

Irrigation

Frequent irrigation is needed for good yields and adequate water supply is necessary to reduce plant stress. The irrigation interval of the crop depends on the soils types, i.e. sandy soils will require more water than clay soils. Irrigate at least 4 ℓ/m² area until first harvest and increase by 1 ℓ after harvest. Drip and sprinkler irrigation can be used but drip irrigation is recommended to save water.

Weed control

An integrated control programme combining preventive, cultural, mechanical and chemical methods is most effective. Black nightshade can be a serious agricultural weed when it competes with crops.

Disease control

The most common diseases attacking black nightshade are among others, leaf blight, bacterial wilt, powdery mildew, etc. The use of disease-free seeds and hot water seed treatment is recommended to control early blight. Optimum growing conditions and good soil conditions can also help in limiting disease inducement.

Pest control

Major pests of black nightshade are, among others, black aphids, caterpillars and beetles. These pests can be controlled by crop rotation and wood ash dusted on the leaves. Onion and garlic are natural flea-beetle repellents.

Harvesting maturity

Harvest the fruit when it turns into black/purple colours. The crop is ready for harvest 4 weeks from transplanting. Hand picking is used during harvesting.

USES

Both the fresh young leaves, shoots are used as vegetable. Ripened fruit is also edible.

REFERENCES

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Black nightshade

Solanum retroflexum Dun.



agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

Classification

Scientific name: *Solanum retroflexum* Dun.
Family: Solanaceae
Common names: Black nightshade, nastergal, umsobo, muxe

Origin and distribution

Solanum retroflexum Dun. originated from Eurasia and was introduced into South Africa. It is widely distributed throughout the tropics and can be found throughout East Africa.

Growing areas in South Africa

Black nightshade grows countrywide, often under marginal conditions.

Description of the plant

Matured plant

Black nightshade is an annual herb that can grow up to 75 cm in height.

Roots

The plant has a slender tap root with a fibrous root system.

Stems

The stems are green, branching, round or angular, smooth or partially hairy and becoming woody with age.

Leaves

Leaves are simple, alternate, ovate or ovate-lanceolate. Leaf margins may be entire or with blunt teeth. Leaf hairiness is variable, however, the leaves are most often found to be slightly hairy.

Flower

The flowers are white with a yellow centre.

Fruit

The fruit is 5 to 12 mm in diameter, green when immature and turn purplish black at maturity.

Climatic and soil requirements

Temperature

Black nightshade requires optimum temperatures of 25 to 30 °C. It prefers full sunlight and it is sensitive to frost.

Soil requirements

The plant prefers light, medium and heavy soils that are rich in organic matter. It can also do well in acid, neutral to basic soils.

CULTIVATION PRACTICES

Propagation

Black nightshade is propagated by seeds.

Soil preparation

Preparation of soils can be done by hand or mechanically.

Planting

Seeds can be planted in a nursery or direct in the field. Seeds should be mixed with sand and/or ash for uniform sowing. Sow the mixture thinly, either by broadcasting or in rows, 15 to 20 cm apart and 1 cm between seed or broadcast. Cover the seed with a thin layer of soil and then water. After sowing, the bed should be mulched with tall grass or a similar material to retain moisture. This mulch can be removed once the plants are 3 cm in height. Transplant when seedlings have 4 to 7 true leaves and are 10 to 15 cm. The spacing should be 30 cm in the row by 30 cm between the rows.

Fertilisation

Use 2:3:2 and 3:2:1 fertiliser mixture. Apply the mixture in the bottom of the open furrow at 40 g/m. Band application is recommended when using animal manure at 10 liter per 20 cm x 15 m spacing. Add LAN at the rate of 20 g/m when the plants have about 5 to 6 leaves. When applying LAN to the growing crop, open a furrow with a hoe about 10 to 15 cm away from the row of plants, mix the fertiliser with the soil, using a stick, water the furrow and then close.

When using poultry or pig manure, apply one 10 ℓ bucket in a band of about 20 cm wide over a length of 15 m, work the manure into the topsoil, water the band thoroughly and wait one to two weeks before transplanting. When you use kraal manure, use the same procedure but apply one 10 ℓ bucket over a length of 5 m. After the first harvest of the crop, you can apply poultry manure to boost growth.