

Mango 101

Mango 101

- Mango is the world's most popular fruit
- Mango consumption per capita in the U.S. has quadrupled since 1990 to an estimated 2.2 pounds per year in 2008
- Mangos are available year-round for use on regular and seasonal menus
- Fresh mango has an irresistible combination of flavors and textures that bring new excitement to recipes
- Mangos are so versatile they fit into beverage, food and dessert menus
- Mangos can be used in cold and hot preparations
- Mangos contain enzymes that have tenderizing properties
- Mangos can be used at all stages of ripeness:
 - Unripe (Green) mangos add appeal to fresh salads, condiments (pickles, chutney, raita, relish) and stewed dishes
 - Ripe mangos hold their shape in cold and hot preparations – diced, chopped, sautéed and grilled
 - Fully ripe mangos are perfect for pureed applications
- Cutting is easy, as shown on page 3 of this document
- Yield ranges from 60.5% to 71.3% depending on variety and size of fruit

Mango Nutrition

- Mangos are an excellent source of vitamins A and C, a good source of fiber
- Mangos contain over 20 different vitamins and minerals
- Mangos score 93 out of 100 on the NuVal scoring system for overall nutritional quality (www.nuval.com)

Mango Selection & Ripening

- Color is not the best indicator of ripeness in all varieties and the red blush that appears on some varieties has nothing to do with quality, maturity or ripeness
- Squeeze gently to judge ripeness
- A ripe mango will “give” slightly and is ready to use today
- A firmer mango will ripen in several days at 54-60° F
- Once ripe, move mangos into the cooler to slow ripening

Nutrition Facts

Serving Size 1 cup, sliced (165g)	
Servings Per Container	
Amount Per Serving	
Calories 100	Calories from Fat 5
% Daily Value*	
Total Fat 0.5g	1%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 25g	8%
Dietary Fiber 3g	12%
Sugars 22g	
Protein 1g	
Vitamin A 35%	• Vitamin C 100%
Calcium 2%	• Iron 2%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
Saturated Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram:	
	Fat 9 • Carbohydrate 4 • Protein 4



Brought to you by the
National Mango Board
www.mango.org

Mango Varieties



Ataulfo

- Sweet, creamy flavor
- Smooth, firm flesh with no fibers
- Skin is vibrant yellow, ripening to a deep golden color with small wrinkles
- Peak availability is March to July
- Primary source country is Mexico



Francis

- Rich, spicy and sweet flavor
- Soft, juicy flesh with fibers
- Skin is bright yellow with green overtones, ripening to a golden yellow with less green overtones
- Peak availability is May to July
- Primary source country is Haiti



Haden

- Rich in flavor with aromatic overtones
- Firm flesh due to fine fibers
- Skin is bright red with green and yellow overtones and small white dots, ripening to more yellow
- Peak availability is April and May
- Primary source country is Mexico



Keitt

- Sweet, fruity flavor
- Firm, juicy flesh with limited fibers
- Skin is dark to medium green with a small amount of pink blush, ripening with the same intense green
- Peak availability is August and September
- Primary source countries are Mexico, United States



Kent

- Sweet, rich flavor
- Juicy, tender flesh with limited fibers
- Skin is dark to medium green with a small amount of dark red blush, ripening with yellow undertones or dots
- Peak availability is January to March and June to August
- Primary source countries are Mexico, Ecuador, Peru



Tommy Atkins

- Mildly sweet flavor
- Firm flesh due to fibers throughout
- Skin is a dark red blush with green and orange-yellow accents, ripening with limited cues
- Peak Availability is March to July and October to January
- Primary source countries are Mexico, Guatemala, Brazil, Ecuador, Peru



Brought to you by the
National Mango Board
www.mango.org

Mango Handling

Good mango handling = better mango quality!

Mango Handling at the Warehouse

- Move fruit directly to cold storage of 54-60° F at receiving
- NEVER store whole mangos below 50° F
- Maintain relative humidity at 90-95%
- Scrub ethylene from cold room
- Minimize exposure to extreme hot or cold temperatures during loading and unloading
- Outgoing trucks should be pre-cooled, but not below 50° F

Foodservice Yield

Using the cutting technique shown below, research confirmed a high fruit yield for fresh mango. The analysis was based on 50 mangos of each variety/size cut at optimal ripeness.

MANGO SHAPE	VARIETY TESTED	SIZE/COUNT	% YIELD	USABLE WEIGHT
ROUND	TOMMY ATKINS	8	62.91	11.27 OZ
ROUND	TOMMY ATKINS	12	60.51	6.77 OZ
OVAL/OBLONG	ATAULFO	12	71.29	9.23 OZ

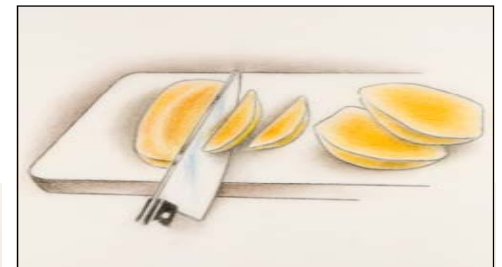
1 CUP 3/8"-DICE MANGO = 6.35 OZ

SOURCE: MATTSO FRESH MANGO YIELD STUDY 2008

Mango Handling at Store Level

- Store whole mangos at 54-60° F and NEVER below 50° F
- If cold storage at proper temperature is not available, store mangos at room temperature but order more frequently
- Handle mangos gently to avoid bruising
- Inspect mangos regularly and use ripest fruit first

Foodservice Cutting Technique



Brought to you by the
National Mango Board
www.mango.org

Mango Maturity & Ripeness

Mango Expectations at Receiving

- Mangos are harvested when mature, but not ripe
- A mature mango will ripen normally to become ready to eat
- At receiving, you can expect the mangos to be mature, but not necessarily ripe
- Maturity can be judged by a combination of factors, including brix, firmness, internal color and fruit shape (see box at right)
- It is very typical to find mangos of differing maturity and ripeness in the same load and in the same box

Understanding Maturity, Ripeness & Quality

Maturity - Stage at which harvested fruit can continue to ripen normally and attain good eating quality

Ripeness - Progression of mature fruit towards a “ready to eat” state

Quality - The degree of excellence or superiority characterized by sugars, acids, aroma, texture, flavor, etc

Changes Associated with Mango Ripening

- Decrease in flesh firmness and increased juiciness
- Starch conversion into sugars
- Increase in soluble solids content
- Increase in aroma
- Flesh color changes from greenish-yellow to yellow to golden-yellow (in all varieties)
- Skin color changes from green to yellow (in some varieties)

Assessing Mango Maturity

Soluble Solids Content (SSC) or Brix

- Approximately 7-9% at receiving, depending on growing conditions and cultivar
- Fully ripe mangos can have as much as 13-20%, but this should not be the expectation at receiving

Firmness

- Immature (green) mangos will be very firm

Internal Flesh Color

- Mature mango flesh will be at least light yellow, not green or white

Skin Color

- Indicators differ by variety
- Some varieties may shift from dark green to light green at maturity
- Red blush is NOT related to maturity, ripeness or quality

Fruit Shape for Mature Mango

- Cheeks should be full
- Shoulders should be elevated slightly above the stem attachment

Information provided by Dr. Elizabeth Mitcham, Pomologist,
UC-Davis Postharvest Technology Research & Information Center



*Brought to you by the
National Mango Board
www.mango.org*