



Hibiscus sabdariffa

Family name: Malvaceae

Common name: Malvaceae

Local name: (كركدى) Karkadeh



Cultivated



Role in Biodiversity

- Increases pollinator biodiversity and enhances the productivity of surrounding crops.
- Provides shelter and food resources for various insects, birds, and small mammals, which contributing to local food webs.
- Its dense root system prevents soil erosion.
- Aids nutrient cycling by enriching the soil with organic matter from decomposed plant material.
- Contributes to Agroecological Systems in mixed farming by improving the biodiversity.



Environment and Growing

Hibiscus sabdariffa prefers well-drained soils and does best in areas with moderate to high sunlight. It is tolerant of a range of temperatures, particularly in tropical zones, and can withstand some degree of salinity, although extreme salt conditions can limit its growth.

Hibiscus sabdariffa prefers well-drained, loamy, or sandy loam soils. The soil should be slightly acidic to neutral.

Growth requirements:

- Temperatures range 21–30°C.
- Sunlight for at least 6–8 hours per day.
- Annual rainfall range 150-250 mm.



Reproduction and Communication

- Asexual reproduction (via stem cuttings).
- Sexual Reproduction (via seeds): self-compatible but also benefits from cross-pollination by insects, especially bees.
- The petals of a flower give it its unique shape, color, and smell to attract pollinators.
- Hummingbirds, bees, butterflies, and other insects are drawn to the flower. As they access nectar deep within the flower, their bodies make contact with the anthers and stigma. This contact results in cross-pollination.



Life span

Flowering typically begins 3–4 months after planting in most regions, with a total life cycle of 5–6 months in annual cultivation systems.

In Sudan Hibiscus is grown primarily as an annual crop, especially in regions like North Kordofan and Darfur. The plant completes its lifecycle in about 5 months, from planting to harvest. It is replanted annually for better yields and quality.

Under optimal conditions in frost-free regions with proper care, the plant may survive for 2-3 years.



Size

Hibiscus sabdariffa can grows up to 1.2 to 2.5 meters and spread to 0.6 to 1.2 meters wide.



Parts



Stems are erect and glabrous.

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The root of the plant is slightly thin and branched with tap root system.



Leaves are 8-15 cm long, divided into 3 to 5 lobes, and arranged alternatively on the stem.



Flowers are solitary, axillary, and erect with 8–10 cm in diameter. They are red, white, or pale pink.

Fruits are ovoid, red capsules.

Seeds are reniform and glabrous.

INTRODUCTION

Shrub

Hibiscus sabdariffa, roselle, is an annual shrub native to West Africa. It is widely grown in tropical and subtropical regions worldwide. This plant is characterized by pale rosy stem and palmately, triangular lobed leaves, and soft and fleshy red calyces.

In Sudan, *Hibiscus sabdariffa* is cultivated mainly for its flowers, which are used to make cold and hot drinks. It is also used by many people as a medicinal plant. Its main cultivation areas are Gadarif, Gazeira, White Nile, River Nile, and North Kordofan states.

LIVELIHOODS / CULTURE

Cultivation

Hibiscus is planted in the spring or early summer, especially in regions with mild winters.

Land preparation: The soil should be well-draining, rich in organic matter and moist.

Seeds sowing: Plant seeds about 1 inch deep in the soil, spacing the plants at least 3 feet apart to allow for proper growth. Planting can be started from seeds or seedlings.

Watering: it is important to avoid waterlogging. Watering should be done regularly to keep the soil moist, especially during dry spells.

Thinning and weeding: Each plant should be thinned out to a single plant per hole.

Cultural Value

Hibiscus is a key ingredient in Sudanese drinks, especially during Ramadan and other celebrations like weddings. It also has an important medicinal value specially in winter in which respiratory diseases are very common.

Medicine and Health

Hibiscus sabdariffa is used to treat respiratory infections in many areas in Sudan. In the Fangoga area in Sinar State, It is used to treat sore throats and coughs. In Mellit area cayx maceration and potions are used to treat hypertension, coughs, and flu.

Cultural Expressions

Information not available.

THREATS

Not typically classified as an endangered species, it can face threats in specific regions from climate change, overharvesting, and pests and diseases such as aphids, whiteflies, and leaf spot diseases.

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