Register of Australian Herbage Plant Cultivars

A. Grasses
3. Phalaris
Phalaris aquatica L. (phalaris) cv. Sirosa

Reg. No. A-3a-4
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Origin

Bred by J.R. McWilliam and H.E. Schroeder, Division of Plant Industry, CSIRO, Canberra, based on a wide range of ecotypes of *Phalaris tuberosa* introduced from the Mediterranean region. In summary, the breeding procedures involved top-crossing a large number of selected Mediterranean ecotypes on to the well adapted cv. Australian and one other mid-season Turkish ecotype (CPI15022), followed by several generations of random recombination before exposing the population to repeated cycles of individual and family selection (for further details see McWilliam and Latter 1970). Submitted by the Division of Plant Industry, CSIRO, and recommended for registration by the New South Wales Herbage Plant Liaison Committee. Registered April 1974.

Morphological description

Morphologically similar to the Australian cultivar, but differing in the following respects. Leaf sheath longer with broader laminae, culms thicker and taller. Panicles tend to be larger and more compact and the seeds are also larger and 25% heavier at maturity, with a tendency to be more hairy. The cultivar flowers c.3 days before Australian with a similar range of intrapopulation variation in flowering date. Up to 20% of the population carry the gene for red root tip (McWilliam and Shepherd 1964) which expresses clearly in newly germinated seedlings. In general, seedlings and adult plants are more robust and less prostrate during the winter period.

Agronomic characters

Evidence from trials throughout south-eastern Australia indicate that Sirosa has retained the wide adaptability of Australian. It has performed well on the slopes and tablelands extending in a broad sweep around south-eastern Australia, generally in regions with a rainfall in excess of 450 mm. The seedlings are more vigorous than those of Australian and display the rapid early growth characteristic of Sirocco, although they are better tillered and less erect. This increased seedling vigour results in more reliable establishment and greater dry matter production during the early years, especially during the cooler seasons. The persistence of the cultivar is comparable with Australian and Sirocco, but it produces more seed than either of these cultivars owing to increased seed yield per plant and superior seed retention at maturity. The cultivar has been selected for reduced levels of dimethyltryptamine alkaloids which are considered to be associated with the expression of staggers and sudden death syndromes.

Breeders' seed will be maintained by the Division of Plant Industry, CSIRO, Canberra, A.C.T.

References

McWilliam, J.R., and Shepherd, C.J. (1964). The nature and genetic control of a red anthocyanin pigment in the root meristems of *Phalaris*. *Aust. J. Biol. Sci*. **17**, 601-8.

McWilliam, J.R., and Latter, B.D.H. (1970). Quantitative genetic analysis in Phalaris and its breeding implications. *Theoret. App. Genet.* **40**, 63-72.