

BRINJAL (EGGFRUIT)

CLIMATE

Brinjals are sensitive to frost, and require a long, warm to hot growing season for best results. Optimum growth and production is obtained with mean daily temperatures between 21°C and 29°C. At temperatures above 35°C, flowers may be shed. Growth, yield and fruit quality tend to decrease at mean temperatures below 18°C. At lower temperatures, as for example when brinjals are grown in winter and early spring in frost-free areas, a dark discolouration of the flesh may occur and the skin colour may not develop well.

Optimal temperatures for seed germination are between 24°C and 32°C, with seedlings emerging after 5 days at 30°C.

SOILS

Sandy loam to loam soils, well-drained to a depth of at least 400 mm, and with a high organic matter content, are ideal. Brinjal crops can, however, be grown successfully on many different soil types, provided soils are well-drained.

A pH (KCl) of 5,5 to 6,5 is preferred.

CULTIVARS

Well-known, open-pollinated cultivars are Black Beauty and Florida Market, which are generally grown for the production of large fruit.

There are also many hybrids, such as Black Bell and Black King.

The longer, more cylindrical types, such as Little Finger are also very popular, particularly with Indian consumers in Natal, when picked at a young age. These small fruits are sold fresh, mainly for pickling purposes. Well-coloured fruits are preferred to ones which have developed little colour when harvested.

PLANT POPULATIONS AND SPACING

Brinjals are almost invariably transplanted. The seed requirement for one hectare is usually 140 g to 200 g for seedtrays, 500 g for seedbeds, and up to 3,0 kg when direct-seeded.

The plants are usually spaced about 500 mm apart in rows drawn 0,75 m to 1,5 m apart. They are often in double rows, occasionally multiple rows, with picking paths in between. Spacings may be adjusted, depending on planting times and cultivar - closer under cool growing conditions or with less vigorous cultivars, and wider under better growing conditions, especially with taller cultivars.

Populations thus vary from about 15 000 to 25 000 plants per hectare.

TIME OF PLANTING

Seedlings are normally transplanted when they reach a height of 120 mm to 150 mm. In cooler areas the crop is transplanted after all danger of frost and cold damage is passed.

		Time of sowing
Cool areas	(heavy frosts)	October to November
Warm areas	(light frosts)	September to January
Hot areas	(frost-free)	January to September

FERTILIZERS

Brinjals respond well to the use of organic manures. Soils with a pH (KCl) of less than 5,0 should be limed some time before planting. The phosphorus (P) and potassium (K) requirements should ideally be determined by soil analysis. Minimum phosphorus dressings of 40 kg P should be used.

Where soils are not analysed, fertilizer mixture 2:3:4 (30) at 400 kg per hectare on fertile soils, and double this on poor soils, is applied at planting. On good soils apply about 300 kg LAN in a split dressing at 4 and 8 weeks - 200 kg on poor soils. Further dressings of LAN may be advisable, depending on plant growth.

IRRIGATION

Little detail is available on water requirements of brinjals. A common practice for summer crops is to plant into soil pre-wetted to 400 mm depth, and then to irrigate the plants twice weekly for the first two weeks until established. Thereafter, for two to three weeks, one or two similar irrigations per week, depending on conditions, is necessary. For the following eight weeks or so, 35 mm per week, and then 30 mm per week until final harvest, should be adequate. Plants are particularly sensitive to drought stress from flowering to final harvest.

WEED CONTROL

No herbicides are registered for use on this crop. A combination of mechanical and hand-weeding is used to control weeds. The size of the implements used may determine the row spacing adopted.

PESTS

The major pests are root-knot nematodes in infested soils, and red spider mite, particularly under warm, dry conditions. Other pests, such as cutworm and American bollworm are often problems. Tip-wilters, leaf-eating beetles, and various aphids also occur. Demeton-S-methyl sold as (Demeton or Demetex) and oxydemeton-methyl (Metasystox R) are registered as cover sprays for the control of aphids; 14 days should elapse between application and further harvesting.

DISEASES

No chemicals are registered for the control of diseases on brinjals. The major problems experienced are bacterial wilt or verticillium wilt. Bacterial wilt is endemic in certain soils of the Lowveld and KwaZulu-Natal coastal areas. It will affect all solanaceous crops grown during summer and autumn. Certain fungal leafspot diseases may occur, but are usually minor. A fruit rot caused by *Botrytis* sometimes occurs; affected fruits are discarded at harvest.

LENGTH OF CROP

When grown under favourable, warm conditions, cropping may start at 65 to 90 days after transplanting, depending on cultivar. Frequent picking, two or three times a week, results in a better quality fruit, higher yields, and a longer cropping season. The crop is usually gathered over a period of two or even three months. The later-maturing fruits are generally appreciably smaller and often, particularly under cooler conditions, colour up poorly. This perennial plant is normally grown as an annual, because yields and fruit quality are generally poorer when retained for a second season.

YIELDS (t/ha)

Conservative	Likely	Possible
10 to 15	20 to 25	30 plus

HARVESTING, GRADING, PACKING AND MARKETING

The fruits are normally picked when they have attained the desired size, but usually before they are fully sized. Certain consumers, mainly Indian, demand very small fruits, only about 60 mm to 100 mm in length. The specific market requirement thus determines cultivar selection and stage of picking. In any event, the fruits should be harvested before the skins harden.

The fruits are usually cut off, as hand pulling often results in damage to the fruits and the plants; this is not as important when small fruits are being harvested. The fruits wilt very easily if picked in the heat of the day; harvesting in the mornings only is recommended. Harvested fruits should also be removed to a cool, shady area as soon as possible, because they are subject to sunscald and wilting. Picking two or three times a week is necessary.

They should be handled very carefully during harvesting, grading and packing, to obviate bruising and damage caused by the thorns present on the fruit-stems of most cultivars.

The fruits are graded according to size, shape and colour before packing. Wilted, damaged or over-mature fruits should be discarded. Graded fruits are normally packed into well-ventilated cartons or similar containers; packing into bags or pockets is not recommended, because the fruits are not sufficiently protected.

Brinjals are perishable, they wilt quickly, and do not store well, even under optimum conditions. They must, therefore, be marketed as rapidly as possible.

PRICE TRENDS

This warm-season crop is likely to receive low prices during summer to autumn, with peak prices in winter and spring, when supplies are generally lower.

The demand for the crop is relatively small, and large plantings are often difficult to dispose of at remunerative prices. Investigate possible outlets and tonnages required, before deciding on the area to be planted to brinjals.