

# Register of Australian Herbage Plant Cultivars

## A. Grasses

### 9. Forage Sorghum

#### *Sorghum* spp. hybrid. (sweet Sudan grass hybrids) cv. Sucro

Reg. No. A-9c-4

Registered January 1978

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#### Origin

Selected by Dr A.J. Pritchard of CSIRO from crosses between *Sorghum almum* Parodi and perennial Sweet Sudan grass for brown glumes, better stem juiciness and high soluble carbohydrate content (3). The objective of the breeding program was to select a palatable and productive perennial forage sorghum which could be easily differentiated from the weed Johnson grass (*Sorghum halepense* Pers.) which has black-coloured glumes.

Submitted for registration by the Division of Tropical Crops and Pastures, CSIRO, and recommended by the Queensland Herbage Plant Liaison Committee. Breeders' seed will be maintained by the Division of Tropical Crops and Pastures. Registered January 1978.

#### Morphological description (2)

A tall erect perennial similar in height (3.1-3.5 m at maturity) and tillering capacity to *S. almum* cv. Crooble. Stems are solid, juicy and sweet during the vegetative phase becoming pithy after flowering; slightly thicker (1.0-1.5 cm in diameter), more nodes but fewer branches than Crooble with generous covering of wax and conspicuous internodal bud grooves. Growth ring development sometimes uneven to give a slightly jointed appearance. Leaves similar to Crooble with more conspicuous membranous ligule and deltoid-shaped dewlap; flag leaf more persistent. Leaf sheath less tightly encircling the culm, fleshier sheath base and less pubescent.

The pyramid-shaped panicle is more compact with more secondary and tertiary branches than Crooble. Spikelets are persistent at maturity. Glumes are rigid, shiny and hairy before anthesis, becoming hard and light reddish-brown as seed matures; clearly different from the black glumes of Crooble. Awns arising from the lemma are small, weakly developed, but common and conspicuous in the immature inflorescence, and more persistent than in Crooble. Caryopses are tightly enclosed by glumes and are relatively larger, numbering about 136,000 (with glumes) per kg.

Electrophoretic isolation of isoenzymes from seed, seedling and leaf tissues did not indicate differences between Sucro and Crooble (2). Chromosome number  $2n = 40$ .

#### Agronomic characters (4,7)

Cv. Sucro is adapted to semi-arid (500-700 mm) and heavy clay soil areas of subtropical Queensland. Establishes easily from seed or from weak, upward-growing rhizomes, and has similar or slightly lower growth rate, drought tolerance, persistence and dry matter yield than Crooble. Flowers 6-7 weeks after planting, and has higher seed yield than Crooble. Relatively frost tolerant and demonstrates some resistance to common leaf diseases such as rust (*Puccinia* sp.) and sugar cane mosaic virus.

Leaves and stems are palatable to cattle especially during the vegetative growth stage and are high in non-structural carbohydrates. Total free sugars in the stem of Sucro just prior to flower initiation are 24.9% (oven dry weight) compared to 17.2% in Crooble at the same stage of growth (1). Prussic acid concentrations in young tissue similar to those of Crooble.

Behaves as a short-term perennial in ley pastures with winter forage species (such as oats, lucerne and medics), and is compatible with summer legumes such as *Lablab purpureus* and *Glycine wightii* (5). At the Narayen Research Station (near Mundubbera, Qld) steers continuously grazing Sucro at

stocking rates from 1.5-3.0 beasts/ha gained an average liveweight of 120 kg/head/year, some 21 kg/head/year less than for Crooble.

Sucro is easily eradicated by use of non-selective contact herbicides or by continuous grazing at stocking rates over 2.5 beasts/ha (6).

### References

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