

HISTORICAL BACKGROUND

- ❖ The original home of bitter gourd is not known
- ❖ It is a native of the tropical Africa and Asia.
- ❖ It is widely grown in India, Indonesia, Sri Lanka, Malaysia, the Philippines, China and the Caribbean.

BOTANICAL FEATURES

This herbaceous, tendril-bearing vine grows to 5 meters.

It bears simple leaves with deeply separated lobes

Each plant bears separate yellow male and female flowers

The fruit has normally an oblong shape

It is hollow in cross-section, with a relatively thin layer of flesh surrounding a central seed cavity filled with large flat seeds

CLIMATIC CONDITIONS

Bitter gourd is a tropical and subtropical plant.

It prefers hot and humid climates.

Its seed required 25- 30°C for germination

Districts of Central and south Punjab are best for green fruits production and seed production

Districts of northern Punjab are best for green fruits production

SOIL REQUIREMENT AND SOWING METHOD

SOIL

- Bitter gourd love fertile soil having proper water sanitation system
- Alkaline saline soil & poor drainage soils are not good for it

SOWING METHODOLOGY

➤ FOR BITTER GOURD (KARELA)

- Bitter gourd seed is sown on both sides of 2.5 m wide beds
- Bitter gourd crop on nets required 2.0 m wide beds
- Keeping plant to plant distance 45 cm with seed depth of 2 – 3 cm

➤ FOR BITTER GOURD (KARELI)

- Kareli seeds is sown on both sides of 2m wide beds
- Keeping plant to plant distance 60cm with seed depth of 2 – 3 cm
- Staking the plants on net when they attain the height of 1.5- 2 feet

FERTIZER REQUIREMENT

N = 45 Kg

P = 45 Kg

K = 25 Kg

VIEW OF BITTER GOURD LINES



SAFEENA



ASWAD



**FAISALABAD
LONG**

SOWING TIME AND SEED RATES

- Generally Bitter gourd cultivation is conducted in mid February to start April
- Seed crop is sown 15 Feb to 15 march
- Late crop is sown in June To mid July
- Bitter gourd (Kareli) type is sown June to July

SEED RATE

- Healthy seed @ 1-2 Kg/acre with good germination percentage

IMPORTANT ASPECTS FOR SEED PRODUCTION

- Distance between different varieties

700-1000 meter

- Stage of fruits harvesting

When color of fruits becomes yellow

- Appropriate Time for seed development

Before the start of rainy season(Mon Soon)

METHODOLOGY FOR SEED EXTRACTION

Extract the seed from the ripened fruits manually/mechanically

Collect the seed in plastic tubs

Wash it with water to remove the pulp with excess water

SEED EXTRACTION



SEED DRYING

Immediate after seed extraction it needs to proper dry

Extracted seeds should spread on gunny bags in a thin layer and dried for 8 to 10 hours for two or three days

Frequent stirring is more important otherwise it leads to clogging

DRIED SEED OF BITTER GOURD



SEED STORAGE

Removed the ill filled, broken, fungal infected and small size seeds by sieving process

Lower the seed moisture, longer the shelf life

Prior to storage, seeds are treated with fungicide to ward off fungal pathogens.

Store the seed in ventilated rooms

Store the seed in gunny bags

PEST MANAGEMENT

Following are the major insect pests effect bitter gourd

Army worm

American worm

White fly

Fruit fly

ARMY WORM

➤ DEMAGE

- It damages the tender leaves of bitter gourd
- It reduces the photosynthesis of plants

➤ Control

- Avoid growing alternative host plants

AMERICAN WORM

➤ DEMAGE

- It damages the tender leaves and newly developed buds of bitter gourd
- It reduces the photosynthesis of plants
- It damages by boring through the fruits

➤ Control

- Avoid growing alternative host plants
- Remove all plant debris and weeds
- Crop rotation is an effective pest management tool.

FRUIT FLY

➤ DEMAGE

- Adult lays eggs on leaves and fruits of bitter gourd
- Larvae feed themselves on the fruits resulting in fruit decay

➤ Control

- Collect the damaged fruits and bury in the soil
- Avoid growing of alternate hosts
- Crop rotation is recommended

MYROTHECIUM

➤ SYMPTOMS

- Appearance of yellow spot on leaves which later on merge with each other resulting in larger spots
- Photosynthetic process of plants is severely effected

➤ Control

- Spray of Fungicide
- Frequent irrigation to the crop during hot summer

COMMERCIAL VARIETIES OF BITTER GOURD

Approved variety

- Faisalabad Long
- Aswad
- Safeena

Candidate lines

- Coll No. 3

Commercially cultivated varieties

- Faisalabad long
- Kala karela
- Pali
- Prachi
- Triplet
- Prince etc.