

Register of Australian Herbage Plant Cultivars

B. Legumes

1. Clover

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

Reg. No. B-1d-20

Registered April 1981

Published in the Journal of the Australian Institute of Agricultural Science 48(2), 119-20, 1982

Origin

Meteora was selected from lines collected in northern Greece by Dr. J.S. Katznelson (7). It was found on a damp site between the towns of Larisa and Trikkala and introduced by CSIRO as CPI 3932YB. In its agronomic evaluation as part of the national breeding programme (4), it demonstrated vegetative vigour and marked tolerance to clover scorch (*Kabatiella caulivora* (Kirch.) Karak (2)).

Submitted by the Western Australian Department of Agriculture, and recommended for registration by the Western Australian Herbage Plant Liaison Committee. Registered April 1981.

Morphological description

A typical member of ssp. *yannanicum*, being almost glabrous, possessing long petioles and large cream coloured seeds.

Growth habit is semi-prostrate; spaced plants produce relatively few (10-11) runners with long internodes. Leaflets are large and bright green on long petioles. Leaflet markings are distinct from other *yannanicum* cultivars, Yarloop and Trikkala. The leaflet crescent is conspicuous and yellow-green, reaching the margin of the leaf in mature leaves. There are no crescent arms or leaf flecks. Stipules are green with red veins and a red flush between the veins under cool conditions. Calyx tube is green, glabrous; corolla white. Pods large, leathery and enclosed in the largely transversely wrinkled calyx. In the burr 2-3 pods protrude from the sparsely distributed sterile calyxes. Seed ovoid, cream to amber, approximately 10,000 per kg.

Agronomic characters (1,2,3,5,6,8)

Meteora's outstanding characteristic is its exceptional spring growth, leading to a striking, tall appearance of the mature sward when reserved for hay production. Because of its tall growth in spring, it is highly competitive with grasses and other herbs and maintains a high clover percentage in hay cuts (6). It is of late mid-season maturity (7-10 days later than cv. Mt. Barker) and under Western Australian conditions it needs a growing season of at least 9 months for satisfactory persistence in the field. Tolerant of waterlogging, its growth in flooded conditions is 93% of unflooded controls and similar to cv. Yarloop (3). Seed yields under high rainfall conditions (850mm or greater) have been satisfactory (440kg/ha or greater) but an unusually high proportion of residual hard seeds for such a late variety (60% or more) may produce low plant density in second year stands under cool summer conditions (6).

Contains 0.20 to 0.35% dry weight of formononetin in the green leaves. This is above the maximum of 0.20% recommended for safety from oestrogenic effects in sheep (8). Nevertheless, it is unlikely to cause reproductive abnormalities in sheep grazing mixed pastures in the high rainfall areas where the cultivar will be employed.

Meteora is the most resistant of the *yannanicum* clovers to clover scorch, *Kabatiella caulivora* (2), with distinct resistance in the seedling stages; in these aspects it is superior to Trikkala and Larisa. Meteora has a degree of tolerance to root rots in the field in Western Australia. Tolerance is at least equal to Trikkala and Larisa and significantly better than Yarloop, Woogenellup and Mt. Barker (5). The cultivar nodulates satisfactorily with the recommended *Rhizobium trifolii* strain WU 95 (1).

Its resistance to clover scorch, together with its tall habit and high spring yield, makes the cultivar well suited to high rainfall areas, particularly those where cattle production and fodder conservation are part of the farming system.

References

1. Chatel, D.L. (1981). Personal communication. West. Aust. Dep. Agric., Perth.
2. Chatel, D.L., and Francis, C.M. (1974). The reaction of varieties of subterranean clover to the clover scorch disease *Kabatiella caulivora* (Kirch.) Karak at three sites in Western Australia. West. Aust. Dep. Agric. Tech. Bull. No. 27.
3. Francis, C.M., and Devitt, A.C. (1969). The effect of waterlogging on the growth and isoflavone concentration of *Trifolium subterraneum* L. *Aust. J. Agric. Res.* **20**, 819-25.
4. Francis, C.M., and Gladstones, J.S. (1981). Exploitation of the genetic resource through breeding: *Trifolium subterraneum*. Proc. Int. Symp. Genetic Resources of Forage Plants. Townsville 1979. Eds. J.G. McIvor and R.A. Bray. Pp. 251-60 (CSIRO: Melbourne).
5. Gillespie, D.J. (1979). Pature deterioration. Annu. Rep. Plant Res. Div., West. Aust. Dep. Agric. P. 29.
6. Gillespie, D.J., and Nicholas, D.A. (1981). Meteora (3932YB) – a new clover for high rainfall areas. West. Aust. Dep. Agric. Technote.
7. Katznelson, J.S. (1966). Report on seed collection tour in Greece, Yugoslavia and northern Italy. Volcani Inst. Agric. Res. Pamp. No. 101. Rehovot, Israel.
8. Neil, H.G., Fels, H.E., and Francis, C.M. (1969). Control of clover infertility in sheep. *J. Agric. West. Aust.* **10**, 275-7.