

Atemoya

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Scientific Name and Introduction: 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 from the cherimoya include heart shaped, 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 Hawaii.

Quality Characteristics and Criteria: Heart shaped fruit preferably with a smooth cherimoya like skin, instead of the bumpy sweet-sop skin type. Besides shape, size and skin texture, the fruit should be free of blemishes and mechanical injury that 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 lbs) or 9 kg (20 lbs) fiber board 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 Atmospheres (CA) Consideration: No published information, may have similar potential as for 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 $\mu\text{L kg}^{-1} \text{h}^{-1}$ at 20 °C (68 °F) (Brown et al., 1988). Ripening is accelerated by exposure to 100 $\mu\text{L L}^{-1}$ for 24 h.

Respiration Rates:

Temperature	mg CO ₂ kg ⁻¹ h ⁻¹
10 °C	48 to 190
15 °C	54 to 281
20 °C	40 to 460

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 for cherimoya, anthracnose, *Phomopsis* rot and *Rhizopus* have been recorded (Sanewski, 1988).

Quarantine Issues: 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.

References:

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- Nakasone, H.Y. and R.E. Paull. 1998. Tropical fruits. CAB Intl., Wallingford, UK, 445 pp.
- Paull, R.E. 1996. Postharvest atemoya splitting during ripening. *Postharv. Biol. Technol.* 8:329-334.
- Sanewski, G.M. 1988. Growing custard apples. Queensland Department of Primary Industries Information Series. QI 87014, Brisbane, Australia.