

Register of Australian Herbage Plant Cultivars

A. Grasses

10. Pennisetum

Pennisetum glaucum (L.) R. Br. (pearl millet) cv. Katherine Pearl

Reg. No. A-10b-1

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Origin

Derived from seed (C.P.I.11378) introduced by CSIRO in 1948 from the Department of Agriculture, Accra, Ghana. Tested initially at Brisbane, it was subsequently tested more extensively at the Katherine Research Station, CSIRO, in the Northern Territory. The early plots at Katherine were liable to cross pollination and it has been suggested that cross pollination occurred during testing with several other introductions (C.P.I.16150 and 17018); there seems to be no evidence, however, that cross pollination did in fact occur (1). Certified in the Northern Territory; breeder's seed held at the Katherine Research Station, CSIRO, N.T.

Morphological description (4,12)

A robust, freely tillering annual up to 3 m high, it is rather variable in height, tiller number, pubescence of leaf and sheath, and length of inflorescence. Leaves flat, dark green, and up to 8 cm wide, generally hairy but not always so; leaf sheaths hairy on the collar and usually on the margins upwards or glabrous; ligule a fringe of hairs. Inflorescence a spike-like compact cylindrical panicle up to 30 cm long. Spikelets in clusters of 2-5 surrounded by an involucre of bristles; colour of bristles variable, straw to purple; and bristles not prominent for the species. Spikelets with lower sterile or male floret and upper fertile floret, and unequal glumes, the lower being merely a small scale. Seed: caryopsis is pearly white to gray, plump, rounded, and about 3 mm in diameter.

Agronomic characters

Cv. Katherine Pearl is a summer-growing annual, best adapted to the high temperatures of a tropical savannah climate. It is an obligate short-day plant requiring a critical day length of 12-12 1/2 hours for floral initiation (3). It is a late-flowering type but variable and some plants may flower up to six weeks before the bulk of the crop (1). At Katherine, N.T., it takes approximately 3-4 months from sowing to flowering (2). Flowers are protogynous and extensive cross-pollination occurs (8).

It is deep-rooting and more efficient in the utilization of soil nitrogen than fodder sorghum and Sudan grass (10,11); it may deplete and utilize nitrogen to a depth of 1.2 m on clay soils and 2.4 m on sandy soils (12). A maximum uptake in the tops of 215 kg of nitrogen per ha has been recorded whilst the average has been 123 kg per ha (8).

It is capable of very high growth rates and dry matter production (2,8). At Katherine, N.T., it has proven, in experiments comparing wet season fodder crops, the highest producer of both dry matter and crude protein (1,6,10). It has averaged 12,936 kg dry matter per ha over an 11-yr period (8); the maximum recorded being 21,971 kg in 16 weeks after emergence (2). Seed yields average 650 kg per ha (1). In trials in New South Wales, cv. Katherine gave average dry matter yields of 9166 kg per ha in coastal areas and 8161 kg in inland locations (5). In early growth stages crude protein was 28% but gradually decreased to 8% towards maturity (5).

Regrowth yields are good following early cutting (2) and it will stand moderate grazing during growth; regrowth declines as internode elongation proceeds, i.e. 5-11 weeks from emergence (2). At Katherine, N.T., it provides good "wet season" grazing during growth, a good standover mature forage for dry season, and makes palatable silage (7,8,9).

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