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Chufa

By [Dan Burden](#), content specialist, AgMRC, Iowa State University.

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Overview

Chufa or tiger nut, earth chestnut, earth almond, yellow nutgrass, ground almond and rush nut historically was an important food crop in ancient Egypt and is cultivated today in West Africa, Spain and China. Currently, in the central and southern United States, chufa is used for wildlife habitat improvement, particularly as a winter food source for deer and wild turkeys but also is planted for wild hogs and waterfowl. Both chufa and an undesirable wild relative, purple nutsedge, are considered important food sources for migratory birds but also are considered important weed species.

The origin of this cultivated flatsedge is not particularly clear. The majority of traditional and new uses center on the Mediterranean region. This sedge comes from Asia Minor, where it has been considered a delicacy for millennia. Because the plant's mechanical cultivation has not been refined, chufa is little used as a food plant in most developed countries.

Chufa is a very fast growing perennial grass-like plant from the rush family and is very easily grown in warm climates in moist or wet soils. The small round tubers found along the roots have a slightly almond flavor and are eaten raw or cooked, or made into the traditional drink horchata. The plant's tubers contain high levels of protein, carbohydrate, and oleic acid, and contain 20 to 28 percent of their mass in the form of a non-drying oil. The oil is obtained by pressing the cleaned tubers in the same manner as traditional olive oil extraction. The oil has a mild, pleasant flavor and is considered as a food oil to be similar, but of superior quality, to olive oil. Industrial applications for the oil include high-value applications for cosmetics (perfume carriers) and instrument lubricants. There is increasing interest in chufa for health food and similar products.

Traditionally in the United States, at the beginning of the last century, many poor farmers, particularly sharecroppers in Florida and Georgia, planted an acre or so of chufa each fall to fatten their hogs. Records indicate that in 1944 chufa was grown on about 2,000 farms mostly in Florida. In 1941, 7,000 acres were planted for hog pasture in Florida. By the 1980s, chufa was still grown for livestock feed on a few farms in the Florida

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Panhandle. It is said that this fodder made especially tasty pork. The tubers also made tasty snacks for the farm family during the winter and were processed into fine, powdery flour. This usually was substituted at a rate of one-half chufa flour to store-purchased wheat flour in bread and other recipes. In Spain and Mexico, a beverage (horchata) is served in health spas, pubs and restaurants. It is described as being reminiscent of coconut and pineapple. Due to Spanish cultural influences, chufa "nuts" also are available in markets and as processed products in most of Mexico.

Plant production is relatively simple. Chufa is planted in spring through summer at 30+ pounds (lbs.) per acre (43,560 sq. ft.). Most food plots are planted at 8 to 12 lbs. per 1,000 sq. ft. The plants mature within 100 to 125 days, and the tubers mature approximately 110 to 120 days post emergence. Commercial chufa varieties cannot successfully overwinter in most central and northern states and require replanting.

If used for wildlife or livestock feed, the tubers usually are not harvested and are left in the ground for animal forage. The nuts weigh about 44 pounds per bushel with oil yields from 0.5 to 1.5 tons/hectare. Typically, a dry weight analysis of the tubers yields: sugar 11 to 17.5 percent; fatty acids 23 to 31 percent (primarily as triacylglycerol); proteins 6.5 to 12 percent; starch 25 to 40 percent; and vitamins A, D2, E, and B1; and the minerals calcium, magnesium, sodium, potassium, copper and iron, as well as several beneficial enzymes.

The United Nations considers chufa an "under-researched" food plant. A NASA Web site talks about how chufa is perfect for "bio-regenerative-life-support-food systems" on deep space missions and how Russian food scientists are investigating its application. Currently, chufa's greatest potential as a value-added agricultural crop is as a "seed crop" where tubers are harvested, bagged and marketed for wildlife habitat improvement, although products for North American snack foods and specialty oil markets have not been investigated. The present lack of a mechanical harvesting technology may limit the potential of developing these and other markets.

Other Links

- [Chufa](#), Fact Sheet HS-583, a series of the Horticultural Sciences Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Revised for CD-ROM: May 1994.
- [Chufa Biology and Management](#), James R. Kelley, Jr., and Leigh H. Fredrickson, U.S. Fish and Wildlife Service, Department of the Interior, Fish and Wildlife Leaflet No.13, Gaylord Memorial Laboratory, The School of Natural Resources, University of Missouri, 1991.
- [Chufa: How Do You Grow Habitat for Ducks](#), South Carolina Waterfowl Association - Good overview on wetland improvement with notes on traditional human food uses.

- [Glendale Enterprises, Inc.](#) - This company produces seeds primarily for wildlife habitat enrichment plantings and specialize in chufa. The company produces and markets the WIL-GROW brand.
- [Wildlifeseeds.com](#) - This company produces seeds primarily for wildlife habitat enrichment plantings. This company produces and markets the Wild Game Brand product. Seedland.com and Farmseeds.com are divisions of Seedland, Inc.
- [Yellow Nutsedge \(Chufa\)](#), San Diego State University - Three issues of sustainable management in the Ojos Negros Valley; Baja California and Mexico. Description of the nutsedge, historical uses, propagation information and cautions regarding control of the plant as a noxious weed.

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