

Tropical Forages

Hyparrhenia rufa

Scientific name



Hyparrhenia rufa (Nees) Stapf

Synonyms

Basionym: *Trachypogon rufus* Nees; *Andropogon rufus* (Nees) Kunth; *Cymbopogon rufus* (Nees) Rendle

Family/tribe

Family: *Poaceae* (alt. *Gramineae*) subfamily: *Panicoideae* tribe: *Andropogoneae* subtribe: *Andropogoninae*.

Morphological description

Perennial (sometimes annual) tuft grass with short rhizomes; culm erect, 30–250 cm long, 2–6 mm diameter, nodes glabrous; leaf blades 30–60 cm × 2–8 mm, linear, apex attenuate; inflorescence a rather lax false panicle (synfloscence), much branched, 5–80 cm long (often 1/3–1/2 of the total plant height), composed of terminal and axillary racemes; racemes not deflexed, usually rufous-hairy, 7–14-awned per raceme pair; caryopsis ellipsoid to ovoid, ca. 3 mm long.

Similar species

H. rufa: panicle up to 80 cm long; spikelets covered with red-brown hairs

***H. hirta* (L.) Stapf**: panicle up to 30 cm long; spikelets glabrous or covered with white hairs (Coolatai/Tambookie grass).

Common names

Africa: geelaartamboekiegras (Afrikaans); musoke, soko (Angola); nal al'afin (Arabic); khalan-soghgo, khalan-sogo-na, nyantang furo, tikole (Gambia); zankalago (Ghana); fougouli (Guinea); boka andatsika (Madagascar); nyumba ya nantchengwa, nuymbu, chipepati, cipeta, mpsyipe, kanyumbu, gogolo (Malawi); alolo, dūúl, eji, fono, gamare, ńdũngurũmĩ, ijinga i pupu, jinfi, kalawal, kinditilo, kyara na fadama, lemmo, nal al'afin, nyanyanga, sobarla, wodeho, yamàà (Nigeria); bin blé (Senegal); tikolo yo (Sierra Leone); uoh, who (Upper Volta); alolo (Yoruba)

Asia: หญ้าเสงคำ yaa saeng kham, ya saneg kham (Thailand)

English: giant thatching grass, jaragua, jaragua grass, yellow-spike thatching grass

Europe: braunes Deckgras, Jaraguagrass (German)

Latin America: capim-jaraguá, capim provisorio, jaraguá (Brazil); bermejo, faragua, puntero, yaraguá, yaraguá del Brasil (Spanish)

Distribution



Perennial (sometimes annual) tuft grass with short rhizomes, Colombia



Culms erect to >2m tall



Synfloscence paniculate to fasciculate, often 1/3–1/2 of the total culm length



Inflorescence comprising paired racemes.



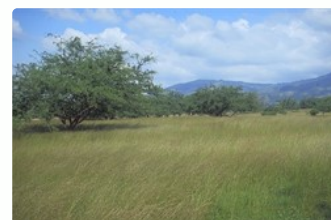
Each raceme bearing 4-7 awned fertile spikelets



Seed units (fertile spikelet with pedicel of companion spikelet attached)



Wet season pasture, Central Colombia



Mature stand, Cauca valley, Colombia



Dry season pasture, Llanos, Colombia



Dry season forage conservation, Honduras

Native:

Africa: Eritrea, Ethiopia, Sudan, Kenya, Tanzania (incl. Pemba, Zanzibar), Uganda, Cameroon, DRC, Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Mali, Mauritania, Nigeria, Senegal, Sierra Leone, Togo, Botswana, Namibia, South Africa (Transvaal), Swaziland



Naturalized hilly pastures, Panama

Indian Ocean: Madagascar

Cultivated/naturalized:

Indian Ocean: Mauritius

Asia-Pacific: Australia, China, Fiji, French Polynesia, Guam, Hawaii, India, Myanmar, Thailand

Americas: USA, South America (tropical), Caribbean (West Indies, Cuba)

Uses/applications

Forage

As native pasture, also for hay or silage, in East Africa and Latin America for beef cattle production.

Environment

It can have an adverse effect on the environment, by replacing less aggressive native grasses, particularly through its tolerance of fires, and dominating the understorey of open woodland areas. This increase in the fuel load increases the frequency and intensity of future fires, thus leading to eventual replacement of native savannas and woodlands with an exotic grassland.

Other

A useful thatching grass and general purpose straw.

Ecology

Soil requirements

Prefers medium to heavy-textured soils (black clays, latosols) of medium to low fertility. Can withstand waterlogging and temporary flooding. Sensitive to high aluminium soils.

Moisture

Best with 600–1,400 mm rainfall/yr; drought tolerant.

Temperature

Grows from 0 up to 2,000 m asl; optimum temperature range 20–27 °C. Does not withstand frosts.

Light

Grows best in full sunlight.

Reproductive development

Jaragua grass is a short to neutral day plant.

Defoliation

Due to slow establishment, jaragua grass should not be grazed during the first 6 months. Once established, should be rotationally and heavily grazed, and/or cut short (<15 cm) in order to prevent flowering and/or tussock development with bare ground.

Fire

Being a savannah species, tolerates fire.

Agronomy

Guidelines for establishment and management of sown forages.

Establishment

Seed can be broadcast into ashes after burning of native vegetation; however, fully or roughly prepared seed bed gives better results; 15–20 kg 'seed'/ha. Establishment is rather slow.

Fertilizer

Responds positively to moderate applications of N and P fertilizer, but less demanding than species such as *Chloris gayana* and *Megathyrsus maximus*.

Compatibility (with other species)

Jaragua grass competes strongly with other vegetation such as weeds and can smother them.

Companion species

Grasses: *Dichanthium caricosum* has similar adaptation

Legumes: *Centrosema molle*, *Stylosanthes guianensis* var. *guianensis*.

Pests and diseases

While a number of fungal organisms such as *Curvularia* sp., *Fusarium* sp., *Phoma sorghina* and *Sphaeropsis* sp. have been isolated from foliar lesions on *H. rufa*, no major diseases or pests are known.

Ability to spread

Jaragua grass spreads easily via its spikelet awns that stick to the skin of livestock.

Weed potential

Being very competitive, tolerant of drought, grazing and fire, it can be a threat to the biological diversity. In Australia, jaragua grass is considered to be an invader.

Feeding value

Nutritive value

Jaragua grass has a low nutritive value because of low protein and high fibre (NDF and ADF) concentrations. CP values reported depend on growth stage and season and are in the range of 1.5–9.2%, crude fibre 29–43%.

Palatability/acceptability

Acceptable palatability when young. Valuable as a fodder grass early in the rainy season but soon becomes stemmy and unpalatable.

Toxicity

Jaragua grass was reported to contain 0.85% oxalic acid, a level unlikely to cause oxalate poisoning in horses or cattle.

Feedipedia link

<https://www.feedipedia.org/node/426>

Production potential

Dry matter

Dry matter yields recorded are in the range of 3.5–10.3 t/ha/yr (up to 19 t/ha).

Animal production

The low nutritive value of Jaragua grass is reflected by rather low daily LWGs of cattle (280–450 g/head, depending on fertilization). For acceptable LWG the grass is considered to require supplementation with nitrogen (legume tree leaves, legume grasses or a nitrogen-rich by-product) and energy sources (molasses, citrus pulp, cereal bran). With adequate supplementation and optimum pasture management high performance can be obtained.

Genetics/breeding

$2n = 20, 30, 36, 40$. *H. rufa* is a facultative apomictic grass. Seeds can be produced through both selfing and outcrossing; pollination is probably wind-aided.

Seed production

Reported to produce abundant seed with rapidly declining germination.

Herbicide effects

No information available.

Strengths

- Drought tolerant.
- Fire tolerant.
- Thrives on heavy soils.

Limitations

- Low nutritive value.
- High weed potential.
- Requires optimum management to be useful.

Internet links

<https://www.cabi.org/isc/datasheet/27716>

[https://www.prota4u.org/database/protav8.asp?g=psk&p=Hypparrhenia+rufa+\(Nees\)+Stapf](https://www.prota4u.org/database/protav8.asp?g=psk&p=Hypparrhenia+rufa+(Nees)+Stapf)

https://denr.nt.gov.au/__data/assets/pdf_file/0005/258017/wra-report-thatch-grass-updated-logo.pdf

Selected references

Skerman, P.J. and Riveros, F. (1990) Tropical grasses. Food and Agriculture Organization of the United Nations (FAO), Rome, Italy. p. 460–464. books.google.com/books?id=tCydW6MK60C

Cultivars

None released.

Promising accessions

None reported.

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