

What is a Sweetpotato?



Market:

The sweetpotato (*Ipomoea batatas*, morning-glory family, *Convolvulaceae*) is an enlarged storage root that comes in various shapes, sizes, and colors. Varieties, particularly those used for market use, are classified as “**dry-fleshed**” or “**moist-fleshed**,” according to the feel sensation experienced in the mouth when eating a cooked or baked sweetpotato. The “moist-fleshed” potato is sometimes referred to as a “yam” and the “dry-fleshed” as a “sweetpotato.” They are, however, *both sweetpotatoes*.

California sweetpotato growers produce both types. The varieties called **Hanna and Golden Sweet** (sometimes also called Hanna Gold) are the main “dry-fleshed” types grown. They have cream colored outer layer skin with yellow interior flesh.

The major “moist-fleshed” or “yam” type varieties include the **Garnet, Diane, and Beauregard**. The Garnet has dark-red, smooth skin with orange flesh. It is considered the premium yam type sweetpotato because of its excellent flavor. There are other red-skinned varieties that are not Garnets. The Beauregard has copper-colored skin with deep orange flesh. It is the most commonly grown variety in California and the United States.

A growing part of the industry now includes oriental, or more commonly, **Japanese yams**. These may have a variety of flesh and skin colors, including white, purple, and red, but are typically dryer than a Beauregard, with more subtle flavor. The most common has burgundy skin and white, dry flesh.



Potatoes vs yams vs sweetpotatoes: what's the difference?

Where did the term “yam” come from? A *true yam* is a large **underground tuber** in the family *Dioscoreaceae*. Native to Africa, it may vary in the size range of a white potato to enormous yams weighing 30 – 40 pounds and measuring as much as 3 feet in length.

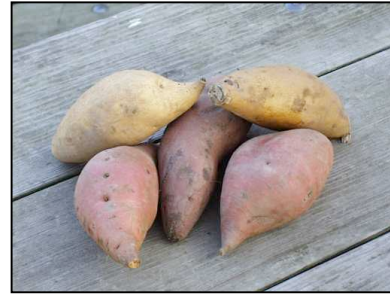
The **sweetpotato** is native to Peru and Central America and some South Pacific islands. It is in the Morning Glory family, *Convolvulacea*. The **yam** is more specific to Africa.

The word “yam” comes from the African word, “nyami.”

It is said that the word “yam” was used for sweetpotatoes in Colonial times by the slaves and indigenous people from Africa because of their similarity to true yams. As time went on, the state of Louisiana picked up the term “yam” and used it in the advertising of their sweetpotatoes, in order to distinguish theirs from the sweetpotatoes grown in the northeastern states. Now, the term “yam” is market terminology to denote a moist-fleshed sweetpotato after it is cooked or baked. All yams grown in the United States are sweetpotatoes, and the USDA requires that they be labeled as such..

Sweetpotatoes are botanically unrelated to the Irish potato (*Solanaceae* family, which includes tomatoes, peppers, eggplant, and the weedy nightshades). Irish, or “white” potatoes are tubers, which are thickened stems and are essentially carbohydrate storage reservoirs for the plant. Sweetpotatoes are a true root, and as a result contain much higher amounts of complex carbohydrates. The term “sweet potato” is really a misnomer, because it implies they are potatoes that are sweet, when in reality they are as different from potatoes as carrots are. Recognizing this, the National Sweetpotato Collaborators Group and the National Sweetpotato Association

endorsed spelling sweetpotato as one word in 1989. Nonetheless, in the current lexicon of American English, it is still spelled with two words. Both spellings are correct.



History:

Scientists believe that sweetpotato was domesticated more than 5000 years ago. There is still much debate as to just where in the Americas this took place—South America or Central America—although recent evidence suggests that it was the latter. The crop was reportedly introduced into China in the late 16th century. Columbus found the sweetpotato being eaten by the natives of the West Indies and brought it back to Europe in the early 16th century. They were grown in Spain by 1562 and in Virginia in 1650. Because of its hardy nature and broad adaptability, and because its planting material can be rapidly multiplied from very few roots, sweetpotato production spread through Asia, Africa, and Latin America during the 17th and 18th centuries. It is now grown in more [developing countries](#) than any other root crop.

Nutrition:

The sweetpotato is very high in nutritive value, and merits wider use on this account alone. Contrary to popular opinion, it is not a starchy food when baked, since most of the starch is broken down to maltose and other soluble sugars. They rank as one of the healthiest vegetables, because of high levels of vitamin A, C, iron, potassium, and fiber. They are also an excellent source of the vitamin A precursor, beta-carotene. One cup of the orange-flesh types contains four times the recommended daily allowance of this important nutrient. The dry-fleshed types contain considerably less vitamin A than the moist-fleshed types.



Nutrition Facts	
Serving size: one medium or 1 cup (100 g)	
Amount per serving	
Calories 103 Calories from fat: 1	
	% Daily Value
Total Fat 0 g	0%
Saturated Fat 0 g	0%
Cholesterol 0 mg	0%
Sodium 10 mg	2%
Total Carbohydrate 24 g	5%
Dietary Fiber 3 g	12%
Sugars 6 g	
Protein 2 g	3%
Vitamin A	218%
Vitamin C	41%
Thiamin	5%
Riboflavin	8%
Niacin	3%
Vitamin B6	12%
Folicin	11%
Potassium	17%
Calcium	4%
Magnesium	6%
Iron	65
Copper	5%
Manganese	16%

Production:

Sweetpotatoes are one of the most important carbohydrate crops in the world in developing countries. There are about 90,000 acres of sweetpotatoes grown in the United States, with most of these being grown in Louisiana, Mississippi, and North Carolina. California ranks fourth in area planted to sweetpotatoes (about 10,000 acres), and third in total production (about 5.0 million 40 lb boxes) after North Carolina and Louisiana. About 80% of the California production is located in Merced County. Sweetpotatoes are harvested in the late summer through fall, and are packed and stored for sale throughout the year.



Due to its large size and concentration of the industry here, Merced County is the #1 sweetpotato producing county in the United States. The 4-yr average production (1998 – 2002) was 5.36 million 40 lb boxes. California average yields are about 50 to 100% higher than most other states where the crop is grown.

Sweetpotato production is concentrated in Merced County primarily because of the climate, soil, and history. A long, dry growing season combined with good quality irrigation water gives this area the potential for very high yields compared to other areas in the United States. The sandy soils around Atwater and Livingston, where most production fields are located, are preferred for sweetpotatoes because they result in more attractive roots. Yield and quality decline in heavy soils.

Sweetpotato production is a long and labor-intensive operation. A typical growing season begins in February, when seed potatoes (small sweetpotatoes that are not sold for market) are put into hotbeds to grow plants (called *slips*) that will later be transplanted into fields. All sweetpotatoes are grown from transplants, which are set in the field from April through July using mechanical transplanters. Most sweetpotatoes in Merced are grown using drip irrigation, which is surface applied after transplanting. Harvest typically begins in late July and continues into November. During the winter, sweetpotatoes are stored, washed, sorted, and packed to be shipped throughout California and other western states.

Family farms dominate production in Merced County. Of the approximately 60 growers in the county, about half farm 75 acres of sweetpotatoes or less. Production costs often exceed \$4,000 per acre. The crop supports numerous full and part-time jobs in the county, and in 2002 had a farm value estimated at \$67 million (2002 Merced County Annual Report of Agriculture).

County History:

Merced County has a long history of growing sweetpotatoes. On December 9, 1865, the weekly Merced Herald carried this item: “Thanks—Mr. S.P. Jackson has our thanks for an arm full of huge sweet potatoes raised on the ranch of Jackson and Henderson. They are the largest and best we have seen this year.” By 1873 there were 26 acres in the county, which produced 161 tons.



The commercial growing of sweetpotatoes in Merced County began in the 1890's. In 1888 Frank Souza came to Merced County and went into business for himself in Buhach Colony. Around 1900 he made his first shipment of sweetpotatoes, 240 sacks. He went



on to become one of the largest shippers of sweets in the Valley. In 1903, the first transplanters were used. These were tobacco transplanters shipped from Texas. With these machines, acreage increased rapidly to the point that marketing the crop was a problem and shippers were fighting for business. Early day shippers included ATB, Pacific Fruit, Joseph Souza, Castro and Son, and Rodriguez.

By early in the 20th century, packing sheds were the preferred method of selling the crop. Packers bought lots from small growers, sorted and graded the yams into wooden hampers, then shipped

under their own labels. In the 1950's, the fiberboard box was introduced, which led to field packing. The cheaper container made it possible for any grower to become a packer-shipper, and most of them did. Unfortunately, quality of the product and demand also started to go downhill. Grading was mixed, and the boxes frequently contained a lot of dirt. In 1960, Yagi Bros, a grower-packer in Livingston, made the decision to regain control of packing and handling by building new, highly efficient metal packing and storage houses where quality control could be maintained. Soon, the rest of the industry followed suit, until virtually all of the Merced-Stanislaus county production was back where it started—packing under a roof. This system, where the sweetpotatoes are brought in from the field, washed, graded, and packed, is still in use today.

In the mid 60's, in an effort to cut down on harvest costs, the industry made the switch to mechanical diggers and 1000 lb bins. Prior to this, sweetpotatoes were typically dug with a plow, large disc, or digger outfitted with a conveyor belt to lay the roots back on the ground. They were then picked up by hand and placed into 40 – 50 lb wooden lug boxes. The switch to the mechanical diggers was very successful and now represents the standard method of harvest. Also in the 1960's a method was developed by UC Cooperative Extension to produce virus-free seed. This technology has resulted in substantial yield increases over the years.

In the 1980's, through the efforts of Bob Weimer and UC Cooperative Extension Advisor Bob Scheuerman, drip irrigation was introduced. The resulting increase in yield, uniformity, and quality has led to this being the predominant method of irrigation.

Thanks to the efforts of these men and others plus the innovations that have occurred over the last century, Merced County has been and remains the principal sweetpotato growing and shipping area in the West. In the 21st century, sweetpotato production in California continues to slowly expand in both acreage and production, although mainly as a result of successful farmers getting larger. Simply put, there are fewer farmers now than 20 years ago, farming more acres. Equipment continues to get larger, as larger size offers greater time and human capital efficiency. Four-row transplanters dominate, and 2-row harvesters were introduced in 2000. Some of the current challenges currently facing the industry include fumigation restrictions, lack of registered herbicides for weed control, air and water quality regulations, rapidly escalating costs of labor, fuel, and insurance, and loss of farmable land to housing and other development.

