Atemoya is a hybrid between *Annona squamosa* L. (sweetsop) and *A. cherimola* Mill. (cherimoya). Fruit can vary in their external appearance, reflecting the different parents (Nakasone and Paull 1998). Favorable characteristics for the cherimoya include heart shape, few seeds, and smooth skin that does not break apart during ripening. There are about six varieties, with ‘African Pride’ and ‘Gefner’ being the most common. Atemoya are grown in Florida and Hawai‘i.

**Quality Characteristics and Criteria**

Heart-shaped fruit are preferred, preferably with a smooth cherimoya-like skin rather than a bumpy, sweetsop-type skin. Beyond shape, size, and skin texture, the fruit should be free of blemishes and mechanical injury, which can lead to skin blackening.

**Horticultural Maturity Indices**

Fruit skin color changes from darker to lighter green and can be greenish-yellow. During ripening, skin splitting occurs and the skin darkens (Paull 1996).

**Grades, Sizes, and Packaging**

Sold in single-layer 4.5 kg (10 lb) or 9 kg (20 lb) fiberboard boxes with foam sleeves or paper wrapping. Fruit weight 250 to 500 g (9 to 18 oz) are used.

**Pre-Cooling Conditions**

Room or forced-air cooling to 10 to 13°C (50 to 55.4°F).

**Optimum Storage Conditions**

Store at 10 to 13°C (50 to 55.4°F) with 90 to 95% RH.

**Controlled Atmosphere (CA) Consideration**

No published information. Atemoya may have similar potential to cherimoya.

**Retail Outlet Display Considerations**

Ripe fruit can be held at 2 to 5°C (36 to 41°F). If unripe, display at room temperature. Ripe fruit, if split, can be over-wrapped.

**Chilling Sensitivity**

Very sensitive; shows skin darkening and loss of aroma and flavor.
Ethylene Production and Sensitivity
Climacteric fruit production rates of ethylene are high, at up to 100 to 300 μL kg⁻¹ h⁻¹ at 20°C (68°F) (Brown et al. 1988). Ripening is accelerated by exposure to 100 μL L⁻¹ for 24 h.

Respiration Rates
See Table 1. To get mL kg⁻¹ h⁻¹, divide the mg kg⁻¹ h⁻¹ rate by 2.0 at 0°C (32°F), 1.9 at 10°C (50°F), and 1.8 at 20°C (68°F). To calculate heat production, multiply mg kg⁻¹ h⁻¹ by 220 to get BTU per ton per day or by 61 to get kcal per metric ton per day.

Physiological Disorders
Very susceptible to bruising. Pre-harvest russetting can be a problem.

Postharvest Pathology
As with cherimoya, anthracnose, Phomopsis rot, and Rhizopus have been recorded (Sanewski 1988).

Quarantine Issues
Atemoya is a fruit fly host; irradiation and heat treatments are potential treatments.

Suitability as Fresh-Cut Product
Possible, as pieces, before it becomes too soft.

Special Considerations
None.

An earlier version of this article was originally published at the USDA website: www.ba.ars.usda.gov/hb66/contents.html

References

<table>
<thead>
<tr>
<th>Temperature</th>
<th>mgCO₂ kg⁻¹ h⁻¹</th>
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<tbody>
<tr>
<td>10°C</td>
<td>47 to 190</td>
</tr>
<tr>
<td>15°C</td>
<td>54 to 281</td>
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<tr>
<td>20°C</td>
<td>40 to 460</td>
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