

Register of Australian Herbage Plant Cultivars

A. Grasses

24. Hymenachne

Hymenachne amplexicaulis (Rudge) Nees (hymenachne) cv. Olive

Reg. No. A-24a-1

Registered July 1988

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Origin

Hymenachne occurs widely in south and central tropical America in swampy situations on river banks and seasonally flooded land (Bogdan 1977). It is closely related to *H. acutigluma* (Steudel) Gilliland of northern Australia (Calder 1981) and *H. pseudointerrupta* C.Meull. from the Indo-Malayan region (Bogdan *loc. Cit.*). CPI 61149 was received as *Eriochloa imbricata*, from the International Research Institute, Tucupita, Venezuela and is believed to have come originally from either Haiti or the Dominican Republic. It was tested for use on ponded pastures in water too deep for para grass (*Brachiaria mutica* Stapf) on commercial properties in central Queensland, especially 'Granite Vale', the property of J. and P. Olive, St. Lawrence. Originated by H.J. Wilden, Department of Primary Industries, Rockhampton, Qld.

It was approved for general release by the Queensland Herbage Plant Liaison Committee which recommended its registration on the submission of the Queensland Department of Primary Industries. Registered July 1988.

Morphological description

Hymenachne amplexicaulis is a robust, rhizomatous perennial grass, spreading on dry land or floating in water. Stems glabrous, up to 1.6m high, erect or ascending from a prostrate base. Leaf sheaths often spongy, blades mostly lanceolate, cordate at base and markedly narrower in upper half, 10 – 45cm long and up to 3cm wide. Ligule membranous. Panicle narrow, spikelike, cylindrical, 20 – 40cm long, sometimes with 2 to a few long, upright branches. Spikelets lanceolate, upright, 3 – 4 (- 5)mm long. Lower glume shorter than the spikelet, upper glume acute or mucronate, as long as the spikelet, and similar to the lower lemma. Upper floret with herbaceous lemma and palea and easily detached caryopsis (Bogdan 1977; Cabrera 1970).

Olive hymenachne has flowering culms 80 – 95cm tall, sparingly branched, up to 4 nodes. Leaf blades flat, 19 – 23cm × 12 – 21mm, linear-lanceolate, tapering to a narrow apex, auriculate at the base. Primary branches of panicles with spreading secondary branches, 0.5 – 2cm long, scabrous on the margins. Pedicels 0.2 – 1mm long, scabrous, disarticulation at the base of the spikelet. Spikelets dorsiventrally compressed, linear lanceolate. 3 – 4 × 0.6 – 0.8mm. Lower glume 1.5 – 1.8mm long, triangular, 3-nerved, hyaline, smooth, glabrous, acute. Upper glume 3 – 4mm long, linear-lanceolate, 5-nerved, hyaline, glabrous, long acuminate. Lower floret neuter; lower lemma 3 – 4mm × c. 1mm, linear-lanceolate, hyaline, 5-nerved, the surface glabrous, long acuminate. Upper floret hermaphrodite; upper lemma 2.5 – 3.5mm long, white hyaline, smooth, lanceolate, acute; upper palea hyaline, smooth, not enclosed at the apex by the lemma. (B.K. Simon, pers. comm.).

Agronomic characters

Hymenachne can form extensive colonies in its natural habitats. These colonies are valued as natural grazing by cattle, even at advanced stages of growth after flood waters have receded (Bogdan 1977). The native *H. acutigluma* in northern Australia serves a similar purpose, and it is one of the major forages of buffaloes on the flood plains east of Darwin (Calder 1981). The flooding and drying cycles throughout the year allow massive regeneration by seed (Wilden and Chapman 1987) and this ensures persistence after extensive drought periods. (J.H. Wilden per. comm.).

In practice hymenachne serves a similar purpose to aleman grass (*Echinochloa polystachya* (HBK) Hitchcock) as a deep water complement to para grass in ponded pasture systems being developed in central Queensland. Olive hymenachne grows better than Amity aleman in water up to 1m deep adjacent to the pondage banks (Wilden and Chapman 1987). However, it does not grow in permanent water, requiring alternating periods of flooding and dryness to establish and survive (Calder 1981). It is not as drought resistant as para grass and may not be as drought hardy as Amity aleman (J.H. Wilden pers. comm.).

In Surinam, crude protein content was found to be high, 15.8% in whole plant and 22.6% in leaves, with crude protein digestibilities of 66 to 80% (Bogdan 1977).

Propagation to date has been by stem cuttings (Bogdan 1977; Wilden and Chapman 1987). However, in central Queensland Olive hymenachne flowers and sets viable seed during short days commencing in May (J.H. Wilden pers. comm.).

References

1. Bogdan, A.V. (1977). *Tropical Pasture and Fodder Plants (Grasses and Legumes)* p. 152 (Longmans: London.).
2. Cabrera, A.L. (Ed.) (1970). Flora de la Provincia de Buenos Aires, Coleccion cientifica, Pt. II Gramineas. p. 505. (Instituto Nacional de Tecnologia Agropecuaria; Buenos Aires.).
3. Calder, G.J. (1981). *Hymenachne acutigluma* in the Northern Territory. N.T. Dep. Prim. Prod. Tech. Bull. No. 46.
4. Wilden, J.H. and Chapman, D.G. (1987). Ponded pasture systems – capitalising on available water. Qld. Dep. Prim. Ind. Bull. RQR 87006.