

FULL ACCOUNT FOR: Urochloa maxima



System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Liliopsida	Cyperales	Poaceae

Common name buffalograss (English), green panic (English), tinikarati (English, Cook Islands),

capime guiné (French), panic élevé (French), zacate Guinea (English), vao Kini (English, Samoa), vao Kini (English, American Samoa), talapi (English, Cook Islands), Guinea grass (English), fatague (French), saafa (English, Tonga),

yerba de Guinea (English), herbe de Guinéa (French)

Synonym Panicum maximum, Jacq.

Panicum gongylodes, Jacq. Panicum hirsutissimum, Steud. Panicum jumentorum, Pers.

Panicum laeve , Lam.

Panicum maximum, var. coloratum C.T. White

Panicum maximum, var. maximum

Panicum maximum, var. pubiglume K. Schum. Panicum maximum , var. trichoglume Robyns

Panicum polygamum, var. gongylodes (Jacq.) E. Fourn.

Panicum trichocondylum, Steud.

Urochloa maxima, var. trichoglumis (Robyns) R.D. Webster

Panicum maximum, var. gongylodes (Jacq.) Döll

Similar species

Summary

Although Urochloa maxima is the accepted name for this species, it is still widely known as Panicum maximum. Urochloa maxima is a native of tropical Africa where it occurs from sea level to 1,800m. It is used as a forage grass and its ability to tolerate a wide range of habitats make it a very productive species. Urochloa maxima has become prevalent in Samoa and Tonga and it is a problem species in Guam and Hawaii. Although it is a favourable grass in many areas it can also form dense stands and displace native species.



view this species on IUCN Red List

Species Description

Urochloa maxima is described as a tufted perennial, often with a short creeping rhizome, variable 60-200cm high, leaf blades up to 35mm wide tapering to a fine point; panicle 12-40cm long, open spikelets 3-3.5mm long, obtuse, green or purplish, glumes unequal, the lower one being one-third to one fourth as long as the spikelet, lower floret usually male or empty depending on the variety. Upper floret (seed) distinctly transversely wrinkled lemma and palea. The grain is about 2mm long. (Skerman and Riveros, 1990; Bogdan, 1977).



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Notes

Guinea grass is a very variable species. Many distinct types occur naturally in Africa and about a dozen varieties have been named. It spreads very slowly by seed but needs fertile soil to dominate. In the wet tropics weeds can quickly dominate guinea grass pastures unless pastures are well managed (Hare, M., pers. comm., 2003). Guineagrass, is reported to tolerate periods of drought, grazing, low pH, shade, slope, virus, but not waterlogging, and weeds. Will not withstand long periods of severe desiccation or long periods of hard continuous grazing. This grass is of primary economic importance in many tropical countries, including East Africa, Hawai'i, Virgin Islands, Puerto Rico, Southeast Asia and South America (James A. Duke. 1983). It can survive quick-moving fires which do not harm the underground roots (Tan, Ria. 2001).

Uses

Guinea grass is a most productive forage grass in tropical America and South East Asia, valuable for pasture, green-forage, hay, and silage. Reported to be diuretic and preventative, guinea grass is a folk remedy for tympanitis (Duke and Wain, 1981, cited in James A. Duke. 1983). It's seeds can provide food for birds, the long leaves can also provide nesting material for birds, (Tan, Ria. 2001). Guinea grass is considered as a suitable plant to stop soil erosion on slopes (it has dense root mats) while providing valuable fodder (Tan, Ria. 2001).

Habitat Description

Ranging from Tropical Dry to Wet Forest Life Zones, guinea grass is reported to tolerate annual precipitation of 6.4 to 42.9 (mean of 40 cases = 18.5), annual temperature of 12.2 to 27.8°C (mean of 40 cases = 23.4), and pH of 3.5-4.3 to 8.4 (mean of 33 cases = 5.9) (Duke, 1978, 1979. Handbook of Energy Crops. unpublished. Cited in James A. Duke. 1983.). Grows naturally in open grasslands, usually forming colonies under or near trees and shrubs, frequent in woodland bush thickets, and on abandoned cultivated land, fields and on waste lands, from sea level to 1800m in East Africa. Suited to areas with annual rainfall from 87 to 100cm. With sufficient moisture, plants grow extremely rapidly, providing much biomass. Grows well on a wide variety of well-drained soils. Does not thrive in areas subject to prolonged waterlogging or flooding, nor on saline soils. Not resistant to frost. Somewhat tolerant to shade and grows under trees or in stands of low bush. Grows in moderately dry ground and is drought-resistant, but will not tolerate dry periods longer than 4 months.

Reproduction

Seeds profusely but seeds are of low germination, often empty and do not survive long. The seeds are dispersed short distances by wind. Fire will sweep through stands of this grass but it regenerates rapidly from underground rhizomes (Hare. M., pers. comm., 2003).

Nutrition

In South Africa, it is suspected to cause a sheep disease (\"dikoor\"), perhaps in conjunction with a smut. The plant is said to cause fatal colic if eaten too wet or in excess. Traces of HCN occur in stems and leaves, more in the roots.

General Impacts

Urochloa maxima forms dense stands in open pastures and disturbed areas. Guinea grass can suppresses or displace local plants on fertile soils in pastures Its resistance to drought also means it builds up a dangerous mass of plant material so when fires occur, the blaze is fiercer and native plants which have not built up fire-tolerance are wiped out. As guinea Grass can survive fires, it can dominate the ground after a fire.



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Management Info

Preventative measures: A Risk Assessment of \r\r\nUrochloa maxima (Panicum maximum) for Hawai'i and other Pacific islands was prepared by Dr. Curtis Daehler (UH Botany) with funding from the Kaulunani Urban Forestry Program and US Forest Service. The alien plant screening system is derived from Pheloung et al. (1999) with minor modifications for use in Pacific islands (Daehler et al. 2004. The result is a score of 17 and a recommendation of: \"Likely to cause significant ecological or economic harm in Hawai'i and on other Pacific Islands as determined by a high WRA score, which is based on published sources describing species biology and behaviour in Hawai'i and/or other parts of the world.\"

<u>Physical</u>: Hand pulling / grubbing also works, but spraying seems easier (Starr, F and Starr, K., pers. comm., 2003).

<u>Chemical</u>: \"Susceptible to glyphosate and readily controlled by drizzle applications. Young plants are susceptible to selective grass-killers\" (Motooka *et al.*, 2002, cited in PIER, 2002). Biological: Plants die rapidly under close continuous grazing (James A. Duke. 1983).

Pathway

Introduced to almost all tropical countries as a source of animal fodder. (Tan, Ria. 2001)

Principal source: Pacific Island Ecosystem at Risk (PIER, 2002)

Compiler: IUCN/SSC Invasive Species Specialist Group (ISSG)

Review: Dr. Michael Hare Faculty of Agriculture, Ubon Ratchathani University, Warin Chamrab, Ubon

Ratchathani, Thailand

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ALIEN RANGE

[1] ANGUILLA
[2] AUSTRALIA
[2] BERMUDA
[3] CAYMAN ISLANDS
[1] CHINA
[2] COSTA RICA
[3] ECUADOR
[1] FRENCH GUIANA
[1] GEORGIA
[1] GUADELOUPE
[1] INDONESIA
[1] JAPAN

[1] KIRIBATI
[1] KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF
[1] KOREA, REPUBLIC OF
[1] LATIN AMERICA
[1] MARTINIOUE

[1] MALAYSIA
[1] MAURITIUS
[1] MAYOTTE
[1] MEXICO
[2] MICRONESIA, FEDERATED STATES OF

[1] MOZAMBIQUE [1] NEW CALEDONIA

[1] NOZAMBIQUE
[1] NIUE
[1] NORFOLK ISLAND
[4] NORTHERN MARIANA ISLANDS
[2] PALAU
[1] PARIA NEW CHINES

[1] PAPUA NEW GUINEA[1] PHILIPPINES[1] PUERTO RICO[1] REUNION[1] SAINT BARTHELEMY[1] SAINT HELENA[1] SAINT MARTIN (FRENCH PART)[2] SAMOA



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[1] SOLOMON ISLANDS

[1] TAIWAN

[1] THAILAND

[1] TRINIDAD AND TOBAGO

[1] UGANDA

[1] VANUATU

[1] VIET NAM

[1] WALLIS AND FUTUNA

[1] SOUTH AFRICA

[1] TANZANIA, UNITED REPUBLIC OF

[4] TONGA

[1] TURKS AND CAICOS ISLANDS

[8] UNITED STATES

[1] VENEZUELA

[1] VIRGIN ISLANDS, U.S.

[1] WEST AFRICA

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CONABIO. 2008. Sistema de informaciên sobre especies invasoras en Mêxico. Especies invasoras - Plantas. Comisiên Nacional para el

Conocimiento y Uso de la Biodiversidad. Fecha de acceso.

Summary: English:

The species list sheet for the Mexican information system on invasive species currently provides information related to Scientific names, family, group and common names, as well as habitat, status of invasion in Mexico, pathways of introduction and links to other specialised websites. Some of the higher risk species already have a direct link to the alert page. It is important to notice that these lists are constantly being updated, please refer to the main page (http://www.conabio.gob.mx/invasoras/index.php/Portada), under the section Novedades for information on updates.

Invasive species - Plants is available from: http://www.conabio.gob.mx/invasoras/index.php/Especies invasoras - Plantas [Accessed 30 July 20081

Spanish:

La lista de especies del Sistema de información sobre especies invasoras de móxico cuenta actualmente con información aceca de nombre cientéfico, familia, grupo y nombre comén, asé como hébitat, estado de la invasién en México, rutas de introduccién y ligas a otros sitios especializados. Algunas de las especies de mayor riesgo ya tienen una liga directa a la pegina de alertas. Es importante resaltar que estas listas se encuentran en constante proceso de actualizaci
n, por favor consulte la portada

(http://www.conabio.gob.mx/invasoras/index.php/Portada), en la secci∳n novedades, para conocer los cambios.

Especies invasoras - Plantas is available from: http://www.conabio.gob.mx/invasoras/index.php/Especies_invasoras_- Plantas [Accessed 30 July 2008]

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Summary: Resource that includes the distribution of invasive species throughout the Pacific Islands.

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Summary: Taxonomy, Synonyms

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