Safety and Quality Assurance of Tropical Fruits

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Fruits are sources of

- Vitamins
- Minerals
- Fiber and Carbohydrates
Problems:

• Perishable
• Short harvesting season
• Short storage life and shelf-life
• Lack of postharvest management

high losses
Quality assurance (QA): To provide consistent quality products to satisfy the markets or the consumers
Quality = wholesome and safe fruits

Quality fruits are produced in the field. Proper postharvest management maintains or enhances quality.
QA system
- Market description
- QA plan
- Identify hazard and
- Establish control point
- Establish acceptance levels
- Monitoring system for each control point
- Corrective plan and verification procedure
- Documentation and Quality manual
- Improve the system

Market description:
- Variety
- Quantity and frequency
- Transport
- Distribution system
- Maturity
- Quality attributes
- Treatments
- Temperature management
- Packaging
Transport

- Air
- Land
- Sea
  - Reefer container (RC)
  - Controlled atmosphere (CA)
  - Automatic fresh air management (AF AM+)

Distribution system
Packaging

Wholesale / retail packaging
Modified atmosphere packaging (MAP)
Labeling requirement

Temperature management

• Harvesting time
• Precooling
• Storage temperature
• Transport temperature
• Distribution and display temperature

All these relate to storage and shelf-life of the fruit
Quality attributes
- minimum requirement of quality
- Size & shape
- defect allowance in size and shape
- flavor
- Safety attributes: chemical residue

QA plan
- Preharvest
- Harvesting and
- Postharvest handling
Preharvest
• Varietal selection
• Cultural practices
• Disease and insect control

Postharvest
• Harvesting- maturity, harvesting practices
• Cleaning
• Sorting/ sizing
• Treatment
• Packaging
• Cooling
• storage
• Transport
• Distribution
Identify preharvest and postharvest factors affecting quality

- Chemical
- Physical
- Mechanical
- Biological
- Physiological

- Good agricultural practices (GAP)
- Good manufacturing practices (GMP)
- HACCP

Applied in any step of the system
Benefits of QA

• Reduce losses
• Improve quality
• Sustainable export
• Maintain consumer confidence
• Competitiveness
• More profit to all parties involved
Thank you