

Register of Australian Herbage Plant Cultivars

A. Grasses

15. *Urochloa*

Urochloa mosambicensis (Hack.) Dandy (Sabi grass) cv. Nixon

Reg. No. A-15a-1

Registered November 1973

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Origin

Derived from CPI 6559, an introduction made by CSIRO in 1936 (1) from the Botany Branch, Department of Agriculture, Salisbury, Southern Rhodesia. The accession CPI 6559 was first sown at Katherine Research Station in plant introduction screening trials in the late 1940s. It was among the most promising of a range of *Urochloa* spp. assessed at Katherine in the period 1948-55 (8). About 1954 a stand of CPI 6559 was established on Forsbrook Station, Katherine, N.T., by Mr. B. Nixon and has remained undisturbed until the present time. In January 1970 Mr. P.G. Harrison took approximately 1,000 plant plugs at random from the area at Forsbrook and established them on Tippera soil at the Department of the Northern Territory's experiment station at Katherine. This clonal stand forms the basis of the cultivar, Nixon, derived from CPI 6559. Submitted for registration by the Animal Industry and Agriculture Branch of the Department of the Northern Territory, recommended for registration by the Northern Territory Herbage Plant Liaison Committee. Registered November 1973.

Morphological description (9)

The particular material referred to here is a derivative of CPI 6559 which has a chromosome number of $2n = 28$ and is considered to be an aposporous apomict (9). It is a perennial with a praemorse rhizome and erect culms to 80 cm in height. Leaves are pale to bright green, 10-15 mm broad and up to 10-20 cm long tapering to a fine point. In a dense stand, the leaves are usually erect, while in sparse stands, they are mostly only semi-erect. Leaf blades are hirsute on both surfaces and mature leaves may be quite scabrous. Leaf margins are also hairy and in younger leaves they are often slightly thickened and crinkled. The ligule is a ring of short hairs about 1 mm long. No auricles are present. The inflorescence is 2-6 cm long and has three tonine racemes on a simple common axis with each raceme 4-6 cm in length. The rachis is 1-2 mm wide and has hairs 3-5 mm long along its length which subtend each spikelet. Spikelets are on one side of the rachis only, in groups of 1-3, most commonly three in well grown specimens, with one or two at each end of the rachis. The lower glume is ovate-lanceolate in shape three-quarters of the length of the spikelet or less, and has a single bristle of 1-2 mm extending from a small central tubercle. The spikelets are usually 3-4 mm long and 1.5-3 mm wide. The lower lemma has a conspicuous fringe of bristles 1-1.5 mm long. Seeds are a light buff or cream colour and there are approximately 1 million per kilogram.

Agronomic characters (1,2,3,4,5,6,7,10)

Records (1) describe the Sabi grass groups as "Perennial drought resistant grasses, palatable to cattle making good winter growth when not checked by frost. They hay off rapidly with exhaustion of soil moisture. The group has a wide range of growth forms, from a strongly stoloniferous short culmed type to long culmed non-stoloniferous erect or lodging types. The group appears adaptable to friable open grasslands soils of 2.5 - 4 months summer rainfall. Free seeding habit ensures continuity of the species in the environment. In the winter periods hayed material suffers damage by moisture and desiccation. Their virtues seem to be quick growth with a free seeding habit. Useful for putting a pioneer cover on eaten out pastures with surface cultivation."

The cultivar Nixon is best adapted to tropical monsoon conditions with a rainfall of 600-1200 mm and a dry season of 5-9 months. Suitable for use on a wide range of soils from clay loams to sandy soils, but appears most suitable for the lighter soil types (4). It is not suitable for flooded sites.

Responds well to increased levels of soil phosphorus and nitrogen and under higher fertility levels can become an aggressive species (3,5).

It can be combined with the annual summer-growing legume, Townsville stylo, to provide a mixed legume-grass pasture in a tropical monsoon environment, but the balance between the two species is somewhat unstable and dependent on seasonal conditions, grazing management and soil nutrition (3,7).

Nixon is able to respond well to light unseasonal rainfall which occurs infrequently in the dry, and also the early wet season storms which render the dry standing Townsville stylo useless. It thus has a place in carrying livestock through this period which is one of acute feed shortage.

Grazing trials have shown it to have a high carrying capacity in the Tipperary region of the Northern Territory where under set grazing at a stocking rate of 1 beast to 0.3 to 0.6 ha, cv. Nixon plus Townsville stylo have given up to 450 kg liveweight gain per ha per annum (2,3).

The nutritional value of the species is high during the storm period prior to the wet, and protein contents of 10-14% are common. Protein content of the forage declines during the late wet, and dry season values may be as low as 4% (10).

Establishment is relatively easy on both cultivated and uncultivated land, and the cultivar has been among the highest yielders over a long period in trials between Katherine and Darwin. It regenerates and spreads easily by both seed and vegetative means, but does not root at the nodes. Flowering occurs continuously from 3-4 weeks after the wet season begins, and first seed would be ripe by mid - December onwards, depending on seasonal conditions. Seed production is profuse and three to five harvests per season may be obtained under commercial conditions with yields for a season being in the range of 100-300 kg per ha per year (5).

Normally seed will not germinate immediately after the harvest, apparently because of physiological dormancy (6), but field establishment some 6-12 months after harvest rarely presents problems.

Authentic breeders' seed stock will be maintained by the Animal Industry and Agriculture Branch of the Department of the Northern Territory.

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