Desmostachya bipinnata

Family: Poaceae

Species: *Desmostachya bipinnata* (L.) Stapf

Common Names: jilda (Iraq), halfa (Egypt, Arabia)

Synonyms:
Briza bipinnata L.
Coelachyrium longiglume Napper
Cynosurus durus Forssk.
Eragrostis bipinnata (L.) Schum.
Eragrostis cynosuroides (Retz.) P. Beauv.
Leptochoa bipinnata (L.) Hochst.
Poa cynosuroides Retz.
Pogonarthria bipinnata (L.) Chiov.
Stapfiola bipinnata (L.) Kuntze
Uniola bipinnata L.

Bayer Code: DETBI

Description: A rhizomatous perennial of dry areas with an extensive system of rhizomes 2–3 mm thick at 20–30 cm depth. Leaves are coarse, narrow, tough, up to 50 cm long, 3–19 mm wide, often rolled. Ligule a very short ring of hairs, 1–2 mm. Culms with glossy yellow leaf sheaths at the base, up to 1 m high with a conspicuous inflorescence 30–60 cm long. Spikelets carried in two dense rows on short branches 2–3 cm long arranged in whorls of 2–4 racemes. Individual spikelets 3–10 mm long, laterally compressed, comprising up to 14 florets. Glumes one-nerved,1–2 mm long, lemmas2–3 mm long, often purplish. Seed ovoid, 1 mm long, narrow, grooved.

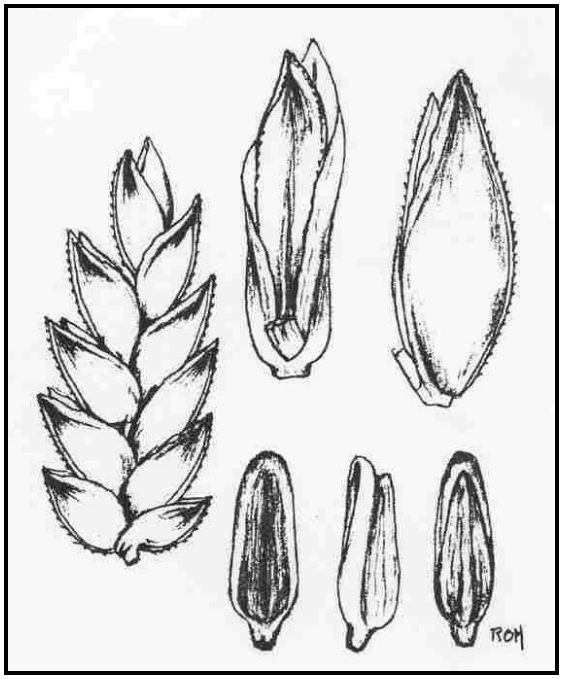

Figure 1. ***Desmostachya bipinnata*** **fruit (grain) from Reed (1977)**

Figure 2. ***Desmostachya bipinnata*** **in Pakistan from Parker (2002)**

Distribution: Native in Asia (Afghanistan, Burma, China, India, Iran, Iraq, Israel, Pakistan, Saudi Arabia, Thailand, Vietnam, and Yemen), and Africa (Algeria, Chad, Egypt, Eritrea, Ethiopia, Libya, Mauritania, Somalia, Sudan, and Tunisia) (Al-Kouthayri and Hassan, 1998; NGRP, 2002; Holm et al., 1979; Reed, 1977).

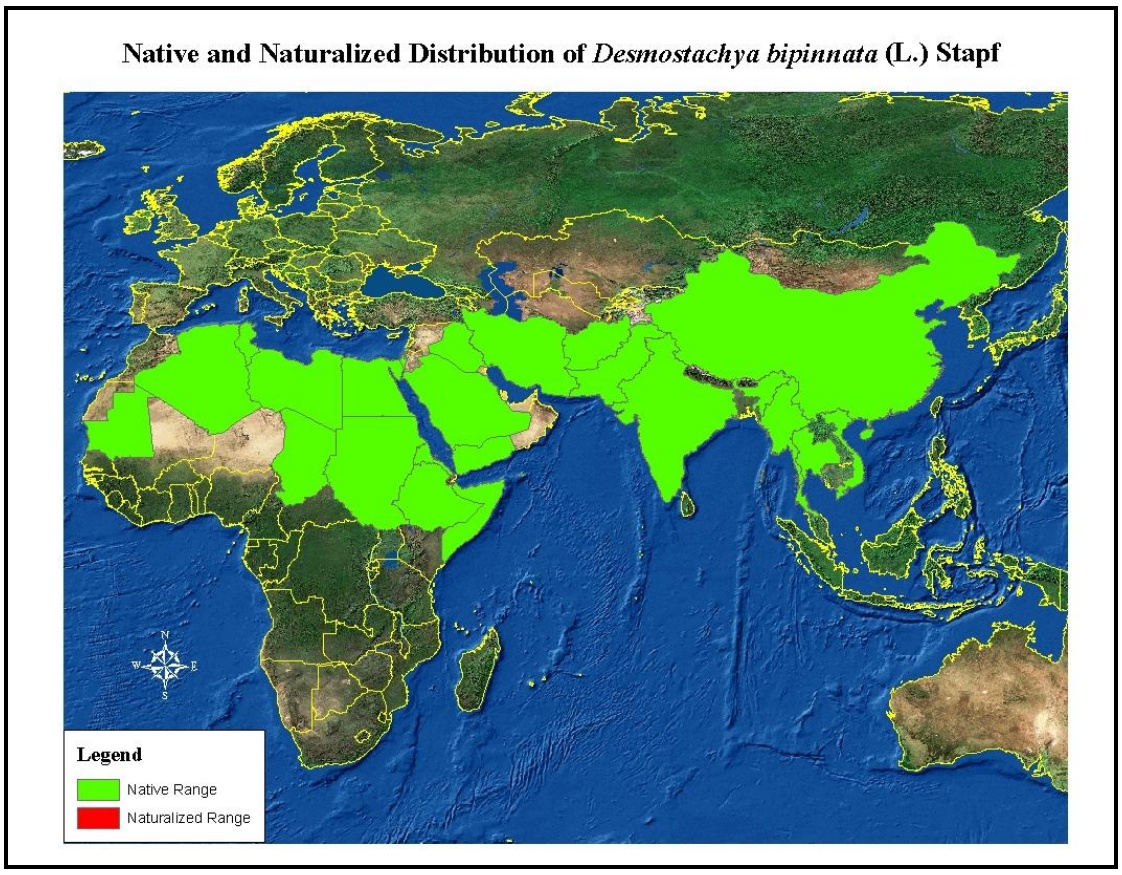

Figure 3. By Glenn Fowler, USDA APHIS PPQ CPHST, 2002 (Fowler, 2002)

Biology and Ecology: *Desmostachya bipinnata* is a drought and salt-tolerant C_4 grass of desert or semi-desert conditions with a deep, strong rhizome, making it an excellent sand-binder. It is not normally regarded as a fodder but is used in some arid areas such as Afghanistan where it is chopped and in mixed with cereals. It is used medicinally in India and also woven into mats in Hindu funeral ceremonies. Although not generally occurring as a weed of annual crops, this is a common and widespread species growing along irrigation channels, in orchards, and associated with cultivation in many countries of Asia and the Middle East, including Afghanistan and China.

Possible Pathways to the United States: It is highly possible that *Desmostachya bipinnata* may accidentally contaminate crop seed and other produce, vehicles, and containers. It could possibly be introduced for its soil-binding qualities along with its medicinal uses.

Adverse Impact: *Desmostachya bipinnata* is cited by Holm et al. (1979) as a "serious" weed in Pakistan and a "common" weed in Egypt and Iraq. It is among the worst weeds of crops in Yemen (Al-Kouthayri and Hassan, 1998). Once established, it can spread very aggressively by rhizome and dominate arid and semi-arid environments. Although adapted to very dry conditions, it thrives on the edges of irrigated areas and in orchards where it can develop serious infestations that are very difficult to eradicate. This could pose a risk to sensitive habitats in the United States.

Literature Cited:

Al-Kouthayri, G. R., and A. A. Hassan. 1998. Survey of major weeds in Hadramout Valley, Yemen. Arab Journal of Plant Protection 16(1):19-26.

Fowler, G. 2002. Distribution Map. USDA, APHIS, PPQ, Center for Plant Health Science and Technology, Raleigh, NC.

Holm, L. G., J. V. Pancho, J. P. Herberger, and D. L. Plucknett. 1979. A Geographical Atlas of World Weeds. Wiley, New York. 391 pp.

NGRP. 2002. World Economic Plants in GRIN (Germplasm Resources Information Network). United States Department of Agriculture, Agricultural Resources Service, National Germplasm Resources Program (NGRP). Beltsville. Last accessed 2009.

Parker, C. 2002. Personal photograph taken of *Desmostachya bipinnata*.

Reed, C. F. 1977. Economically Important Foreign Weeds: Potential Problems in the United States. Agricultural Research Service, Animal and Plant Health Inspection Service, U.S. Dept. of Agriculture, Washington, DC. 746 pp.