

# Register of Australian Herbage Plant Cultivars

## A. Grasses

### 2. Ryegrass

#### Hybrid Ryegrass cv. Grasslands Ariki (*L. multiflorum* × *L. perenne*) × *L. perenne*

Reg. No. A-2c-2

Registered August 1972

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#### Origin

A hybrid developed by the Grasslands Division of D.S.I.R., New Zealand from crosses between selections from Grasslands Manawa and Grasslands Ruanui populations. From the progenies of an original 70 crosses made in 1950 and on the basis of a series of polycrosses and progeny tests, elite parents were selected to provide the basis of a new synthetic cultivar. The nucleus polycross was established in 1959 (7). The selections were made with the aim of incorporating the perennial ryegrass characteristics of persistency, ability to withstand hard grazing, vigorous tillering and resistance to stem weevil, with the Grasslands Manawa characteristics of resistance to rust, winter and early spring growth and improved palatability (1,3,4,5).

Formerly referred to as a long rotation or new hybrid ryegrass during the six-year testing and multiplication phase (1960-66), it was officially released as Grassland Ariki. Breeders' seed was released to selected growers by the Department of Agriculture in 1966 and certified seed became generally available by 1968. Nucleus seed is maintained by the Grasslands Division of D.S.I.R., Palmerston North, and breeders' seed is produced under the supervision of the New Zealand Department of Agriculture. Submitted for registration by the Tasmanian Department of Agriculture and recommended by the Tasmanian Herbage Plant Liaison Committee. Registered in August 1972.

#### Morphological description

Grasslands Ariki has a dense leafy growth habit and it is generally similar to the perennial cultivar Grasslands Ruanui in appearance. It differs, however, in the following respects. It has lighter green and slightly more lax leaves; the auricles are more prominent, often enclosing the stems, and only a small percentage of new leaves emerge in a folded state. It is slightly later than Grasslands Ruanui but much earlier than Grasslands Manawa in flowering time. A small percentage of glumes is awned, but not sufficient to distinguish it readily from perennial ryegrass. Fluorescence of the primary roots of seedlings under ultra-violet light is intermediate between perennial ryegrass and the hybrid Grasslands Manawa.

#### Agronomic characters

Grasslands Ariki is a perennial grass adapted to soils of high fertility (2,8,9). It also has a relatively high moisture requirement for good production and persistence (9). It is more succulent and palatable than perennial ryegrass cultivars (1,9) but less succulent than Grasslands Manawa (10).

In New Zealand Grasslands Ariki has been shown to have a higher total production than Grasslands Ruanui. Exhibiting a wide seasonal spread of production, it gives slightly more early spring growth and much greater summer production than the latter (1,2,3,4,5,8). Because of its high seedling vigour and relatively good early growth, it requires careful grazing management and lighter seeding rates to prevent suppression of associated clovers and grasses in the sward (1,2,3,8). It has been found most suitable for both cattle and sheep production (1,2,10).

In Tasmania this cultivar is more productive in the establishment phase and in winter production under high fertility, but it provides less total production than Tasmanian No. 1. It is less persistent under dry conditions and production is more affected by moisture stress and nitrogen deficiency than Tasmanian No.1. Compared with Grasslands Manawa it is much less productive in the first year, but thereafter usually more productive. It is usually effectively more perennial when moisture stress is not extreme. It is regarded as a potentially useful supplementary grass in high rainfall areas (9).

Its seeds ripen about one week later than Grasslands Ruanui (3) and seed yields are slightly greater (8).

In New Zealand Grasslands Ariki has been found to be more resistant to Argentine stem weevil and leaf rust than the other New Zealand ryegrasses (1,6). Its resistance to leaf rust is borne out by Tasmanian investigators.

## References

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