Register of Australian Herbage Plant Cultivars

B. Legumes
9. Annual Medics
a. *Medicago truncatula Gaertn. var. truncatula* (barrel medic)

cv. Akbar
Reg. No. B-9a-7
Registered November 1974

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Origin

Originated from seed (CPI 40729) received by Mr E.J. Crawford, South Australian Department of Agriculture, in 1966 from A. Abraham, Rehovot, Israel. It was initially grown in 1968 in nursery rows at Parafield, S.A. where it was earlier flowering than Jemalong, exhibited greater seedling vigour and gave increased pods yields. From 1970-73 it was tested in swards throughout central and north-western New South Wales by Messrs. P. Cornish and P. Desborough of the New South Wales Department of Agriculture.

Submitted by the Condobolin Agriculture Research Station and recommended for registration by the New South Wales Herbage Plant Liaison Committee. Breeders' seed will be maintained by the New South Wales Department of Agriculture. Registered November 1974.

Morphological description (1, 2)

Similar to Hannaford in general morphological characters but less variable and more erect in growth habit. Leaflets obovate with deeply serrate upper margin, purple flecked and with a prominent blotch on the upper third similar to Ghor. As with other cultivars of barrel medic, both the epidermal anthocyanin fleck and the palisade yellow/bronze blotch face with warm temperatures or low light intensity (1). The pods are 7-9 mm long and 6-7 mm wide with 4-5 anti-clockwise strongly adpressed coils bearing loosely adpressed straight or slightly curved but unhooked spines 1.5-2.5 mm long. Seed constitutes 20-25% of the pod weight. There are 7-11 seeds per burr clipped characteristically at one end. Chromosome number 2n = 16 (2).

Agronomic characters (3-6)

At Condobolin it flowers about one week after Cyprus and 10 days before Jemalong (3), whilst at Narrabri flowering is 1-2 weeks later than Cyprus and 2-4 weeks earlier than Jemalong (4).

It consistently given higher winter and total herbage production and pod yield than the cultivars Jemalong, Cyprus, Borung and Cyfield in central and north-western New South Wales and has regenerated well (3, 4). It has equalled or exceeded the yield of Ghor in the year of sowing because of superior regeneration and has exceeded it in subsequent years (3, 4).

At Condobolin and Narrabri it remains green longer after first pod maturity than Cyprus and Ghor if moisture is available (3, 4). At Narrabri it has suppressed naturalised *Medicago polymorpha* L. on sierozem soils both in the sowing year and from regeneration (4).

Akbar has greater seedling vigour than existing cultivars of barrel medic and establishment has been better under marginal conditions (3). It has been successfully established under a wheat cover crop at Condobolin (3).

Pods of Akbar contain negligible coumestans and isoflavones and low levels of coumestrol and 4-methoxycoumestrol (33 ppm each) in fresh leaves (4). Such levels are not considered dangerous (5).

The burr of Akbar is more spiny than that of other cultivars but is readily eaten by sheep. Although more burr is retained in belly wool than is the case with Jemalong this might not cause major problems in carding and combing mainly because the burrs would probably remain coiled during these processes (6).

Akbar is susceptible to attack by the Sitona weevil.

Akbar is an adaptable cultivar suited to those areas of New South Wales where Jemalong and Cyprus are presently used, and to the alkaline soils of north-western New South Wales where these cultivars have failed to compete with naturalised *Medicago polymorpha*.

References

1. McComb, J.A. (1974). Leaf mark in *Medicago*, with special reference to their inheritance in *M. truncatula*. *Aust. J.Bot.***22**, 67-80.
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4. Desborough, P.J., Agricultural Research Station, Narrabri. Unpublished data.
5. Francis, C.M., and Millington, A.J. (1965). Wether bioassy of annual pasture legumes. I.V. *Aust. J. Agric. Res.* **16**, 927-935.
6. Lipson, M., CSIRO, Division of Textile Industry, Geelong. Personal Communication.