

HARVEST AND POST HARVEST HANDLING OF GUAVA

Area and Production

- Area under guava orchards in Pakistan:
62,500 ha
- Production of Guava in Pakistan:
555,300 tons
- Important Guava producing areas in Pakistan
Sheikhupura, Gujranwala, Lahore, Larkana,
Dadu, Shikarpur, Mardan, Hazara.

Nutritional Importance

(Per 100 g of edible portion)

- **Calories** 36-50
- **Moisture** 77-86 g
- **Dietary Fiber** 2.8-5.5 g
- **Protein** 0.9-1.0 g
- **Fat** 0.1-0.5 g
- **Ash** 0.43-0.7 g
- **Carbohydrates** 9.5-10 g
- **Calcium** 9.1-17 mg
- **Phosphorus** 17.8-30 mg
- **Iron** 0.30-0.70 mg
- **Carotene (Vitamin A)** 200-400 I.U
- **Ascorbic acid (Vitamin C)** 200-400 mg
- **Thiamin (Vitamin B1)** 0.046 mg
- **Riboflavin (Vitamin B2)** 0.03-0.04 mg
- **Niacin (Vitamin B3)** 0.6-1.068 mg

Significance

- Guavas are grown for fresh consumption.
- Trade is carried on processed guava products like **Juices** and **nectars**, **Jam** and **Jellies**, **fruit paste**, **canned** whole and halves in **syrup**
- Guava leaves or bark are implicated in **therapeutic** mechanisms against cancer, bacterial infections, inflammation
- Essential oils from guava leaves have shown strong **anti-cancer** activity.

Commercial Varieties

- Safeda
- Allahabad
- Karela
- Seed less
- Red fleshed
- Apple colour
- Surahi
- Surkha

FRUIT PROTECTION

Wrapping or bagging of fruits is practiced in many areas because of the following:

- Minimizes incidence of fruit fly and other fruit insects
- Minimizes disease (fungal) infection
- Reduces incidence of mechanical damage
- Results to cleaner fruit skin and more attractive light green color
- Provides an estimate of harvestable fruits per tree

In general, bagging is recommended to protect fruits from pest and to reduce spraying of insecticides.

Wrapping checks weight loss and preserves glossiness.

Waxing improves the keeping quality in guava.



Wrapping/Bagging of fruit

Maturity Indices

- In guava firmness can be used to determine harvest maturity.
- Penetrometer measures the pressure necessary to force a plunger of specified size into the pulp of the fruit. Such pressure is measured in pounds and kilograms force.
- Guava colour break stage (when skin colour changes from dark green to light green)



Firmness measurement by Penetrometer

- **METHODS AND TECHNIQUES IN HARVESTING**
- Fruits for processing may be harvested by mechanical tree-shakers and plastic nets.
- For fresh marketing and shipping, the fruits must be clipped when full grown but underripe, and handled with great care.
- Spot-picking of fruits - selective harvesting
- Clean – picking of fruits - all matured fruits are harvested.

- It is commonly said that guavas must be tree-ripened to attain prime quality, but the cost of protecting the crop from birds makes early picking necessary.
- It has been demonstrated that fruits picked when yellow-green and artificially ripened for 6 days in straw at room temperature developed superior color and sugar content.



- After grading for size, the fruits should be wrapped individually in tissue and packed in 1 to 4 layers.

POST HARVEST HANDLING SYSTEM IN GUAVA

Harvesting – Placing into bags/crates/etc =>

Transport to Packing house => Sorting

(Elimination of damaged fruits => sorting for quality => wrapping by newspaper => packing
=> loading/transport to market.



Grades

Size code	Weight (gm)	Diameter (mm)
A	>350	>95
B	251-350	86-95
C	201-250	76-85
D	151-200	66-75
E	101-150	54-65
F	61-100	43-53

Storage Temperature

- Temperature 6-8 °C
- Humidity 90-95%
- Shelf life 2-3 weeks
- Lowest Storage temperature 4-5 °C

THANK YOU