Register of Australian Herbage Plant Cultivars

B. Legumes
8. Lucerne
b. *Medicago falcata* L. x M. *sativa* L. (lucerne)

cv. Walkabout
Reg. No. B-8b-2
Registered July 1977

Published in the Journal of the Australian Institute of Agricultural Science 43(3-4), December 1977.

Origin (2, 4)

Bred by R.A. Bray, Division of Tropical Crops and Pastures, CSIRO, from material selected by L.A. Edye. The cultivar is the product of five generations of selection from intercrosses between Canadian creeping-rooted lines and locally adapted subtropical lines of Hunter River, Indian, Saladina, Hairy Peruvian and Pampa (4). Selection in subsequent generations was on the basis of associating the creeping-rooted character and vigour, especially during winter. Early generations were grown at Lawes, S.E. Queensland. Following polycrossing of F_4 selections, and testing of progenies at Beaudesert, Eskdale, and Taroom, promising parents were intercrossed, and on the basis of result from diallel crosses, seven parent clones were selected (2). These form the basis for this synthetic variety.

First-generation seed was produced by intercrossing by hand, and second and third generations by field multiplication in South Australia. Submitted by the Division of Tropical Crops and Pastures, CSIRO, and recommended for registration by the Queensland Herbage Plant Liaison Committee. Breeders' seed will be maintained by the Division of Tropical Crops and Pastures, CSIRO.

Registered, July 1977.

Morphological description (1)

Walkabout is a variable, creeping-rooted population, but there has been no distinguishable morphological change during the three generations of seed multiplication.

It may be readily distinguished from Cancreep by being slightly more prostrate, and having a higher proportion of non-blue (i.e. mainly green variegated, but also white, yellow, and red) flowers (61% cf. 33%).

There are about 430 seeds/g.

Agronomic characters (1, 3, 5, 6, 7)

This cultivar has been evaluated as CSIRO Experimental Synthetic 'Combined'.

As 1 x 1 m spaced plants, up to 70% of the population display the creeping-rooted habit and in 60 cm rows sown at 2 kg/ha^{-1} up to 30% (1).

Yield has bee evaluated in a series of cutting trials at Samford, Lawes, Narrayen and Biloela. These indicate that dry matter yield at all seasons of the year is about 70% of Hunter River (1, 5). This implies improved performance compared to Cancreep under Queensland conditions (3).

Walkabout contains high levels of seedling resistance to *Phytophthora megasperma* and *Colletotrichum trifolii* (6, 7).

In the field, persistence has been variable. Under some conditions (spaced plants 1 x 1 m and 0.2 x 0.2 m) persistence has been equal to that of Hunter River, but in rows and swards under grazing Hunter River has survived better (1, 5). The importance of disease in the latter situations is not known.

Walkabout has been tested only in Queensland so far. It should be useful in areas where *Phytophthora* is a problem, and it will be a valuable source of disease resistance.

References

1. Bray, R.A. (1977). Unpublished results. CSIRO Div. Trop. Cr. & Pastures, Brisbane.
2. Bray, R.A. (1970). Development of grazing lucerne for subtropical conditions. Proc. XIth Int. Grassld Congress, Surfers Paradise, 261-63.

3. Daday, H., Peak, J.W., Launders, T., Cameron, D.J., Campbell, G.B., Crawford, E.J., and Ryan, F.E. (1968). Performance of an Australian creeping-rooted lucerne *Medicago sativa* L. *Aust. J. Exp. Agric. Anim. Husb.* **8**, 548-54.
4. Edye, L.A., and Haydock, K.P. (1967). Breeding creeping-rooted lucerne for the subtropics. *Aust. J. Agric. Res.* **18**, 891-901.
5. Gramshaw, D. Personal communication. Qld. Dep. Primary Ind. Biloela.
6. Irwin, J.A.G. (1974). Crown rot of lucerne in Queensland caused by *Colletotrichum trifolii*. *Aust. J. Exp. Agric. Anim. Husb.* **14**, 197-200.
7. Irwin, J.A.G. (1974). Reaction of lucerne cultivars to *Phytophthora megasperma*, the cause of a root rot in Queensland. *Aust. J. Exp. Agric. Anim. Husb.* **14**, 561-65.