

Okra (*Abelmoschus esculentus*) – a popular crop and vegetable

Okra is a crop that is increasing in popularity. This is an account of how it is cultivated by a farmer in the Kinta Valley of Perak.

By P.S. Tong

Okra (*Abelmoschus esculentus*), also known as lady's fingers in English and *bendi* in Malay, is a popular and common vegetable. The Malay name is derived from the Hindi *bhindi*, which indicates that the species was introduced to Malaysia from India. Okra was originally included in the genus *Hibiscus* and in older publications it is usually found under the name of *Hibiscus esculentus*. Okra is a member of the Malvaceae family, a large and diverse family which includes many economically important plants like ornamental hibiscus, durian, cotton and cacao.

The immature green fruits are succulent and edible fresh, but are normally consumed as a cooked vegetable. The fruits develop at a very rapid rate and fruits can already be harvested one week after flowering. At their best, the fruits are succulent and their tips easily broken with a snap. In cooking the fruits may be stir-fried, boiled, steamed or grilled.

Okra has been cultivated as a crop for centuries. A theory that it is native to India was dismissed by Alphonse de Candolle (1886) because it



Okra fruits



After harvesting



Harvesting okra



Packing the fruits

does not have a Sanskrit name that an important native Indian plant would be expected to have. The possibility of an American origin was also dismissed because there is a record in Arabic of the plant being cultivated in the Egypt in 1216, long before the voyages of Columbus. De Candolle concluded that the okra originated in Africa. It is now widely cultivated in the tropics, subtropics and warmer temperate zones. It is particularly popular in Brazil, India, Spain, Thailand, the Philippines, southern USA, Turkey, and West Africa.

Other recorded uses of okra include preservation of the fruits by pickling, canning for later use, and drying and grinding into powder. The fruits contain mucilage and may be used as an



Okra plant showing basal branching

ingredient to add smoothness in soups and to thicken sauces. In India, okra mucilage is used to clarify sugar cane juice in making molasses. And in China, the mucilage has been used for glazing paper. Young leaves can also be cooked as a vegetable. Leaves are also used as cattle feed. When food is scarce, flower buds and petals are also eaten. Roasted okra seeds are considered as one of the best substitutes for coffee. Additionally, ripe seeds have high oil content and could be processed to extract edible oil. Okra leaves, fruits, roots and mucilage are known in some traditional medicine practices. The stem yields an inferior fiber that has been used for paper and cord.

Growing okra is relatively easy compared to other vegetables, according to a farmer Mr. Chai Yoon Fook who has been growing the crop for around 20 years in Malim Nawar, Perak. It is an



Cuting off spent okra plant

annual, erect shrub that can grow up to 4 m tall. However, he keeps the crop at maximum of 2 m tall on farm to ease harvesting. Seeds are used in raising new plants and they are bought from a seed company or kept from existing okra plants. He does not reserve seeds from every planting cycle. He keeps seeds from existing plants only when the plants show good growth and high yield. Otherwise, he will use seeds from the seed company.

Mr. Chai is able to get his first harvest of okra around 45 days after planting. The ideal fruit size for marketing is four to five inches in length. Okra harvesting is done every two days until the plants have reached about two meters. The plants are grown in rows and the workers have to go every plant to harvest the fruits. During harvesting, any fruits missed out will continue to grow to seven to eight inches in length. Fruits

that are longer than five inches will be fibrous in texture and fetch a lower price. From his experience, the okra farm price to middlemen is volatile. So far, the range of selling price is between RM 0.30 per kg to RM 5 per kg.

A crop cycle takes three to four months to complete. Interestingly, Mr. Chai plants okra on the same soil beds for two harvesting cycles. Some other farmers leave the land idle for a few months between crop cycles. On the farm, soil beds are created and fertilized with chicken dung fertilizers. The soil beds are then be covered with plastic mulch. Planting holes are made at three feet intervals through the plastic mulch. More chicken dung fertilizers are added to each hole and this is repeated every 10 days after the plants have started growing.

The application of fertilizers is believed to promote the growth of multiple shoots on a plant. When okra plants have more shoots, this translates into higher yield because each shoot produces a flower followed by a fruit at every leaf axil. After harvesting the fruit, the leaf associated with that fruit is cut off to improve visibility inside the densely crowded okra field. After harvesting, the old stems are cut off at the base and new holes are created for the second round of okra seed sowing. Roots from previous cycles are left in the soil. After two harvesting cycles, the plastic mulch needs to be changed. The soil beds are re-done using the existing soil and added fertilizers, and covered with new plastic mulch.

Hot and dry weather can cause pest problem. The most serious pest problem is green aphids. They are found at the underside of young leaves. This



Harvested fruits

insect feeds on sap of the young leaves and cause distorted or curled leaves. The aphids multiply quickly and become abundant in a short-period of time. Plants are weakened and stunted and the okra yield declines. Mr. Chai controls green aphids with insecticides. Cold and wet weather seem to slow down the reproduction rate of green aphids.

Lastly, Mr Chai shared the reason for choosing the okra variety that he is planting. Okra easily gets bruised during transportation and in storage. That's why he goes for the variety that will not get bruised during transportation or in storing for few days.

Bibliography

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