

IT'S OFFICIAL —

Wild Sugarcane (*Saccharum spontaneum* (L.)), Another New Invasive Plant for Florida

by Mike Bodle

PHOTOS BY THE AUTHOR EXCEPT WHERE NOTED OTHERWISE



Wild sugarcane, *Saccharum spontaneum* (L.)

The University of South Florida Herbarium has made it official: we've got wild sugarcane (*Saccharum spontaneum*) in Florida on Lake Okeechobee's eastern shore (Kunzer, pers. comm.). Although it has been casually reported for years, it had not been previously collected and officially identified in Florida.

Wild sugarcane was found along the Lake Okeechobee shoreline and the outer "toe-ditch" of the Herbert Hoover Dike, which surrounds the lake. This area of South Florida includes the 700,000 acre Everglades Agricultural Area where vast plantings of agricultural cultivars of sugarcane (*Saccharum officinarum*) yielded about one-half of the 3.4 million tons of raw sugar production in the United States in 2008 (USDA Farm Service Agency, 2008).

The wild sugarcane was collected near Canal Point, adjacent to the USDA Sugarcane field station where the plant has been used in the cross-breeding of agricultural cultivars. These two plants have been cross-bred for centuries throughout the world in order to increase sugar yields, to enhance disease resistance and to enable sugarcane cultivars to regrow from roots after the stems have been cut. This regrowth is termed "ratooning" (Dillon *et al.*, 2007). The ability to generate additional crops via ratoon is a boon to sugarcane agriculture since the plant typically does not produce fertile seed.

Wild sugarcane is native to Southeast Asia, where it reportedly forms dense monocultures on seasonally-exposed riverbeds and other disturbed soils, tolerating a range of dry to flooded conditions. It reaches heights of three meters with spreading rhizomatous roots. The slender culms (stalks) are much narrower than agricultural sugarcane. The stalks may be green-grey, ivory or white. Its plume-like inflorescence varies in length and may be grey-white to purplish-white (see photo). The inflorescence and foliage also are smaller than those of agricultural sugarcane. The upper leaf mid-vein is white. It has a membranous ligule topped with scat-

tered hairs. Wild sugarcane is very disease resistant but yields very little sugar.

Ethnobotanically, wild sugarcane reportedly serves as a laxative, anti-gonorrheal and a sexual stimulant. It also is used in the treatment of burning sensations, bladder stones, blood disorders, constipation and liver troubles. In Asia, many common names exist for the plant in several languages including Hindu "kush" and Bengali "kans" (Oudia, 2003).

In its native South Asia, wild sugarcane ranges from tropical to subtropical climates. It is reported as invasive in French Polynesia, Guam, Hawai'i, Puerto Rico and many other tropical locales (PIER, 2007). Although not officially vouchered, it seems likely that the plant is present in other sugar-producing states, i.e., Texas, Louisiana, Mississippi and Alabama. It is my conjecture that it may be mistaken for *S. officinarum* in these states, and this may have been the situation in Florida for some years.

Saccharum spontaneum is listed as a Federal Noxious Weed (USDA-APHIS, 2006). It is also prohibited by many states including, oddly, Massachusetts and Minnesota, where it almost certainly is not present and could not perpetuate. These precautionary listings reflect wild sugarcane's weedy reputation, although it is not included by Holm *et al.* (1991) among the world's worst weeds. The exclusion by this fairly authoritative compendium of the world's most-reported weeds is consistent with its limited weediness around Lake Okeechobee. In this area, it comprises a minor component of the littoral/ditchbank plant community. Other weedy grasses dominate, including common reed (*Phragmites australis*) and guinea grass (*Pennisetum purpureum*).

Because it is listed as a Federal Noxious Weed, there may be greater interest in controlling wild sugarcane despite its somewhat secondary invasive behavior in South Florida. Varying degrees of control have been reported by digging rhizomes, chopping rhi-

zomes with subsequent herbicide treatments, and shading (Tayade and Satao, 2004; Kim *et al.*, 2008). In the mid-1990s, initial treatments using single applications of glyphosate in the Canal Point area did not eliminate the plant.

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Wild sugarcane inflorescence.

PHOTO BY SCOTT BAUER, USDA AGRICULTURAL RESEARCH SERVICE, UNITED STATES, BUGWOOD.ORG



The agriculturally grown sugarcane cultivar, *Saccharum officinarum*. Sugarcane inflorescences are much broader and larger than those of wild sugarcane.



The upper leaf mid-vein is white in wild sugarcane.



The conspicuous ligule of wild sugarcane consists of stiff hairs.