

# Register of Australian Herbage Plant Cultivars

## B. Legumes

### 9. Annual Medics

#### d. *Medicago tornata* (L.) Mill. (disc medic)

##### cv. Tornafield

Reg. No. B-9d-1

Registered February 1969

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#### Origin

Tornafield was derived from a cross between two accessions of *Medicago tornata*: one, a smooth-podded strain (University of Western Australia accession No. N.3654) obtained from Dr. W.M. Clements of Minnesota, U.S.A., as *M. obscura* helix 56.126; the other, a spiny-podded introduction (accession No. N.3170) from Dr. C. Heyn, University of Jerusalem. The strains were crossed in 1964 to provide material for cytological studies by Drs. J.P. Simon and A.J. Millington at the Institute of Agriculture, University of Western Australia. Foundation material for the variety Tornafield was selected and increased by Fielder Kench Pty. Ltd., breeders, from the progeny of this cross.

Submitted for registration by Fielder Kench Pty. Ltd., Perth, W.A., where authentic seed will be held. Recommended for registration by the Western Australian Herbage Plant Liaison Committee. Registered February 1969.

#### Morphological description

Annual herb, procumbent, 12-20 cm high. Branches, leaflets, stipules, and peduncles very lightly covered with simple hairs. Stipules variable in shape, with margin lacinate. Leaflets 10-30 mm long, 5-20 mm wide, obovate to obovate-cuneate, upper half or two-thirds of leaflets with serrate margin. Peduncle with 8-15 flowers, much longer than petiole, crowded in inflorescence, produced to a distinct cusp beyond terminal flower. Flower up to 7 mm long. Calyx covered with simple hairs, teeth slightly longer than tube. Corolla bright yellow, about twice as long as calyx, standard longer than keel and wings, keel longer than wings. Young pods contracted and concealed with calyx. Pod discoid, spineless, glabrous. Coils 2-3, anti-clockwise, more or less adpressed; dorsal suture and lateral vein not separated by a furrow, both seen in mature pods on surface of coil; coils 5-10 mm in diameter. Surface of coils with about 10 radial veins, running into a lateral vein after slightly branching near it. Seeds 3-4 mm long, 1-2 in each coil, separated by a membrane; radicle less than half as long as the cotyledons. Seed coat smooth, yellow to brown-yellow. Approximately 240 000 seeds/kg. Chromosomes  $2n = 16$ .

#### Agronomic characters (3).

Tornafield flowers 2.5-3 months after germination, 2-3 weeks later than Cyprus barrel medic and up to one week earlier than Hannaford barrel medic. It combines the earliness of the spiny parent with the smooth pod and greater coiling of the smooth-podded parent. The spineless burr may be more acceptable to sheep and would cause less trouble as a contaminant in wool as compared to the spiny types. It has regenerated satisfactorily on a sandy-surface soil in a 400 mm rainfall area. In Western Australia it grows better than any commercially grown medics now available on acid sandy soils (1). The coumestrol content is low.

Burr development seems to be rapid. The hard seed content appears to be slightly lower than in barrel medic. Tornafield has been shown to produce less burr than Harbinger but due to a higher seed to burr ratio it produces more seed. The burrs are well adapted to suction harvesting, and seed yields are high. Its comparatively large seed may give it advantages in establishment and as an early feed.

Reported from preliminary trials in South Australia that winter growth has been poorer than that of barrel medics and yields much lower; Tornafield has performed best on sandy soils, particularly on solodized solonetz soils, not suited to barrel medics (2). It is further reported to be more attractive to and susceptible to lucerne flea damage in the seedling stage (2).

### References

1. Devitt, A.C. (1971). Personal communication. West. Aust. Dep. Agric., Perth.
2. Mathison, M.J. (1971). Personal communication. S. Aust. Dep. Agric., Perth.
3. Poole, M.L. (1970). An agronomic evaluation of *Medicago tornata* cv. Tornafield, a new medic cultivar. *Aust. J. Exp. Agric. Anim. Husb.* **10**, 405-9.