Register of Australian Herbage Plant Cultivars

A. Grasses
2. Ryegrass
Lolium perenne L. (perennial ryegrass) cv. Brumby

Reg. No. A-2a-11
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Origin

Bred by I.C. Aberdeen and G.J.R. Coles at the plant breeding and varietal testing station of Valley Seeds Pty. Ltd., at Cathkin in north-central Victoria. In 1975 sixty individual plants were selected from a paddock at Merton, which had been sown to basic Medea ryegrass seed in 1971. The area was grazed with sheep at a moderate stocking rate until it was closed for a period of six weeks prior to selections being made. Plants were selected on the basis of vigorous winter regrowth, and freedom from *Puccinia coronata* and *Puccinia graminis.* In 1976 and 1977 the population was taken through two generations of selection and crossing with emphasis being placed on evenness, vigorous winter growth, freedom from rust disease and seed yield. In 1978 the best performing plants were crossed with plants of Victorian perennial ryegrass selected from a seed certification area RG508B at Kanumbra, using the selection criteria of winter vigour and freedom from Puccinia infection. From 1979-83 the progeny were taken through five generations of selection and crossing using the same criteria but with special emphasis on seedling vigour, high seed yield, ease of threshing and extended summer dormancy. During the breeding program all selected plants were grown in areas which had been fumigated with methyl bromide. Cross pollination was controlled by the use of portable double-hessian screens for larger areas.

In 1984 breeders' seed was produced by Valley Seeds Pty Ltd., which will maintain the supply of breeders'seed. The data supporting registration have been considered by the Victorian Herbage Plant Liaison Committee. Registered in February 1987.

Morphological description

Brumby is like Medea in that the tillers are of similar thickness with well developed anthocyanin pigmentation at the base. The leaves are up to 30% narrower than cv. Victorian. Some plants exhibit a distinctive blue-green cast. Spikelets are about 15% broader than in Victorian. The lemma is nor awned or only shortly so. Some plants branch at the nodes and some plants develop shoots and roots at the nodes. Fifteen percent of the breeders' seed produced contained endophyte (*Acrmonium loliae* Latch, Christiansen and Samuels). Approximately 597,000 seeds/kg.

Agronomic characters

Brumby is characterised by vigorous seedling and winter growth. It produced a high seed yield in its first year of production. Individual plants transplanted in late autumn at Cathkin produced over twice as much seed as cv. Victorian. When surface-seeded after spraying with herbicide in mid-June cv. Brumby produced more seed heads than cv. Victorian RG612B at Kilmore. At Longmore Brumby produced twice as many seed heads as Victorain RG206J. Brumby has a longer period of summer dormancy than Victorian and indications are that it compares favourably with that cultivar in persistence during periods of lower rainfall. Brumby plots sown at Cathkin in 1984 maintained 50% higher ground cover than Victorian, Nui, Ellett and Kangaroo Valley and produced more dry matter than those cultivars after a prolonged dry period during the summer and autumn of 1985. Brumby plants established in plots at Cathkin and Broadford in 1984 exhibited 95% survival in January 1987. Brumby heads and flowers a little earlier than Victorian. At Cathkin during the spring of 1985 spaced plants of Brumby headed and flowered one or two days earlier than Victorian RG206, an early line of Victorian from Smeaton. Brumby has about the same susceptibility to rust as Victorian. Because of its rapid establishment, high first-year seed production and high summer dormancy, Brumby is expected to be suited to districts in south-eastern Australia with growing seasons of 7-8 months, which are too short for the reliable survival of other perennial ryegrass cultivars (Silsbury J.H. 1961. *Aust. J. Agric. Res.* **12**, 1-9)

Acknowledgments

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Breeders

Mr. G.J.R. Coles and Mr. I.C. Aberdeen, Valley Seeds Pty. Ltd., R.M.B. 1480, Alexandra, Victoria 3714.