

Register of Australian Herbage Plant Cultivars

B. Legumes

1. Clover

Trifolium subterraneum ssp. *subterraneum* (Katzn. et Morley) Zohary and Heller (sub clover) cv. Mount Barker

Reg. No. B-1d-1

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Origin

Natural occurrence at Mt. Barker, S.A. The first ecotype of subterranean clover cultivated in Australia by A.W. Howard of Mt. Barker after he recognized the plant and its potential in 1889. It was originally known as "Howard's clover". Its early history and development are recorded in the references given by Symon (14). First certified: 1935 in Tasmania, 1937 in Western Australia, 1948-49 in South Australia, 1937-38 in New South Wales, and 1947 in Victoria.

Morphological description (1,6,7,et al.)

Herbaceous annual of prostrate habit with branched hairy stems radiating from central crown. Leaves trifoliate; leaflets obovate to obcordate with appressed hairs on both surfaces. Stipules small, broadly triangular, pointed, and standing away from stem. Inflorescence a small head, with usually 3-4 fertile flowers, on short peduncle. Flowers; calyx tube hairy, teeth linear, soft plumose and eventually curled; corolla white with faint pink veins, about 10-12 mm long. Flowers reflex after anthesis; peduncles turn downwards towards soil and thicken, and a number of sterile flowers represented by linear and solid calyces develop successively from centre of capitulum and reflex covering the fertile flowers and developing pods. This globular complex is pushed into the soil by the peduncle and constitutes the burr. Pod small, one-seeded, almost completely enclosed in thin saccate calyx. Seed ovoid to globular, slightly asymmetric with cotyledonary lobe larger, slightly compressed laterally, purplish black with small white circular hilum; approx. 165,000 per kg. Chromosome number $2n = 16$.

Cv. Mt. Barker has the following additional features. Grown as spaced plants forms a medium number (12-18) of stems or runners with medium to long internodes; produces five or six laterals per runner and these may branch once or twice (1), making a very leafy plant. The leaflets have a pale green crescent half to three-quarters way across leaflet and anthocyanin fleckings on upper surface. Both leaf markings and anthocyanin fainter in leaves produced near end of runners and on leaves produced under high temperatures and low light conditions. Stipules with pinkish red veins and some pinkish blotching. First flowers at about 10th node. Calyx green with distinct red band around tube. In the seedling, the radicle fluoresces only slightly under ultraviolet light; hypocotyl slightly pigmented with spot of anthocyanin at base; juvenile leaf tip rounded and base cordate, flecked with anthocyanin, no pale green central mark; first trifoliate leaf with leaflet tip and base rounded, and small to medium central pale green mark, and petiole not heavily pigmented (9).

Agronomic characters

Adapted to a Mediterranean-type climate; it requires a minimum of seven and a half months effective rainfall of 530 mm in the southern regions; further north and in Western Australia, reported to require a minimum of 635 mm. It commences growth with the first autumn rains, forms runners rapidly and a dense sward of leafy plants. Its winter growth is not good but it makes excellent growth again in spring. Suited to soils with an acid or neutral reaction.

Is of late mid-season maturity, flowering commencing about mid to late September some five weeks after the early-flowering cultivars such as Dwalganup and a week after the early mid-season variety Bacchus Marsh. Flowers are self fertile.

A low proportion of impermeable (hard) seeds is present at maturity, and a rapid fall in this hardseededness occurs during summer (13). Seeds also have a moderate to high physiological dormancy (11).

It nodulates satisfactorily with *Rhizobium* strains CC2480a, WU95, and WU290, which are contained in Australian commercial inoculant "C".

Cv. Mt. Barker is very susceptible to leaf rust, *Uromyces trifolii* (10), and moderately resistant to clover stunt virus (5). Another virus disease (red-leaf virus) has recently been reported in Victorian pastures (8). Its oestrogenic potency is low (2,3,4,12) and it persists well under hard grazing.

References

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