested in experiments in South Australia between 1966 and 1969, exceeding the yield of barrel medic cultivars

Jemalong, Hannaford and Paragosa by more than 40% and producing more than double the yield of strand medic cv. Harbinger.

Pod yields were not significantly higher than in the barrel medics but greatly exceeded both gama and strand medics.

It was one of the best annual medics on red brown earth soil at Belalie, S.A., both in the year of sowing and for regeneration (5).

Winter dry matter production was equal to Jemalong and Hannaford, slightly higher than Cyprus and Harbinger and c. 20% greater than Paragosa.

The period to flowering of a range of genotypes of *M. scutellata* tested in South Australia is from 75-140 days (3). Robinson flowers in about 110 days with a late April planting.

Vernalisation and photoperiod greatly affect flowering time in some annual *Medicago* species, but snail medic is almost insensitive to both (2).

## References

1. Baron von Mueller, F. (1895). Select extra-tropical plants, p.302. (Government Printer: Melbourne.)
2. Clarkson, N.M., and Russel, J.S (1975). Flowering responses to vernalisation and photoperiod in annual medics. (*Medicago* spp.) *Aust. J. Agric. Res.* **26**, 831-8.
3. Crawford, E.J. (1972). Personal communication. S.A. Dep. Agric. Fish., Adelaide.
4. Heyn, C.C. (1963). The annual species of *Medicago*. *Scripta Hierosolymitana* **12**, 1-149. (Hewbrew University: Jerusalem.)
5. Mathison, M.J. (1976). Personal communication. S.A. Dep. Agric. Fish., Adelaide.
6. Pearson, F.B. (1972). Personal communication. S.A. Dep. Agric. Fish., Adelaide.
7. William, R.F., Evans, L.T., and Ludwig, L.J. (1964). Estimation of leaf area for clover and lucerne, *Aust. J. Agric. Res.* **15**, 231-3.