



Desmostachya bipinnata

Family name: Poaceae

Common name: Poaceae

Local name: (الحلفا) Al Halfa



Wild



Role in Biodiversity

Desmostachya bipinnata with other plant flora, it resulted in an increased diversity of plant species, particularly of forbs. It has the ability to provide the ecosystem with an enhancement of soil organic matter and reduction in soil erosion. It also provides food and shelter for a number of local wildlife. In Sudan, it is dominant in grounds where locusts lay their eggs as it serves as food for young locusts.



Environment and Growing

Desmostachya bipinnata grows in sand dunes, inland brackish wetlands and marshes and on reclaimed salt-affected wastelands. It is drought-tolerant and requires minimal watering. However, during the initial growth phase, regular watering can promote establishment of the grass. It prefers sandy soils and full sunlight. It frequently grows in dry places and open wastelands subject to periodic disturbance such as cutting, grazing and burning where it forms big tussocks.

Growth requirements:

- Optimum PH range 5-8.
- Optimum seeds germination temperature range 25- 35°C.
- Optimum sunlight: six hours/day.
- Mean annual rainfall range 54-1016 mm.



Reproduction and Communication

Desmostachya bipinnata reproduces by seed. Flowers are wind-pollinated due to their lack of splendid colors, fragrances, or nectar to attract insects for pollination. It can also reproduce vegetatively by rhizome, particularly as broken rhizome fragments are transported along waterways where *Desmostachya bipinnata* commonly grows.



Life span

Desmostachya bipinnata is a long-lived perennial grass which can extend over more than two growing seasons.



Size

Desmostachya bipinnata grow up to 1.2 meters in height



Parts



Culms are rigid, branched at base and covered with leathery yellowish sheaths, 80–100 cm tall, ca. 7 mm in diameter. The stems are much branched, tufted and branching from the rootstock, and sending out rhizomes in all directions.

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Leaves are up to 65 cm long, 3.8-10.5 mm wide when unrolled. Lower leaf-sheaths are leathery, often densely flabellate towards the base of the culm.

Fruits are narrowly oval-elliptic caryopsis. They are free from lemma and palea, ellipsoid, compressed dorso-ventrally with short hilum, fused pericarp, and large embryo.



Roots are adventitious and profuse.



Flowers are in 60 cm long spikes which are clustered or spaced, 14 cm long. Spikelets are 3-17 flowered, narrowly ovate to linear-oblong, 3-10 mm long.

Seeds are obliquely ovoid, laterally compressed, 0.5-0.6 mm long.

INTRODUCTION

Grass herb

Desmostachya bipinnata, halfa grass, is a drought and salt-tolerant C4 grass of desert or semi-desert conditions. It is native to North Africa to South Asia. It flourishes well, forming big tussocks in dry-sandy areas and thrives on the edges of irrigated areas. It can act as an aggressive weed which is very difficult to eradicate. *Desmostachya bipinnata* is characterized by a deep, strong rhizome and tufted culms.

In Sudan, halfa grass grows abundantly in the desert of the northern state and North Kordofan state, where sand dunes retain a little moisture in the periods of few rains in the fall. It also grows on the sides of agricultural areas in Northern Sudan. This plant is widely used as building material and animal fodder. It is also considered of medicinal value.

LIVELIHOODS / CULTURE

Cultivation

Desmostachya bipinnata is not cultivated in Sudan. It is naturally growing in its ecological zones of distribution.

Cultural Value

Desmostachya bipinnata leaves are commonly used to manufacture ropes and fronds that are frequently used in building houses. It is also reported as a good fodder especially for cows in northern Sudan.

Medicinal and health uses

The infusion of the juvenile parts (shoot) of *Desmostachya bipinnata* is used by some people in Northern Sudan to treat nephritis.

Cultural Expressions

The city of Halfa in northern Sudan was named after this plant because it is located in a valley where this plant is known to grow in abundance

THREATS

Halfa grass *Desmostachya bipinnata* has most recently been assessed for The IUCN Red List of Threatened Species in 2012. It is listed as Least Concern.

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