



# PANICUM QUEENSLANDICUM

## Yabila Grass

A tufted, spreading perennial, 50–100 cm high. *Culms* smooth, without hairs, erect or ascending when in full flower. *Nodes* obvious, smooth, hairless. *Leaves* distributed, basal and on the culms. *Leaf sheaths* striate, smooth and hairless, somewhat loose, especially at the base, where they are persistent. *Ligule* a short rim of stiff hairs with a few longer hairs on the margins. *Leaf blades* flat, 2–3 mm wide, up to 30 cm long, smooth, though slightly downwardly rough to the touch on the back, without hairs.

*Inflorescence* a very open panicle, up to 40 cm long, at first with the branches erect, but later spreading horizontally, the branches mostly in whorls, particularly the lower. *Spikelets* (S) all alike, hairless, 4 mm long, borne more or less in pairs on secondary or even tertiary branches, disarticulating below the glumes and falling entire at maturity. *Florets* 2, the lower sterile, reduced to a lemma, the upper bisexual. *Glumes* (G<sub>1</sub>, G<sub>2</sub>) unequal, membranous; the lower glume (G<sub>1</sub>) about  $\frac{2}{3}$  to  $\frac{3}{4}$  the length of the spikelet, the base almost enclosing the base of the spikelet, 7-nerved; the upper (G<sub>2</sub>) not broad at the base, 7-nerved. *Lemma* (L<sub>1</sub>) of the lower sterile floret membranous, slightly shorter than G<sub>2</sub>, 7-nerved. *Palea* (P<sub>1</sub>) small, about  $\frac{1}{3}$  the length of the spikelet, 2-keeled. *Lemma* (L<sub>2</sub>) of the upper fertile floret hardened, smooth and shining, 7-nerved, the margins inrolled to enclose those of the palea. *Palea* (P<sub>2</sub>) hardened like L<sub>2</sub>, the margins produced into small flaps, which partly enclose the floral organs. *Anthers* 3, about 1 mm long.

The grass is commonly found on black soils and other cracking-clay soils. Its large seed-heads are distinctive and, as with *P. decompositum*, break off at maturity, blowing and rolling in the wind. It is readily eaten by stock.

This is a large genus of important native and introduced grasses, the native species occupying a wide range of habitats. Some of the more common species such as *P. effusum* and *P. simile* are very variable as to hairiness. There is also at least one undescribed species found in southern Queensland. The cultivated pasture species are *P. maximum* (Guinea grass), *P. maximum* var. *trichoglume* (Green panic) and *P. coloratum* var. *makarikariense* (Makarikari panic). Guinea grass is suited to the wet tropical areas of the north (McCosker and Teitzel, 1975), but is grown to some extent in the high-rainfall, high soil-fertility areas of southeast Queensland. Green panic is grown widely in areas of more than 600 mm rainfall. Makarikari panic is the most drought-hardy and is grown in regions receiving 500–900 mm rainfall and often on dark, cracking-clay soils.

### REFERENCES

- Bailey (1902),<sup>1</sup> pp. 1828–33; Domin (1911),<sup>2</sup> p. 58; Hughes (1923),<sup>3</sup> pp. 320–28; Blake (1948b),<sup>4</sup> pp. 157–58; Gardner (1952),<sup>5</sup> pp. 254–60; Chippindall (1955),<sup>6</sup> p. 327; Lazarides (1959),<sup>7</sup> pp. 331–37; C.S.I.R.O. Australia (1967),<sup>8</sup> pp. 39–48; Humphreys (1967a);<sup>9</sup> Barnard (1969),<sup>10</sup> pp. 44–46; Blake (1969b);<sup>11</sup> pp. 21–23; Commonwealth Bureau of Pastures and

Field Crops (1969d),<sup>12</sup> Burbidge and Gray (1970),<sup>13</sup> pp. 182-89; Lazarides (1970),<sup>14</sup> pp. 182-89; Willis (1970),<sup>15</sup> pp. 189-92; Beadle *et al.* (1972),<sup>16</sup> pp. 668-69; Vickery (1975),<sup>17</sup> pp. 155-87; Black (1978),<sup>18</sup> pp. 221-25; Humphreys (1980),<sup>19</sup> p. 35; Jessop (1981),<sup>20</sup> pp. 471-72.

#### KEY TO SPECIES

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| 1. Plants strongly rhizomatous (torpedo grass)<br>Plants tufted or stoloniferous, without strongly developed rhizomes.   | <i>P. repens</i> <sup>1,16,17</sup><br>2   |
| 2. Plants aquatic or growing in swamps.<br>Plants not aquatic, not growing in swamps.  | 3<br>5   |
| 3. Panicle narrow, less than 5 cm long (white water panic)<br>Panicles broad, more than 10 cm long.  | <i>P. obseptum</i> <sup>1,3,15,16,17</sup><br>4  |
| 4. Plants with thick spongy underwater stems, rooting at nodes. Lower glume less than 1/3 spikelet length (swamp panic)<br>Plants without thick underwater stems. Lower glume 1/2 to 2/3 spikelet length (blackseed panic) | <i>P. paludosum</i> <sup>1,3,5,17</sup><br><i>P. bisulcatum</i> <sup>1,15,17,20</sup>                      |
| 5. Plants with prostrate, creeping or geniculately ascending stems.<br>Plants tufted.  | 6<br>10  |
| 6. Fertile lemma ridged. Robust perennial (Guinea grass, cv. Embu)<br>Fertile lemma smooth. Delicate perennial or robust annuals.  | <i>P. maximum</i> <sup>1,5,8,12,16,17</sup><br>7   |
| 7. Panicles broad, open, usually more than 10 cm long. Annuals.<br>Panicles narrow, less than 5 cm long. Usually perennials in rainforest.   | 8<br>9   |
| 8. Plants coarse, robust. Rare.<br>Plants slender, delicate. Northern rainforest.  | <i>P. novemnerve</i> <sup>6</sup><br><i>P. trichoides</i> <sup>3</sup>                                     |
| 9. Spikelets less than 2 mm long. Leaves less than 4 cm long (dwarf panic)<br>Spikelets 2-3 mm long. Leaves up to 10 cm long.  | <i>P. pygmaeum</i> <sup>1,3,16,17</sup><br><i>P. lachnophyllum</i> <sup>1,3,17</sup>                       |
| 10. Palea of lower floret reduced to a disc or flap, which is fused to base of bisexual floret. Western.<br>No disc attached to bisexual floret.   | 11<br>12   |
| 11. Spikelets 3-4 mm (bunch panic)<br>Spikelets 4.5-5.25 mm.   | <i>P. australiense</i> <sup>7,14,17,18</sup><br><i>P. muelleri</i> <sup>7,20</sup>                         |
| 12. Lower floret male.<br>Lower floret sterile.  | 13<br>16   |
| 13. Upper lemma transversely ridged.<br>Upper lemma smooth.  | 14<br>15   |
| 14. Spikelets hairless (Guinea grass)<br>Spikelets hairy (green panic)   | <i>P. maximum</i> <sup>1,5,8,12,16,17</sup><br><i>P. maximum</i> var. <i>trichoglume</i> <sup>8,9,11</sup> |
| 15. Lower glume more than 1/3 spikelet length; bisexual floret 2.5 mm long (blue or giant panic)<br>Lower glume 1/3-1/2 spikelet length; bisexual floret 1.75-2.25 mm long (Makarikari panic)                              | <i>P. antidotale</i> <sup>5,10,16,17</sup><br><i>P. coloratum</i> var. <i>makarikariense</i> <sup>1</sup>  |

16. Annuals or biennials. 17  
Perennials. 19
17. Panicles compact, millet-like. Rarely found outside cultivation (millet panic, Proso or French millet) 18  
Panicles not millet-like. *P. miliaceum*<sup>1,5,13,16,17,18</sup>
18. Panicle branchlets remaining more or less appressed to primary branches; sometimes with male lower floret. Rare southern annual. *P. schinzii*<sup>13,17</sup>  
(*laevifolium*)
- Panicle branchlets at length spreading from primary branches. Widespread annual or biennial, growing on flood plains and black soils (pepper grass) *P. whiteri*<sup>4,5,14,17,18,20</sup>
19. Panicle contracted at maturity, or if spreading, exerted from leaf sheath and with branches not rigid and straight. 20  
Panicle always open at maturity, often barely exerted from leaf sheath. Panicle branches always rigid and straight. 24
20. Lower glume  $\frac{1}{8}$  to  $\frac{1}{3}$  spikelet length. 21  
Lower glume  $\frac{1}{2}$  spikelet length. 22
21. Bisexual floret about  $\frac{1}{2}$  spikelet length; spikelets 3–4.5 mm long. *P. buncei*<sup>1,3,17</sup>  
Bisexual floret about  $\frac{2}{3}$  spikelet length; spikelets 2–2.5 mm long. *P. larcomanum*<sup>3</sup>
22. Nodes and base of plant hairy. Spikelet parts more or less uniform in colour. Lower panicle branches clustered (hairy panic) *P. effusum*<sup>1,3,5,13,14,15,16,17,18,20</sup>  
Nodes of base of plant hairless or slightly hairy. Upper lemma and palea yellow; other floral parts purple to green. 23
23. Leaves up to 3 mm wide, often rolled. Inflorescence branches scattered along axis, sparingly divided. Stems slender. Widespread (two-colour panic) *P. simile*<sup>1,3,4,10,11,15,16,17</sup>  
(*fulgidum*)
- Leaves 4–10 mm wide, flat. Inflorescence branches much divided. Lower panicle branches clustered. Stems often robust and cane-like. Northern. *P. mitchellii*<sup>1,3</sup>
24. Lower glume  $\frac{1}{3}$  spikelet length or less (native or Australian millet) *P. decompositum*<sup>1,3,5,14,15,16,17,18,20</sup>  
Lower glume  $\frac{2}{3}$  to  $\frac{7}{8}$  spikelet length. 25
25. Lower glume pointed; spikelets usually more than 4 mm long. (Yabila grass) *P. queenslandicum*<sup>2,3,11,17</sup>  
Lower glume blunt; spikelets usually less than 4 mm long. 26
26. Lower glume  $\frac{2}{3}$  to  $\frac{7}{8}$  spikelet length (rigid panic) *P. prolutum*<sup>1,3,5,15,17,18</sup>  
Lower glume  $\frac{1}{2}$  to  $\frac{2}{3}$  spikelet length. Brigalow (gilgai grass) *P. subxerophilum*<sup>17</sup>