Jew’s mallow

(Corchorus olitorius L.)
PRODUCTION GUIDELINES

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(Corchorus olitorius L.)

February 2012

Department of Agriculture, Forestry and Fisheries
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GENERAL ASPECTS

Classification
Scientific name: *Corchorus olitorius* L.
Common names: Jew’s mallow, Wild jute, Wildejute, Thelele, Delele and Gushe
Family: Tiliaceae

Origin and distribution
The origin of Jew’s mallow is unknown, but it has reportedly been cultivated for centuries, both in Asia and Africa. It occurs in the wild on both continents. It is native to tropical and subtropical regions throughout the world. It is widely distributed in tropic and subtropic regions. It has been largely produced as a very important vegetable in arid regions of the Middle East and Africa.

Production levels

*South Africa*
Jew’s mallow is a very popular leafy vegetable in the northern and eastern regions of South Africa. Traditionally, Jew’s mallow is not cultivated, but harvested from the wild or in farmers’ fields. It is one of the wild leafy veg-
etables used in the Eastern Cape in South Africa. In the Limpopo Province, poor households tend to use this type of vegetable. There are no statistical data on the total volume collected from the wild or homesteads.

International

Jew’s mallow is produced by international countries such as Egypt, Southern Asia, Japan, India, China, Lebanon, Palestine, Syria, Jordan, Tunisia and Nigeria. It is a leading leaf vegetable in Côte d’Ivoire, Benin, Nigeria, Cameroon, Sudan, Kenya, Uganda and Zimbabwe. It is also cultivated as leafy vegetable in the Caribbean, Brazil, India, Bangladesh, China and Middle East. It is cultivated for fibre in Asia (India, Bangladesh and China). Though Jew’s mallow is a leading leafy vegetable cultivated and traded in many countries, no statistical data on the production and marketing trends of the crop are available.

Major production areas in South Africa

Jew’s mallow is growing in the wild or homesteads in the KwaZulu-Natal, Limpopo, Eastern Cape and Mpumalanga provinces.

Description of the plant

Mature plant

It is an erect, annual herb that varies from 20 cm to approximately 1.5 m, depending on the cultivars.

Stems

The stems are angu­lar with simple oblong to lanceolate leaves, strongly branched and fibrous.

Leaves

Leaves are alternate, simple, lanceolate, 5 to 15 cm long, with an acuminate tip and a finely serrated or lobed margin.
FLOWERS
The flowers are small, 2 to 3 cm in diameter and yellow, with five petals. The flowers have both male and female organs and are pollinated by insects. The plant flowers from August to October and the seeds ripen in October.

FRUIT
The fruit is a cylindrical capsule with many seeds.

ESSENTIAL PARTS
Fresh leaves and tender shoots are essential parts.

Climatic and soil requirements
Temperature
It requires an annual temperature ranging from 16 to 25 °C. The optimum temperature is 25 to 32 °C. Temperatures below 15 °C are detrimental to the crop.

Rainfall
Jew’s mallow is sensitive to drought and it can perform well in areas with high rainfall (600 to 2 000 mm).

Soil requirements
Jew’s mallow can grow in a wide range of soils, but prefers rich, well-drained loam soil. It tolerates a pH ranging from 4.5 to 8.2. It cannot grow in the shade. It requires moist soil, but cannot tolerate waterlogged conditions.

CULTIVATION PRACTICES
Propagation
Jew’s mallow is propagated by seed.

Planting
Jew’s mallow is planted either by direct seeding or transplanting. Direct seeding is used when seeds are plentiful; labour is limited during the dry season when flooding is not a problem. Planting is done at the beginning
of the rainy season. When there is uniform distribution of rainfall, it can be planted any time of the year. The seeds are drilled uniformly 10 to 12 cm apart into furrows or at the rate of 5 to 6 kg of seeds per hectare. For large-scale planting and in open places, seeds are judiciously broadcast and lightly covered with fine soil by passing a wooden harrow over the surface.

**Fertilisation**

Jew’s mallow responds well to added fertiliser, especially nitrogen. A side-dressing of nitrogen is recommended for optimum yield. A combination of both inorganic and organic fertilisers improves yield and maintains soil fertility. The rate of fertiliser application depends on soil fertility, soil type, fertiliser recovery rate and soil organic matter. A soil test is highly recommended to determine the available N, P and K before planting and fertiliser application.

**Irrigation**

Irrigating is critical after sowing or transplanting to ensure a good stand. Fields are furrow-irrigated every 10 days during the cool, dry season and weekly during the hot, dry season. As a rule, plants should be irrigated if wilting occurs at midday. Irrigate thoroughly to develop a deep, healthy root system. Avoid over-irrigation because this leads to disease development and leaching of soil nutrients. Drip irrigation or micro-sprinkler irrigation is recommended in areas with a limited water supply. Avoid using sprinkler irrigation late in the evening to prevent foliar diseases.

**Weed control**

Thorough land preparation is essential, especially when direct-seeding. Plant establishment is slow and the plants become vulnerable to weed competition. Weeds must not be allowed to crowd or overgrow the young plants. When plants are 20 to 25 cm tall, a wooden plough or cultivator should be passed between the rows to hill-up, which can help to suppress the growth of weeds.

**Pest control**

The most common pests attacking the plant are spider mites, grasshoppers, caterpillars, army-worms, flea beetles and red spider mites. Control by spraying with recommended pesticides.
Root-knot nematodes (*Meloidogyne* spp.) cause stunting of plants. It can be controlled by crop rotation with other crops that are less susceptible to root-knot nematode.

**Disease control**

Only a few diseases affect Jews mallow. Damping-off caused by *Rhizoctonia, Pythium* or *Phytophthora* spp. occurs in seedbeds. These pathogens are managed through the use of raised beds, well-drained soils and proper watering.

Stem rot (*Sclerotium rolfsii*) is a common disease during the dry season, causing plants to wilt. Stem rot is managed by deep ploughing, using raised beds, crop rotation and allowing ample time for breakdown of green manure before planting.

**Harvesting**

*Harvesting maturity*

The first harvest can be done by cutting shoots 4 to 6 weeks after transplanting or 30 to 60 days after planting, depending on variety. Some varieties are sensitive to short day length, causing them to bloom prematurely. Other varieties can be harvested 20 to 40 days after planting, just before the fruit develops. Frequent harvesting delays flowering and prolongs the harvesting period. Jew’s mallow wilts rapidly after harvesting.

*Harvesting methods*

Harvesting can either be manual by hand picking the fresh leaves or cutting the tender shoots. The other method is done by pulling the entire plants with the roots from the soil. In the case of multiple harvests, young leaves and shoots are picked every two to three weeks.

**POST-HARVEST HANDLING**

*Packing*

Harvested leaves, shoots or entire plants are collected, washed and tied into bundles.
Storage

There are a number of drying techniques that are used to lengthen the shelf life. The most frequent method is sun drying. The fresh or cooked leaves are formed into small balls and dried on flat zinc, metal or flat rock surfaces that are exposed to the sun.

Dried vegetables are stored either in a huge clay pot or in a sack. Vegetables are kept in the pot, with the lid on, sealed with fresh cow dung. The pot is exposed to the sun to allow the dung to dry. The pot is then kept in a traditional kitchen next to the fireplace.

If kept in a sack, the sack is either hanged by a string or kept on top of any object to prevent contact with the ground. It should be kept constantly wet or in cold storage at 20 °C. Leaves can also be dried and pounded into a powder to be used in the dry season.

Marketing

Jew's mallow cannot be kept for long periods. It is either sold or consumed after harvesting. It is sold on the local market, particularly by street vendors.

**PRODUCTION SCHEDULE**

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**Utilisation**

Human consumption: Jew’s mallow is used as leafy vegetable. Immature fruit is dried and ground into powder to prepare a sauce. The dried leaves can be used as a thickener in soups. A tea is also made from the dried leaves.

Nutritive value: The leaves are very nutritious, rich in beta-carotene, iron, protein, calcium, thiamin, riboflavin, niacin, folate, vitamin C and E and dietary fibre.

Medicinal use: Root scraping and decoction is reportedly used to treat toothache and as a tonic.

Other uses: It can also be used as a source of fibre. Its fibre is strong and waterproof, making it perfect for the production of burlap sacks, furnishings and even clothing.

**Références**


www.naturalmedicinalherbs.net/herbs/c/corchorus-olitorius
Further information can be obtained from:
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