

Register of Australian Herbage Plant Cultivars

B. Legumes

1. Clover

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

Reg. No. B-1d-4

Registered prior to December 1971

Published in the 2nd ed. of the Register of Australian Herbage Plant Cultivars, 1972.

Origin

Observed occurring in fields at Myrniong near Bacchus Marsh, Vic., before 1930. Seed distributed for trial under the name Bacchus Marsh (3). Comparative trials with the cultivars Dwalganup and Mt. Barker reported in Victoria (3) in 1940 and in South Australia (10) in 1942. Seed first certified by Victorian Department of Agriculture in 1937, South Australia in 1949-50, Western Australia in 1947, and New South Wales in 1952-53.

Morphological description (1,3,14)

Grown as spaced plants forms a medium number (12-18) of runners with long internodes, produces only 3-4 laterals per runner and these laterals may branch once or twice (1). The leaflets are hairy on upper and lower surfaces. A well-marked pale green crescent is present and during winter or in spaced plants there is strong anthocyanin flecking on both upper and lower surfaces, especially near the midrib and in young leaf. The first flower appears at about the 7th-8th node. Calyx tube and lobes green without any red markings. Seedling as in Mt. Barker but radicles fluoresce blue with moderate intensity in ultraviolet light; hypocotyl is moderately pigmented and cotyledons also flecked with anthocyanin. First trifoliate leaf with heavily pigmented petiole and the leaflets moderately flecked with anthocyanin, especially near midribs, and with small pale green central mark (6).

Agronomic characters (2,3,10,12,14)

Bacchus Marsh is early mid season in maturity, commencing to flower in early September usually about a week to 10 days earlier than Mt. Barker and a few days later than Wootenellup. It requires a 7-month growing season (or slightly less in Western Australia) and an annual rainfall of 480-500 mm or more. It may, however, survive and grow successfully in lower than 460-mm rainfall areas. It is therefore suited to districts where the growing season is a little short for the mid-season variety Mt. Barker. Comparable in soil requirements to Mt. Barker.

Cv. Bacchus Marsh produces well in late autumn and spring and is high-yielding for its maturity time. It has a moderate proportion of impermeable seed at maturity but a rapid increase in permeability during summer gives a high level of soft seed by autumn. In Western Australia, frequently all or almost all the hard seeds soften by early autumn and this sometimes causes regeneration failures following "false breaks" (13). The seeds also have little physiological dormancy (8). A high proportion of unburied burr may be formed.

Rhizobial requirements the same as Mt. Barker (q.v.).

Reported to be more resistant to rust than Mt. Barker (7,11) and to be susceptible to clover stunt virus (5). Oestrogenic potency low (4,9).

References

- 1 Aitken, Yvonne, and Drake, F.R. (1941). Studies of varieties of subterranean clover. *Proc. R. Soc. Vict.* **53** (N.S.)II, 342-93.
2. Cameron, D.G. (1959). Subterranean clover and soil conservation. *J. Soil Conserv. Serv. N.S.W.* **15**, 5-18.
3. Drake, F.R. (1940). Bacchus Marsh subterranean clover. *J. Agric. Vict. Dep. Agric.* **38**, 108-9, 128.
4. Francis, C.M., and Millington, A.J. (1965). Wether bioassay of annual pasture legumes. III. The oestrogenic potency of dry sub clover pastures and leaf blade and petiole in green state. *Aust. J. Agric. Res.* **16**, 23-30.
5. Grylls, N.E., and Peak, J.W. (1960). Varietal reaction and genetic resistance of subterranean clover (*Trifolium subterraneum* L.) to subterranean clover stunt virus infection. *Aust. J. Agric. Res.* **11**, 723-33.

6. Loftus Hills, K. (1942). A method of distinguishing the commercial varieties of *Trifolium subterraneum* in the seedling stage. *J. Coun. Scient. Ind. Res. Aust.* **15**, 270-1.
7. Loftus Hills, K. (1942). The reaction of varieties of *Trifolium subterraneum* L. to leaf rust (*Uromyces trifolii*). *J. Coun. Scient. Ind. Res. Aust.* **15**, 272-4.
8. Loftus Hills, K. (1944). Dormancy and hardseededness in *Trifolium subterraneum*. 4. Variation between varieties. *J. Coun. Scient. Ind. Res. Aust.* **17**, 242-50.
9. Millington, A.J., Francis, C.M., and McKeown, N.R. (1964). Wether bioassay of annual pasture legumes. II. The oestrogenic activity of nine strains of *Trifolium subterraneum*. *Aust. J. Agric. Res.* **15**, 527-36.
10. Neal-Smith, C.A. (1942). The adaptability of Bacchus Marsh subterranean clover in South Australia. *J. Dep. Agric. S. Aust.* **45**, 602-5.
11. Peterson, S. (1954). Rust in subterranean clover. *Agric. Gaz. N.S.W.* **65**, 597-602, 605.
12. Quinlivan, B.J. (1962). The certified strains of subterranean clover in Western Australia. *J. Agric. West. Aust.* **3**(4th Ser.), 113-25.
13. Quinlivan, B.J., and Millington, A.J. (1962). The effect of a Mediterranean summer environment on the permeability of hard seed of subterranean clover. *Aust. J. Agric. Res.* **13**, 377-87.
14. Quinlivan, B.J., Francis, C.M., and Poole, M.L. (1968). The certified strains of subterranean clover. *J. Agric. West. Aust.* **9**(4th Ser.), 161-77.