

Register of Australian Herbage Plant Cultivars

A. Grasses

2. Ryegrass

Lolium multiflorum Lam. (Italian ryegrass) cv. Midmar

Reg. No. A-2b-3

Registered April 1983

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Origin

Bred in South Africa by the Pasture Plant Breeding Section of the Department of Agriculture and Fisheries (Natal Region) for the eastern high rainfall area of the country. The material was evolved by recurrent selection, polycross and progeny testing from a large collection of local and exotic diploid accessions (6). Selection aimed at producing an upright line with improved winter yield and rust resistance than local South African strains, especially under irrigation (5). It was released in 1974 and breeders' seed was produced for a certification scheme controlled by the Division of Plant Seed Control (1). Midmar has been tested in Australia since 1978, and is proving useful in southern Queensland and northern New South Wales. The Queensland Department of Primary Industries has arranged with the South African originators to import breeders' seed for the production of seed in Australia.

Recommended for registration by the Queensland Herbage Plant Liaison Committee at the request of the Queensland Department of Primary Industries. Registered in April 1983.

Morphological description

A narrowly erect, leafy diploid ($2n = 14$) annual cultivar, rarely persisting into the second year. Culms 30-100cm high, smooth but usually rough immediately below the spike. Young leaves rolled in the bud, shoots rounded. Expanded leaf blade tapering, evenly ribbed, dark green and dull on upper surface; lighter green and shiny on lower surface (1). Leaf colour generally much lighter green than cv. Grasslands Tama. Auricles large and clasping leaf sheath. Ligule blunt and very short. Inflorescence a flattened spike 15-30cm long with sessile spikelets in depressions on alternate sides of the rachis and placed edgewise to it. Spikelets 16-20 flowered, 10-25mm long. Lower glume absent except on terminal spikelet; upper glume 5-9 nerved; glumes about half as long as the spikelet, as long as the lemma. Lemma 7-8mm long, strongly awned from between two short lobes. There are 460,000 seeds/kg. It is later flowering than Grasslands Paroa but earlier than Aberystwyth S.22 (1).

Agronomic characters

Midmar has greater adaptability to the Natal Mistbelt conditions than cvv. Grasslands Paroa and Grasslands Tama, with dry matter yields up to 18% higher on a seasonal basis. The superiority was shown mainly in the cooler months of June, July and August (1,6). Midmar is only slightly susceptible to leaf rust (*Puccinia coronata*) (1,4,6). In south-east Queensland, it demonstrated a similar level of yield superiority (18%) over other cultivars of Italian ryegrass, including tetraploids. It has shown equivalent production to *L. rigidum* cv. Wimmera in early season growth, to Grasslands Tama in winter and to *L. perenne* cv. Kangaroo Valley Early in late spring (4). Rust resistance in south-east Queensland is similar to Kangaroo Valley Early and superior to cvv. Grasslands Paroa, Grasslands Tama and Wimmera (4). In the subtropical environment, it requires nitrogenous fertilisers and at least 1600mm of water from rain and irrigation to maintain high levels of production.

Midmar shows superiority in early establishment to cv. Grasslands Tama, but is less tolerant to high temperatures during establishment than cv. Wimmera. In south-east Queensland, reliable establishment can be expected from the early sowings (4). At Taree on the mid-north coast of N.S.W., Midmar trailed cv. Grasslands Tama in early winter, equaled Tama in late winter, and slightly exceeded Tama in late spring, but the rust resistance of Midmar was much greater than that of Tama (3). It has proven useful as a source of herbage in winter, particularly for dairy cattle, when resown annually. In northern Tasmania under rotational grazing by sheep, Midmar establishes rapidly, but is overtaken after a few weeks by Grasslands Tama, which remains the more productive cultivar for the remainder of the first three months. Thereafter, Grasslands Paroa produced more herbage than Midmar.

References

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