

## OKRA SEED



History of Okra "Okra is found in its wild state on the alluvial banks of the Nile and the Egyptians were the first to cultivate it in the basin of the Nile (12th century BC). It was propagated then through North Africa to the Mediterranean, the Balkans, and India. It arrived then in the Americas at Brazil (1658), Dutch Guinea and at New Orleans before extending in the United States and going up to Philadelphia in 1781."

In the 1800's slaves from Africa used ground okra as a part of their diet, and this apparently led to the use of ground okra seeds as a coffee substitute by other southerners during the American Civil War blockades of the 1860's.

Okra, lady fingers or Bhindi is a vegetable that has a lot of stored nutrients. There are two kinds of fibers that you can get from Okra, the soluble and the insoluble fibers. Soluble fibers help in lowering cholesterol serum and the risk of having a heart disease, while insoluble fibers are good for the intestines as it makes sure that the intestinal track stays healthy. It also helps in avoiding any cancer diseases specially the colo-rectal cancer.

The African slaves first introduced okra as a vegetable to Europeans and Americans during the slave trade. The word okra comes from the African Swahili language. The pods of the okra plant should be harvested when they are young. As long as they are about 10 cms long they are ready for picking, you

can pick them every day, this will encourage more. Okra should be used soon after picking, if you keep it in the fridge it will go slimy and black quite quickly and then it can't be used for cooking. It should not be kept for longer than two days after picking. Okra contains lots of great vitamins and mineral, which are very good for you. It contains Vitamin A, Vitamin C, Calcium, Iron, Potassium and Magnesium and in half a cup of cooked Okra you can obtain 10% of your daily Vitamin B6 and folic acid requirements. Okra goes really well when you cook it with tomatoes, onions, corn and fish. It is also delicious with seafood. It has a natural property, which thickens soups and stews.

Closely related to the cotton plant, okra seed pods are harvested when immature. The okra plant originated in the Near East and came to America with the slave trade. The name okra comes from the Gold Coast of Africa language twi, as "nkruman," and was gradually abridged to okra. Slaves from Angola called okra "ngumbo" which became gumbo, still a widely-used synonym by which many okra dishes are described.

As okra grows, you might be amazed at how pretty it is. Flowers are cream-colored and have the general shape and form of a hibiscus blossom, except they don't splay out flat. Like other hibiscus blossoms, they remain open only one day. (In fact, the plant is so hibiscus-like, that it's alternatively known in botanical lingo as *Hibiscus esculentus*).

There are all different types of okra pods, ranging from the typical kinds to short and fat types built on the model of a Cuban cigar to foot-long, skinny, five-sided affairs. While most are green, some have red-pigmented pods. The purple-fruited varieties are so decorative that you might

Just be sure to give the plants some space – their stems can reach 6-10 feet high by the end of a season. And don't site okra right where people can brush up against it. The leaves are coarse and covered with a fine, bristly pubescence that many find irritating to the skin.

Regardless of the type of okra you're growing, just remember, the pods mature quickly. Depending on the temperature, they must be picked within four or five days of blooming. After that, the walls of the pod quickly lignify (turn woody) and become inedible.

The species is an annual or perennial, growing to 2 m tall. The leaves are 10–20 cm long and broad, palmately lobed with 5–7 lobes. The flowers are 4–8 cm diameter, with five white to yellow petals, often with a red or purple spot at the base of each petal. The fruit is a capsule up to 18 cm long, containing numerous seeds.

### **Etymology, origin and distribution**

Okra is native to the Old World tropics (West Africa) and has become established in the wild in some New World tropical areas. It is believed that okra first reached the New World during the days of slave trafficking. Okra is a popular and important food worldwide. Okra is often known as lady's fingers outside of the United States[1], and gumbo in parts of the United States and English-speaking Caribbean, based on a corruption of the Portuguese word "quingombo," which is in turn a corruption of the word "quillobo," the word for the plant in some parts of eastern Africa.

The name "okra" is of West African origin and is cognate with "ḳ̀r̀" in Igbo, a language spoken in Nigeria. In various Bantu languages, okra is called "kingombo" or a variant thereof, and this is the origin of its name in Portuguese, Spanish, Dutch and French. The Arabic "bāmyah" is the basis of the names in Cyprus, the Middle East, the Balkans, Iran, Afghanistan, Greece, North Africa and Russia. In Southern Asia, its name is usually a variant of "bhindi" or

"vendi" (வெண்டை in Tamil)."

Okra flower bud and immature seed podThe species apparently originated in the Ethiopian Highlands, though the manner of distribution from there is undocumented. The Egyptians and Moors of the 12th and 13th centuries used the Arab word for the plant, suggesting that it had come from the east. The plant may thus have been taken across the Red Sea or the Bab-el-Mandeb strait to the Arabian Peninsula, rather than north across the Sahara. One of the earliest accounts is by a Spanish Moor who visited Egypt in 1216, who described the plant under cultivation by the locals who ate the tender, young pods with meal.

From Arabia, the plant spread around the shores of the Mediterranean Sea and eastward. The lack of a word for okra in the ancient languages of India suggests that it arrived there in the Common Era. The plant was introduced to the Americas by ships plying the Atlantic slave trade by 1658, when its presence was recorded in Brazil. It was further documented in Suriname in 1686.

Okra may have been introduced to southeastern North America in the early 18th century. It was being grown as far north as Philadelphia by 1748. Thomas Jefferson noted that it was well estab-

lished in Virginia by 1781. It was commonplace throughout the southern United States by 1800 and the first mention of different cultivars was in 1806.

In Vietnam, it is called đậu bắp and is used in sour soup dish.

## Uses

*Abelmoschus esculentus* is cultivated throughout the tropical and warm temperate regions of the world for its fibrous fruits or pods containing round, white seeds. The fruits are harvested when immature and eaten as a vegetable.

A high resolution scan showing pentagonal cross-section of fruit. A traditional food plant in Africa, this vegetable has potential to improve nutrition, boost food security, foster rural development and support sustainable landcare.

In Egypt, Greece, Iran, Iraq, Jordan, Lebanon, Turkey and Yemen, and other parts of the eastern Mediterranean, including Cyprus, okra is widely used in a thick stew made with vegetables and meat. In Indian and Pakistani cooking, it is sauteed or added to gravy-based preparations and is very popular in North India & Pakistan. In western parts of India, okra is one of the most popular vegetables of all and is often cooked in daily meals. Generally okra is stir-fried with spices and some sugar. Okra is also used in Kadhi. In Caribbean islands okra is cooked and eaten as soup, often with fish. In Haiti, it is cooked with rice and maize; it is also used as a sauce for meat. It became a popular vegetable in Japanese cuisine toward the end of the 20th century, served with soy sauce and katsuobushi or as tempura. It is used as a thickening agent in gumbo. Breaded, deep fried okra is served in the southern United States. The immature pods may also be pickled.

Okra slices show the pentagonal cross-section of the fruit. Okra leaves may be cooked in a similar manner as the greens of beets or dandelions. The leaves are also eaten raw in salads.[citation needed] Okra seeds may be roasted and ground to form a non-caffeinated substitute for coffee. As imports were disrupted by the American Civil War in 1861, the Austin State Gazette noted, “An acre of okra will produce seed enough to furnish a plantation of fifty negroes with coffee in every way equal to that imported from Rio.”

Okra forms part of several regional “signature” dishes. Frango com quiabo (chicken with okra) is a Brazilian dish that is especially famous in the region of Minas Gerais. Gumbo, a hearty stew whose key ingredient is okra, is found throughout the Gulf Coast of the United States and in the South Carolina Lowcountry. The word “gumbo” is based on the Central Bantu word for okra, “kigombo”, via the Caribbean Spanish “guingambó” or “quimbombó”. It is also an expected ingredient in callaloo, a Caribbean dish and the national dish of Trinidad & Tobago. Okra is also enjoyed in Nigeria where draw soup is a popular dish, often eaten with garri or cassava.

In Vietnam, okra is the important ingredient in the dish canh chua.

Okra oil is a pressed seed oil, extracted from the seeds of the okra. The greenish yellow edible oil has a pleasant taste and odor, and is high in unsaturated fats such as oleic acid and linoleic acid.

The oil content of the seed is quite high at about 40%. Oil yields from okra crops are also high. At 794 kg/ha, the yield was exceeded only by that of sunflower oil in one trial.

Okra is also reported to contain the male contraceptive gossypol.

### **Cultivation**

In cultivation, the seeds are soaked overnight prior to planting to a depth of 1-2 cm. Germination occurs between six days (soaked seeds) and three weeks. Seedlings require ample water. [citation needed] The seed pods rapidly become fibrous and woody and must be harvested within a week of the fruit being pollinated to be edible.

*Abelmoschus esculentus* is among the most heat- and drought-tolerant vegetable species in the world. It will tolerate poor soils with heavy clay and intermittent moisture. Severe frost can damage the pods.

The products of the plant are mucilaginous, resulting in the characteristic “goo” when the seed pods are cooked. In order to avoid this effect, okra pods are often stir fried, so the moisture is cooked away, or paired with slightly acidic ingredients, such as citrus or tomatoes. The cooked leaves are also a powerful soup thickener.

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