

Register of Australian Herbage Plant Cultivars

A. Grasses

3. Phalaris

Phalaris aquatica L. (phalaris) cv. Sirolan

Reg. No. A-3a-6

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Origin

Bred by R.N. Oram, M.J. Hackett and K. Hoen of the Division of Plant Industry, CSIRO, Canberra, from Sirocco and selections from crosses between Australian, CPI 15022 (Turkey) and 26 introductions representative of the range of the species in the Mediterranean region. Twelve generations of recombination and selection among half-sib and full-sib families were imposed on the population, first for high seedling vigour, good survival over summer and high winter yield at Wagga Wagga, N.S.W. (1), and, in the later generations, for low tryptamine alkaloid and total base concentration in the herbage (2), and for higher seed production and retention. Submitted by the Division of Plant Industry, CSIRO, and recommended for registration by the Herbage Plant Liaison Committees of New South Wales and Victoria. Registered in July 1978. Breeders' seed will be maintained by the CSIRO, Division of Plant Industry.

Morphological description

Sirolan differs from Australian and Seedmaster phalaris in the following respects. Vegetative tillers are fewer in number, thicker and more erect. Leaf sheaths are longer, laminae broader and more erect. Flowering culms are thicker, fewer and longer. The panicles are broader, and the outer glumes of two-thirds of the plants have at least some hairs. The seeds are broader and heavier. Half the seedlings germinated in dishes are seen to have red root tips at 10 x magnification, the colour intensity varying from pale pink to intense red.

Sirolan differs from Sirocco in having darker green leaves, more tillers, shorter culms at flowering, fewer plants with hairy outer glumes and fewer seedlings with red root tips.

Relative to Siroso, Sirolan has slightly larger seedlings, and is earlier flowering. Sirolan plants are more erect, and have fewer, thicker tillers than most Siroso plants. The frequency of plants with red root tips and hairy outer glumes is higher in Sirolan than in Siroso.

Agronomic characters (3,4,5,6,7,8)

Sirolan was developed as an alternative to Sirocco for the drier marginal phalaris areas of eastern and southern Australia, where Australian is not persistent (3). However, it has also performed well at Canberra (4). Sirolan is equal to Sirocco in seedling vigour and winter productivity (4-7). It is slightly later in maturity and somewhat less dormant in summer. Sirolan produces and retains more seed than Sirocco (4).

Sirolan herbage contains much lower concentrations of dimethyl tryptamine alkaloids and other organic bases than any other cultivar of phalaris (4). Because the tryptamine alkaloids have been associated with the incidence of acute and peracute phalaris poisoning ("sudden death") (8), Sirolan should have reduced toxicity (2). However, the incidence of chronic phalaris poisoning (phalaris staggers) on Sirolan is not yet known, so cobalt prophyllaxis should be used until experimental evidence is obtained.

Although no comparisons have been made of the productivity of livestock grazing Sirolan and other phalaris cultivars, the progenitors of Sirolan (PX17, PX18u and PX20) have remained as productive as other cultivars in mowing/grazing experiments of up to 4 years duration in Victoria and New South Wales (4,5).

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