

## Register of Australian Herbage Plant Cultivars

### B. Legumes

#### 1. Clover

#### (d) *Trifolium subterraneum* var. *brachycalycinum* (Katz. et Morley) Zohary and Heller (subterranean clover) cv. Nuba

Reg. No. B-1d-27

Registered 5 January 1990

*Originators:* South Australian Seedgrowers Co-operative Ltd  
135 South Terrace, Adelaide, South Australia 5000, Australia.

*Registrar:* R. N. Oram

CSIRO Division of Plant Industry, G.P.O. Box 1600, Canberra, A.C.T. 2601, Australia.

*Released by* South Australian Seedgrowers Co-operative Ltd

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#### Origin

The cultivar was bred by Dr S. Morgner, Hessische Forschungsaustalt für Grünland Wirtschaft, Eichnof at Bad Hersfeld/Hessen, Federal Republic of Germany. Through the breeder's representative, L. C. Nungesser, Darmstadt, West Germany, the South Australian Seedgrowers Co-operative has been given rights to produce, market and represent Nuba throughout the world.

Nuba is the result of a breeding program in which the cultivar Clare was crossed with a Spanish ecotype. A plant selected from the F<sub>4</sub> generation gave rise to Nuba. Selection criteria were high yield of fresh and dry matter, high seed yield, early development, seedling vigour and good tolerance to cold and drought, under European conditions (C. Esele, pers. comm.).

Nuba was recommended for registration by the South Australian Herbage Plant Liaison Committee. Breeders' seed will be maintained by the South Australian Seedgrowers Co-operative.

#### Morphological description

Leaflets are larger than those of Clare, with a white, moderately broad arm extending from the crescent to leaflet margin (Cregan and Wolfe 1988). No light green area in the centre of the leaflet as in Clare. Stipules are narrow but longer than those of Clare and with red veins. Corolla is white with some pink colour on veins. Calyx is pale green as in Clare. Peduncle is pubescent and shorter than the petiole. Burrs are of medium size and of firm structure. Plants are densely branched with well developed secondary and tertiary branches. Internodes long, green-red, pubescent (Aitken and Drake 1941; Taylor 1985). Pods are tough with keel adhering to and covering seed completely. Seeds are black-violet, smaller than

Clare (84–105 000 seeds/kg), symmetrical and with the cotyledon lobe not as prominent (Taylor 1985).

#### Agronomic characters

Nuba, relative to Clare, shows strong seedling vigour and seedling development, better winter growth, and tolerance to cold conditions (Reed and Clark 1987; Clark 1988). It was less affected by frost than 4 other cultivars of *Trifolium subterraneum* in a trial in 1987–88 at Benambra, Victoria (K. F. M. Reed and S. G. Clark, pers. comm.).

Nuba has been grown on loam-sandy loam soils of pH 7.0–8.0 (1:5, soil:water) and in some instances as low as pH 5.3 and has been equal to or better than Clare for seed yield, herbage production and vigour (Reed and Clark 1987; Clark 1988). The cultivar usually flowers 5–10 days later than Clare (G. Auricht, pers. comm.; W. J. Collins and E. J. Crawford, pers. comm.) but was earlier than Clare at Werribee, Victoria (Clark 1988).

Nuba produces higher seed yields than Clare, with hard seed levels similar to that of Clare (Reed and Clark 1987; Clark 1988). Dry matter production is greater after the normal maturity time if the appropriate conditions exist (K. F. M. Reed, pers. comm.). Nuba contains 0.15% formononetin in its leaf dry matter (Clark 1988).

The cultivar exhibits moderate resistance to *Phytophthora clandestina* Taylor, Pascoe & Greenhalgh (root rot), *Kabatiella caulivora* (Kirchn.), Karak (clover scorch) and cucumber mosaic virus (Clark 1988). It is as susceptible to clover red leaf virus as Clare and Woogenellup, and more susceptible to clover stunt virus than Clare and 6 other cultivars (Clark 1988).

#### References

- Aitken, Y., and Drake, F. R. (1941). Studies of the varieties of subterranean clover. *Proceedings of the Royal Society of Victoria*, **53**, 11, 342–93.
- Clark, S. G. (1988). Report on the performance in trials of Nuba subterranean clover. Department of Agriculture and Rural Affairs, Hamilton, Victoria.
- Cregan, P. D., and Wolfe, E. C. (1988). Subterranean clover in N.S.W.—identification and use. NSW Agriculture and Fisheries Agfact P2.5.15.
- Reed, K. F. M., and Clark, S. G. (1987). Results of contract subterranean clover trials established 1986–87. Department of Agriculture and Rural Affairs, Hamilton, Victoria.
- Taylor, N. L. (1985). 'Clover Science and Technology.' (Soil Science Society of America Inc.: Madison U.S.A.)