



# Abelmoschus esculentus

Family name: **Malvaceae**Common name: **Malvaceae**Local name: **(بامية) Bamia**

## Cultivated and wild

### Role in Biodiversity

*Abelmoschus esculentus*, as a well adapted crop cultivated in tropical and subtropical regions, supports the life of about 112 insect species under 106 genera, 56 families and 10 in its ecosystem.

### Environment and Growing

Okra grow well in full sun in moist, well-drained high organic matter soil.

Growth requirements:

- PH ranging from 6.0–6.8.
- Temperature for normal growth range 24-28°C.
- Temperature for good germination range 25-35°C.
- Annual rainfall of 500 to 3000 mm.

### Reproduction and Communication

Okra is a self-pollinating plant with bisexual flowers but it is often cross-pollinated. Due to its attractive golden yellow flowers and presence of nectaries, it is freely visited by honey bees, bumble bees, ants, butterflies and other insects.

### Life span

Okra takes 90 to 100 days to mature from sowing to harvesting.



### Size

Okra grows 1 to 2 m high

### Parts



Stems often tinged red, sparsely, simple, stiff and hairy.

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Strong taproot and many nearly equally long, mostly horizontal branches whose numerous laterals fill the surface 8 inches of soil.



Leaves are heart-shaped, three to five-lobed, coarsely serrate to crenate with filiform stipules.



Flowers are yellow or yellowish white with a purple spot at the base.



Fruits are capsules. They are 7-25 cm long, 1.5-3 cm across, cylindrical, 5-angled, acuminate, simple hairy.



Seeds are numerous, oval, dark brown, glabrous.

## INTRODUCTION

### Shrub

*Abelmoschus esculentus*, okra, is a shrub native to tropical Africa and Asia. It is cultivated in tropical, subtropical, and warm temperate regions around the world. The plant is characterized by hairy single stems bearing large, green, deeply lobed, heart-shaped leaves, and long, ribbed green hairy seedpods.

In Sudan, okra is grown mainly in Northern, River Nile, Sinnar, Kordofan, Kassala, Gadarif, Gazeira, and Khartoum states. It is a well adapted crop grown in all types of soil in summer, autumn, and winter seasons. It is mainly cultivated for its fruits, which are eaten cooked in many parts of Sudan, either fresh or as dried powder. In northern Sudan, leaves of okra are also consumed as a food. There is also a native okra that grows as wild species in the eastern part of Sudan.

## LIVELIHOODS / CULTURE

### Cultivation

**Land preparation:** It begins by cleaning the field from the remains of the previous crop by collecting and burning it, then carrying out heavy and light plowing according to the nature of the soil, adding fermented local fertilizer in an amount of 15-20 cubic meters before the final plowing. After that, the soil is softened, moved, and leveled, and the final step in preparing the ground is to make a **Srabat** with a distance of 70 cm between each two.

Okra is cultivated mainly in two seasons, the summer and the winter season.

**Land preparation for summer farming:** The direction of the **srabat** is north-south and the farming is on the eastern side to avoid temperatures above 35 degrees that prevail on the western side of the **srabat**, especially in the afternoon. The **srabat** also breaks the north-south force of the hot dry winds and reduces their intensity.

**Land preparation for winter farming:** In this season, the direction of the **srabat** is east-west and the farming is on the southern side of the **srabat** is better, as in this case the greatest amount of heat is available for this summer-autumn crop. In addition, the effect can be maximized by making windbreaks from legume or corn plants.

**Seed sowing:** Okra is planted directly in the field on one side of the **srabat** in holes 2-3 cm deep and 25-30 cm apart, 3-4 seeds per hole. sowing is done in a field that has been previously irrigated.

**Watering:** After sowing, light irrigation is done, delaying the third irrigation as much as possible to stimulate the roots to grow and spread vertically and horizontally. With the third irrigation, the missing holes are patched. Within two weeks, when the plants reach the three-leaf stage, thinning is done to two or three plants per hole.

It is preferable that irrigations be close together in the summer every 5-7 days and according to the prevailing weather in the fall, and spaced out in the winter every 7-10 days.

**Harvesting:** The crop is ready for harvesting after 45 days of planting in the summer season (extending to 60 days if planted during rainfall season) and may reach 70 days in the winter season. The harvest season lasts for 2-3 months. To obtain high quality fruits, the fruits are harvested 4-5 days after the flowers open and the period between harvests is short, every 3-5 days.

**Storing and distribution:** The crop is transferred to the shade where it is packed in perforated pots or bags that allow ventilation and is transported to the markets. Storing fresh okra may not be necessary in Sudan, as Sudanese cut and dry the unmarketable and surplus fruits and consume or market them later as dried okra or **wika**. However, okra can be kept fresh and in good condition for a period of 7-10 days.

### Cultural Value

**Um Raqiqa**, a popular Sudanese dish made of dried okra or **waika**. It is a famous dish throughout most parts of Sudan. It is one of the foods associated with social occasions, whether weddings, sorrows or holidays.

### Medicinal and health uses

In some parts of Sudan okra fruit water extract is used as a natural laxative in cases of chronic constipation, and women also use it to nourish the hair.

### Cultural Expressions

Information not available.

## THREATS

- Climate change and increasing salinization.
- Biotic stress resistances such as okra Yellow Vein Mosaic Virus (YVMV) and Enation Leaf Curl Virus (ELCV), which are the two major diseases, causing significant yield loss in okra.

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