

Register of Australian Herbage Plant Cultivars

A. Grasses

16. *Brachiaria*

Brachiaria humidicola (Rendle) Schweick. (Koronivia grass) cv. Tulley

Reg. No. A-16b-1

Registered October 1981

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Origin

Derived from material introduced as CPI 16707 from Rietondale Experiment Station, Pretoria, South Africa, by J.F. Miles in 1952. Subsequently, samples of this material went to Fiji in 1957 where it is now grown commercially as Koronivia grass (7,8); also in Papua New Guinea. CPI 16707 was brought to North Queensland in 1958 (Kairi Research Station) and 1965 (South Johnston Research Station). Identical material was reintroduced to the Tulley area of North Queensland from Markham Valley, PNG, in 1973 and it is from this reintroduction that commercial seed of cv. Tulley derives.

Approved for commercial release by the Queensland Herbage Plant Liaison Committee in August 1980. Submitted by the Queensland Department of Primary Industries and recommended for registration by the Queensland Herbage Plant Liaison Committee. Breeders' seed will be maintained by the Queensland Department of Primary Industries. Registered October 1981.

Morphological description (1,2,4,6)

A stoloniferous perennial species with vegetative culms prostrate or arched in the lower part where they root from the lower nodes. Flowering culms erect, 20-60cm high. Leaf blades lanceolate, flat, bright green, rigidly pointed, 5-16mm wide, up to 25cm long, but usually 12cm or less, glabrous or sparsely hairy. Margins thickened with scattered spines. Ligule a fringe of short hairs. Sheath bluntly keeled, the lower spreading away from the culm. Inflorescence 7-12cm long; 2-4 spikelet-like, hairy racemes widely spaced on a central axis. Racemes 2.5-5.5cm long, light green tinged with purple. Rachis narrow, angled, hairy, wavy. Spikelets arranged along on side of a narrow, angled axis, 1-2 even rows, 4.5-5.5mm long, hairy, green, tinged with purple, 2 flowered. Glumes unequal, lower slightly shorter than the rest of the spikelet, glabrous, strongly flushed with purple and with a few faint cross veins on upper part. Upper glume as long as the spikelet, hairy and green with well defined cross veins all along. Both glumes are many-nerved. Lower floret male with a lemma like the upper glume but less hairy and with few nerves. Upper floret bisexual, glossy, light green or white (1,2).

Tulley has longer leaf blades than most members of the species, up to 25cm long. 'Seed' is similar to that of *B. decumbens* cv. Basilisk, but readily distinguishable by the much longer lower glume and lower density of hairs. Spikelets are marginally longer and wider in Tulley and the caryopsis itself shorter, broader and much shallower (4). Approximately 200,000 seeds/kg. Breeding system unknown, probably obligate apomict because no variation is apparent (6).

Agronomic characters (3-11)

Experiments at South Johnstone Experiment Station (6) in the wet tropical lowlands of North Queensland have shown that the annual dry matter yield of *B. humidicola* CPI 16707 is equal to that of *B. decumbens* cv. Basilisk (c. 2t/ha). It produced much less herbage in winter but more in the summer 'wet' season than does Basilisk signal grass. The nitrogen content of the herbage is similar to that of Basilisk.

B. humidicola is much more tolerant of poor drainage than Basilisk signal grass and it can tolerate heavier "wet" season grazing pressures. Its vigorous and dense mat-forming habit makes it tolerant of

heavy grazing and resistant to weed invasion, but makes it incompatible with trailing or twining legumes.

In Brazil it has shown a greater tolerance to both low soil phosphorus levels and attack by the spittle bug, *Doeys incompleta*, than *B. decumbens* (9). *B. humidicola* is currently under grazing evaluation in a number of other tropical areas including the Solomon Islands (19) and Colombia (3). The material grown in Fiji and the Solomon Islands is also derived from CPI 16707, whereas the origins of the South American lines are unknown.

In animal performance studies in Fiji (8), Solomon Islands (10) and North Queensland (5), cattle have gained more than 0.45kg liveweight per day on Tully.

Tulley can be planted either vegetatively or by seed. Seed yields are adequate, although somewhat inferior to *B. decumbens* cv. Basilisk, and so far only one seed crop per year has been possible (4). Clean seed yield of up to 80kg/ha have been recorded in North Queensland (11). Seed cleaning is easy; there are few problems with seed quality, and dormancy is much less a problem than in *B. decumbens*.

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