

Atemoya

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Scientific Name and Introduction

Atemoya is a hybrid between *Annona squamosa* L. (sweetsop) and *A. cherimola* Mill. (cherimoya). The fruit can vary in external appearance, reflecting the different parents (Nakasone and Paull 1998). Favorable characteristics from the cherimoya include being heart shaped, having few seeds, and having 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

Atemoya fruit should be heart shaped, preferably with a smooth, cherimoyalike skin instead of the bumpy skin of the sweetsop. Besides 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

Atemoya fruit are sold in single-layer 4.5 kg (10 lbs) or 9 kg (20 lbs) fiberboard boxes with foam sleeves or paper wrapping. Fruit weighing 250 to 500 g (9 to 18 oz) are used.

Precooling Conditions

Room or forced-air cooling to 10 to 13 °C (50 to 55 °F).

Optimum Storage Conditions

Store at 10 to 13 °C (50 to 55 °F) with 90 to 95% RH.

Controlled Atmosphere (CA) Consideration

There is no published information on this subject. The fruit may have similar potential as 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 overwrapped.

Chilling Sensitivity

Atemoya fruit are very chilling sensitive, suffering skin darkening and loss of aroma and flavor.

Ethylene Production and Sensitivity

Climacteric fruit production rates of ethylene are high, 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	$\text{mg CO}_2 \text{ kg}^{-1} \text{ h}^{-1}$
10 °C	48 to 190
15 °C	54 to 281
20 °C	40 to 460

To get $\text{mL CO}_2 \text{ kg}^{-1} \text{ h}^{-1}$, divide the $\text{mg kg}^{-1} \text{ h}^{-1}$ 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 $\text{mg kg}^{-1} \text{ h}^{-1}$ by 220 to get BTU per ton per day or by 61 to get kcal per tonne per day.

Physiological Disorders

The fruit are very susceptible to bruising. Preharvest russetting can be a problem.

Postharvest Pathology

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

Quarantine Issues

Atemoya fruit are a fruit fly host. Irradiation and heat are potential treatments.

Suitability as Fresh-Cut Product

Atemoya can be sold in pieces but only before becoming too soft.

References

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