

# Mango

## MATURITY & RIPENESS GUIDE



### HOW TO USE THIS TOOL

- These charts are intended for use at the retail receiving point in the United States.
- You should expect at least 90% of the mangos tested to fall in stage 2 or higher.
- Experience and good judgment are still your best tools. Actual results may vary from these findings.
- These charts are meant to be educational and to provide a guideline for understanding mango maturity and ripeness. They do not represent U.S. Federal Grade Standards and should not serve as the basis for a contract or for an inspection.

*These guidelines were developed by the mango quality research team at the University of Florida and the University of California-Davis.*

### MANGO EXPECTATIONS AT RECEIVING

- Mangos are harvested when mature, but not ripe.
- A mature mango will ripen normally with increasing soluble solids content (degrees Brix) and decreasing firmness (lbs. force) 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 internal color, firmness, degrees Brix and fruit shape.
- Red skin is not an indicator of maturity, quality or ripeness and should not be used to evaluate mangos at receiving.
- It is very typical to find mangos of differing maturity and ripeness in the same load and in the same box.

### MEASURING MANGO MATURITY & RIPENESS

- Internal flesh color, which develops near the seed and will progress outward as shown in these photos, is generally the best indicator of maturity and ripeness. Firmness and degrees Brix ranges are provided as an additional reference.
- To measure firmness with a fruit penetrometer, use a 5/16" (8mm) tip and test the mango flesh with the skin removed.
- To measure degrees Brix with a refractometer, collect the flesh from an entire mango cheek OR a plug taken down to the seed and juice the entire flesh sample.
- Full shoulders at the stem end may be an indicator that the mango was harvested mature and will ripen normally.

Store whole mangos at 54-60° F (12-15.5° C)

## ATAULFO



|                        |         |         |         |         |         |
|------------------------|---------|---------|---------|---------|---------|
| AVERAGE COLOR          |         |         |         |         |         |
| INTERIOR FLESH SAMPLES |         |         |         |         |         |
| MATURITY/RIPENESS      | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
| FIRMNESS               | 18 - 22 | 11 - 13 | 6 - 8   | 2 - 3   | 1 - 3   |
| BRIX                   | 7 - 8   | 9 - 10  | 11 - 12 | 12 - 15 | 14 - 18 |

## FRANCIS



|                        |         |         |         |         |         |
|------------------------|---------|---------|---------|---------|---------|
| AVERAGE COLOR          |         |         |         |         |         |
| INTERIOR FLESH SAMPLES |         |         |         |         |         |
| MATURITY/RIPENESS      | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
| FIRMNESS               | 18 - 23 | 12 - 16 | 8 - 10  | 5 - 7   | 3 - 5   |
| BRIX                   | 6 - 7   | 10 - 13 | 12 - 15 | 13 - 16 | 14 - 17 |

# HADEN



|                        |         |         |         |         |         |
|------------------------|---------|---------|---------|---------|---------|
| AVERAGE COLOR          |         |         |         |         |         |
| INTERIOR FLESH SAMPLES |         |         |         |         |         |
| MATURITY/RIPENESS      | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
| FIRMNESS               | 12 - 15 | 12 - 14 | 5 - 8   | 4 - 5   | 2 - 3   |
| BRIX                   | 6 - 8   | 9 - 11  | 12 - 15 | 14 - 16 | 14 - 17 |

# KEITT



|                        |         |         |         |         |         |
|------------------------|---------|---------|---------|---------|---------|
| AVERAGE COLOR          |         |         |         |         |         |
| INTERIOR FLESH SAMPLES |         |         |         |         |         |
| MATURITY/RIPENESS      | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
| FIRMNESS               | 16 - 19 | 12 - 15 | 7 - 9   | 2 - 4   | 1 - 2   |
| BRIX                   | 8 - 10  | 9 - 12  | 10 - 12 | 12 - 14 | 14 - 17 |

# KENT



|                        |         |         |         |         |         |
|------------------------|---------|---------|---------|---------|---------|
| AVERAGE COLOR          |         |         |         |         |         |
| INTERIOR FLESH SAMPLES |         |         |         |         |         |
| MATURITY/RIPENESS      | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
| FIRMNESS               | 19 - 22 | 14 - 18 | 11 - 13 | 5 - 8   | 2 - 4   |
| BRIX                   | 8 - 10  | 9 - 11  | 12 - 13 | 12 - 14 | 14 - 15 |

# TOMMY ATKINS



|                        |         |         |         |         |         |
|------------------------|---------|---------|---------|---------|---------|
| AVERAGE COLOR          |         |         |         |         |         |
| INTERIOR FLESH SAMPLES |         |         |         |         |         |
| MATURITY/RIPENESS      | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
| FIRMNESS               | 18 - 20 | 15 - 17 | 10 - 13 | 6 - 8   | 3 - 6   |
| BRIX                   | 7 - 9   | 8 - 11  | 9 - 11  | 10 - 13 | 12 - 15 |