

Production Techniques of Okra

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Introduction:

India is the largest producer and exporter of okra in the world. Major producing state is West Bengal followed by and rich in vitamin A, B, C good for stone in kidney. Okra seed use for making coffee and it is increase semen content. In U.P. Okra production total 1.5 million production in 2021-22 production is 789.3 mt. If farmer apply scientific standards at okra sowing time yield will be increase. For Okra germination temperature require 30°C if temperature is less than 17°C germination win temperature is more than 42°C flowers will drop. The crop can be successfully grown in rainy season even in heavy rainfall area.

Soil and land preparation: Okra cultivation can be different loamy soil with rich in soil organic manure and fair in water retention capacity. Sandy and clay not fit for okra. pH require 6.8 and it is deep rooted crop. If pH is less than 6 productivity is not is not effective of okra.

Hybrid varieties: Taza, Nazuk, Purna, Jaya, Subha, Arka Anamika, Co2 (AE1 x Pusa Sawani), Co3 (Prabhani Kranti x MDU1).

Hybrid seed may be produce in one of the several ways

- ✓ Cytoplasmic-genetic male sterility.
- ✓ Cytoplasmic male sterility.
- ✓ Genetic male sterility.
- ✓ Self-incompatibility.
- ✓ Manual emasculation and/or pollination.

Fertilizer and Manures: The manure and fertilizers application depend upon the season. Climate, condition and soil fertility in general 20-30 tonnes of well decomposed FYM, 100 kg N, 60 kg P₂O₅ and 50 kg K₂O ha⁻¹ are sufficient FYM mixed in the soil at the time of field preparation. The complete dose of phosphatic and potassic fertilizers and one third dose of nitrogenous fertilizers showed be applied at last ploughing remaining dose of nitrogenous fertilizers should be applied in two split doses. The first top dressed one month after sowing and the second two month after sowing. In rainy season nitrogen should be applied in to split doses so that loss of nitrogen through leaching can be avoided.

Time of sowing and seed rate: Spring

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summer and rainy season are raised. The former is sown in February-March and late June-July seed should be for spring summer 20-30 kg ha⁻¹ and rainy season 12-15 kg ha⁻¹. Low and rather erratic germination of seed during February March (due to low temperature) demand and higher seed rate for the spring summer crops.

Method of sowing and spacing: The seed should be preferably be dibble 15 cm about, on ridge made at 45 cm a part. Spacing should be 45 x 30 cm and isolation for foundation 400 m and certified 200 m.

Weed management: The spring summer may 2-3 weeding and hoeing but the rainy season need frequent weeding pre planting application of fluchloralin @ 0.5-1.0 kg ha⁻¹. For days before sowing or Trifluralin @ 0.5- 1.0 kg ha⁻¹ or Alachlor @ 1-2 kg ha⁻¹ one days after sowing have been recommended check weeds.

Irrigation: Spring summer crop needs irrigation after 4-5 days but frequency of irrigation in rainy season crop depend upon the rains and field moisture.

Harvesting: It takes 7-8 days from flowering to picking of fruits. Frequently picking of okra promotes fruit development fruits should be harvested by trained person at tender stages without pedicel.

Yield: On an average the yield of okra varies from 60-65 q ha⁻¹ of green fruits for the

spring-summer crop and 90-120 q ha⁻¹ for Rainy season crop.

Disease management

Fundal disease Damping off: Both pre and post-emergence of seedling occur. Affected seedling rot at collar region and topple down on the ground and finally die.

Control

- ✓ Provide proper drainage.
- ✓ Treat the seed with captan or thiram @ 3 g kg⁻¹ seed before sowing.

Powdery Mildew: White floury growth of fungus appears on both the surface of leaves.

Control

- ✓ Dust sulphur @ 25 kg ha⁻¹.
- ✓ Spray karattane (0.2%) at 15 days interval.

Fusarium wilt: The disease in characterized by the yellowing of leaves followed by wilting and rolling. The affected plants remain stunted dark streaks can be seen in the vascular bundles of stem and root. The indices in high rainy season crop.

Control

- ✓ Adopt crop rotation.
- ✓ Give deep summer ploughing during summer to expose the soil to sun.
- ✓ Seed treatment with Thiram or Captan @ 3 g kg⁻¹ seed.

Leaf Blight: Small brown to sooty black, angular spots, appear on both the

surface of leaves. The infection may result into premature defoliation. The older spot may coalesce. High atmospheric humidity is favorable.

Control

- ✓ Spray the crop with bordeaux mixture (0.1%) or Bavistin (0.2%) or Dithane M-45 (0.2%) at 15 days interval.

Viral Disease

Yellow mosaic virus: The disease is characterized by yellowing of veins. In extreme cases the entire leaf turns completely yellow colored. The infected plants remain stunted and bear very few, yellow colored fruits. The virus is transmitted by white fly.

Control

- ✓ Grow resistant varieties like Prabhani Kranti, Varsha Uphar, Punjab Padmini, HRB-55.
- ✓ Rogue out the disease plants from the field as earliest possible.

Enation leaf curl: Small pin head, out of growth (enations) on the under surface of leaves appear the leaves curl in the axial direction. The virus is transmitted by white fly.

Control

- ✓ Rogue out the disease plant and burn them.
- ✓ Spray with Malathion (0.1%) or Dimethane (0.05%) or Monocrotophos (0.05%) to control white fly.

Insect and Pests

Spotted ball worm: The larvae bore into the growing shoot initially and fruits at later stage.

Control

- ✓ Follow crop rotation excluding cotton and holly.
- ✓ Eradicate the host plants like cotton and holly hock.
- ✓ Spray carbaryl (0.2%) or endosulfan (0.05%) or cypermethrin (0.05%) at fortnight intervals.

Jassid: The nymphs and adults suck the cell sap from the tender part of plant.

Control

- ✓ Spray the crop either malathion (0.1%) or Dimethane (0.03%) or monocrotophos (0.05%) or endosulfan (0.05%) starting at the onset of insect.

Spider mite: The insect sucks the sap from the tender part of the plant. The affected leaves turn pale and finally defoliation occurs.

Control

- ✓ Spray malathion (0.1%) or dimethane (0.03%) or carbaryl (0.02%) to control spider mite.

White fly: Insect does not cause considerable damage to the crop but acts as a vector to transmit yellow vein mosaic virus disease.

Control

- ✓ Spray malathion (0.1%) or dimethane (0.03%) or carbaryl (0.02%).

Root knot nematode: Knot can be seen on the roots of the infected plants. Leaf turn to pale and growth of plant restricted. Symptom appear in patches. Fruiting reduced.

Control

- ✓ Deep ploughing of field during summer to expose soil to Sun.

- ✓ Mix carbofuran 3 g @ 5 kg ha⁻¹ in the soil.

- ✓ Apply nemagon @ 25 lit ha⁻¹ with irrigation.

Future scope: Use of these techniques at appropriate time is very helpful for proper growth and development which ultimately leads to increase yield.

