

Register of Australian Herbage Plant Cultivars

B. Legumes

1. Clover

Trifolium cherleri L. (cupped clover) cv. Yamina

Reg. No. B-1f-1

Registered prior to December 1971

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

Origin

Derived from a sample of seed collected by C.M. Donald and J.F. Miles of CSIRO, at Binyamina in Israel in 1951, and introduced under the C.P.I. No. 14926 (1). Selected by E.T. Bailey from a series of comparative trials of annual legumes during 1958-62 on a number of sites in the wheat belt region of Western Australia (1,2,3). Seed first commercially available 1963.

Morphological description (4,8)

Herbaceous annual with prostrate stems, covered with rather dense soft white hairs. Leaves, except the uppermost pair on each stem, alternate. Leaflets obcordate/cuneate or wedge-shaped, toothed, 5-7 mm long or slightly longer and 4-5 mm broad, hairy on both upper and lower surfaces. Stipules, free part rounded, shortly pointed. Inflorescence a terminal, sessile, globose capitulum, 9-12 mm in diameter, with involucre formed by the inflated stipules of the uppermost pair of leaves. Calyx softly hairy about 2-nerved; the teeth equal, bristle-like, as long as the tube. Corolla white, not very conspicuous, and slightly longer than calyx. Pod small, membranous, single-seeded, held in calyx. Seeds straw- to buff-coloured, slightly compressed ovoid, 2.5 mm long with shallow lateral notch at radicle end, approx. 255,000 per kg.

Agronomic characters (1-4)

Winter-growing and adapted to a Mediterranean climate with annual rainfall of 330-460 mm. Flowers from beginning to third week of September, or about one week later than Sirint rose clover, over a wide range of environments in eastern Australia. Time of seed maturation is slightly longer than in Kondinin rose clover but it is relatively rapid under dry conditions; it can therefore often set and mature seed under very dry and adverse conditions. It sets seed, regenerates, and spreads well on most soils. A high proportion of seed is hard at maturity but by beginning of autumn hardseededness averages about 60-70%.

Cv. Yamina nodulates satisfactorily with *Rhizobium* strains WU290 and CC2480a which are contained in Australian commercial inoculant "C" distributed in the eastern States of Australia. Commercial inoculant "C" distributed in Western Australia at present (Nov. 1971) contains WU95 instead of CC2480a; WU95 is of doubtful value for cupped clover (6).

In trials at a number of sites in the wheat belt of Western Australia, Yamina, when ungrazed, gave somewhat higher yields of dry matter in the 380-480-mm rainfall zone than Cyprus barrel medic and Geraldton sub clover, except on some lighter soils where the yield of Geraldton equalled that of Yamina; in the 280-356-mm rainfall zone the yields of Yamina were again greater except on some heavy soils where Cyprus outyielded Yamina. When subject to a frequent cutting regime, however, the yield of Yamina at 356-mm rainfall locations greatly exceeded that of Cyprus, Geraldton, and Kondinin on both heavy and light soils (4). Yamina also yields more herbage than Beenong but less seed.

It is palatable to sheep, although sometimes they do not take readily to the woolly heads after they have dried (1). In a test by Dr. G.W. Arnold of CSIRO, the amount of feed eaten each day by sheep after they had become accustomed to cupped clover was high for a feed of low digestibility, 47% of the dry feed was digested. The seed heads were selectively eaten and the digestibility of the seed was 89.1%. Passage through the sheep increased the germination percentage of the seed (5).

The herbage contains no significant amount of oestrogenic substances (7) and the protein content of the heads at the end of the summer is approximately 13% (4).

References

1. Anon. (1966). Cupped clover. *Rur. Res. CSIRO* **57**, 13-15.
2. Bailey, E.T. (1960). New pasture species for south-western Australia. *Wool Technol. Sheep Breed.* **7**, 131-4.
3. Bailey, E.T. (1965). Rose and cupped clover trials in Western Australia. CSIRO Aust. Plant Introd. Rev. No. 2(1), pp. 19-26.
4. Bailey, E.T. (1966). Personal communication. CSIRO West. Aust. Regional Lab., Perth.
5. Bailey, E.T. (1967). Consumption and digestion of dry cupped clover. *J. Agric. West. Aust.* **8**(4th Ser.), 199.
6. Brockwell, J. (1971). Personal communication. CSIRO Div. Plant Ind., Canberra.
7. Francis, C.M., Millington, A.J., and Bailey, E.T. (1967). The distribution of oestrogenic isoflavones in the genus *Trifolium*. *Aust. J. Agric. Res.* **18**, 47-54.
8. Hossain, M. (1961). A revision of *Trifolium* in the nearer East. *Notes R. Bot. Gdn. Edinb.* **23**, 387-481.