

Register of Australian Herbage Plant Cultivars

B. Legumes

9. Annual Medics

a. *Medicago rugosa* Desr. (gama medic)

cv. Sapo

Reg. No. B-9c-3

Registered April 1980

Published in the Journal of the Australian Institute of Agricultural Science 46(4) 256-7, 1980.

Origin (4, 8)

Introduced by E.J. Crawford of the South Australian Department of Agriculture from Sacavem, Portugal, in 1970 via Dr. T. Nel, Department of Agriculture Technical Service, Pretoria, South Africa. Indexed as C.P.I. 50363, SA 4668 and SAD 3109. It was selected by M.J. Mathison and B.C. Bull firstly for tolerance to adult sitona weevils (*Sitona humeralis* Steph.) in greenhouse and field tests and secondly, for good agronomic features. Subsequently, it was found to be tolerant to, and a poor host for the blue green aphid (*Acyrtosiphon kondoi* Shinji) in New Zealand (8), and tolerant to the spotted alfalfa aphid (*Therioaphis trifolii* (Monell) *f. maculata*) (4).

Submitted by the South Australian Department of Agriculture and Fisheries and recommended for registration by the South Australian Herbage Plant Liaison Committee. Breeders' seed will be maintained by the South Australian Department of Agriculture. It was recommended for release by the South Australian Herbage Plant Liaison Committee in August 1979. Registered April 1980.

Morphological description (2)

The cultivar has a greater number of primary branches than cvv. Paragosa and Paraponto, internode length being intermediate. The stems are green like those of cv. Paraponto. The leaflets lack purple flecks, and the stipules are more densely hairy than Paragosa and Paraponto. Calyx hairier than Paragosa, about equal to Paraponto. Flowers pale yellow, small, corolla striped like Paragosa, unlike Paraponto. The pod has 4-4.5 anti-clockwise, spineless coils. Seeds are slightly larger than Paragosa, but smaller than Paraponto, with *c* 125 000 to 140 000/kg.

Agronomic characters (1-8)

Sapo has similar climate and soil requirements to Paragosa. It commences flowering *c.* 1-4 days later than Paragosa and continues up to 5 days later at Parafield (2). It is not well suited to regions receiving less than 350 mm mean annual rainfall, but may take advantage of springs rains, the last pods maturing about 7 days later than Paragosa and 9 days later than Paraponto at Parafield.

Field experiments at Northfield, Parafield, Turretfield, Belalie, Mundoora, Mindarie, and Lameroo in South Australia have shown that Sapo and Paragosa are similar agronomically in the absence of insects, expect that Sapo tends to produce slightly more herbage and seed than Paragosa as mean average annual rainfall increases above 350 mm, but slightly less with increasing aridity (2, 4). However, Sapo is much more tolerant to grazing by adult sitona weevil than Paragosa, Paraponto (7) and all cultivars of barrel, strand and disc medics (4). It is tolerant to *S. humeralis* in the North Island of New Zealand (8).

The tolerance of Sapo to blue green aphids and spotted alfalfa aphids in greenhouse and field tests (3, 4) is similar to Paragosa (5). Sapo produces high seed yields in the field without spraying, whereas barrel, strand and disc medic cultivars require protections against aphids (4). In seedling test in New Zealand, Sapo was a very poor host for the blue green aphid, being marginally more resistant than seedlots of commercial snail medic from South Australian and considerably more tolerant than all *M. truncatula* introductions (8).

Field tolerance to lucerne flea (*Sminthurus viridi* L.) has been observed in well-grown swards (4). Tests with seedlings at Northfield Research Laboratories indicate a high tolerant to attack by lucerne flea and by red-legged earth mite (*Halotydeus destructor* Tucker). Although these two species are

described as pests of Paragosa in the Register of Australia Herbage Plant Cultivars, recent tests show that Paragosa, Paraponto and Sap all have similar high tolerances to them (6).

Although tolerant to the five pests listed, Sapo is readily grazed by sheep. Being less erect and with more primary branching than Paraponto, it appears less prone to damage by grazing mismanagement (7). The coumestrol content of matured pods with seeds is very low (1). Sapo has nodulated effectively with naturalised strains of rhizobia at all test sites in South Australia having alkaline, heavy textured soils (4).

References

1. Collins, W.J. (1979). Personal communication. Univ. W.A., Nedlands.
2. Crawford, E.J. (1977). Personal communication. S.A. Dep. Agric., Adelaide.
3. Kobelt, E.T. (1978). Personal communication. S.A. Dep. Agric., Adelaide.
4. Mathison, M.J. (1979). Personal communication. S.A. Dep. Agric., Adelaide.
5. Mathison, M.J., Baldwin, G.B., and Kobelt, E.T. (1978). A guide to cultivars of medic and sub clover susceptibility to SAA and BGTA. SADAF Fact Sheet No. 28/78.
6. Mathison, M.J., Kaehne, I.D., Dobos, R.C., and Byrne, P.M. (1979). Personal communication. S.A. Dep. Agric., Adelaide.
7. Mathison, M.J., Kobelt, E.T., and Patten, G.W. (1979). Personal communication. S.A. Dep. Agric., Adelaide.
8. Taylor, A.O., and Esson, M.J. (1977). Personal communication. Divisions of Plant Physiology and Entomology, DSIR, respectively, Palmerston North, New Zealand.