Taro

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Scientific Name and Introduction: Taro (*Colocasia esculenta* [L.] Schott) is one of the oldest food crops, widely distributed throughout Asia and the Pacific. There is also substantial production in Egypt and the Caribbean (O'Hare and Asokan, 1986). The root, also called a corm or tuber, as well as the petioles and leaves are consumed. All parts of the plant must be cooked prior to eating because of the acridity associated with a compound on the calcium oxalate crystals (raphides) (Paull et al., 1999). The corm is high in starch and low in protein and fat. The plant is also known as tannier, Malanga, dasheen, eddoe and cocoyam. There are numerous varieties (up to 600) in which corm flesh color varies from white to yellow and red to purple.

Quality Characteristics and Criteria: There are two main types; the smaller, brown, segmented root up to 14 cm (5.5 in) long, and the larger, brown, cylindrical root upwards of 35 cm (14 in) and 10 to 15 cm (4 to 6 in) in diameter. The corm should have no sprouts and be free from cuts, insects and disease damage. The smaller eddoe posses some degree of dormancy while there is no dormancy in the larger taro corms.

Horticultural Maturity Indices: Roots are harvested when they have met market needs as to size. Most often this is after they have stopped growing and leaves have begun to die back 8 to 12 mo after planting. The main corm is harvested and smaller coromels removed; diseased areas on main corms are excised. In eddoe, the coromels are also harvested. Young taro leaves are also harvested, bunched and marketed as a leafy vegetable.

Grades, Sizes and Packaging: Corms are graded by size, skin color, shape and flesh texture. They are packed in 22.5 kg (50 lb) cartons, crates or sacks. The small root (dasheen) may also be sold in 4.5 kg (10 lb) cartons. There are no U.S. or international standards.

Pre-cooling Conditions: Taro should be room-cooled to 10 to 14 °C (50 to 57 °F).

Optimum Storage Conditions: Good ventilation is essential for storage. The storage recommendation is 7 to 10 °C (45 to 50 °F) with 80 to 95% RH for up to 18 weeks. However, roots must be eaten within 2 days of removal to ambient temperature (Snowdon, 1992). At 11 to 13 °C (52 to 55 °F), storage-life is up to 8 weeks. At 20 °C (68 °F), storage-life is from 2 to 4 weeks.

Controlled Atmospheres (CA) Consideration: There are no published reports of CA. However, MAP in polyethylene film bags of the related xanthosoma and taro at 27 to 32 °C (81 to 90 °F) reduces weight loss (Passam, 1982).

Retail Outlet Display Considerations: Display dry; do not mist.

Chilling Sensitivity: Chilling injury leads to pitting and increased postharvest disease.

Ethylene Production and Sensitivity: Taro roots have a very low ethylene production; there is no known response of taro roots to ethylene application.

Respiration Rates: Respiration rates of taro have not been documented.

Physiological Disorders: Chilling injury is a common problem with large taro roots. Variation in cooked texture of unknown cause sometimes occurs.

Postharvest Pathology: Pythium root rot can be a major problem in wetland taro. Corm rots can also be associated with a complex of microorganisms, including *Fusarium*, *Sclerotinia*, *Erwinia*, *Botryodiplodia* and *Ceratocystis*. These decay organisms are associated with field infection through wounds. After washing roots to remove soil and then cutting corms to remove diseased tissue, corms should be dried (cured) so that wound healing can occur. Curing is best done at 20 to 30 °C (68 to 86 °F), followed by cooling to control further disease development (Snowdon, 1992).

Quarantine Issues: Aphids can be a major problem on taro leaves.

Suitability as Fresh-cut Product: Taro must be cooked before eating.

Special Considerations: Corms are roasted, baked, boiled, or deep-fried. Grated, cooked corm is sometimes mixed with coconut milk. Corms are boiled, mashed, and sieved for producing poi.

References:

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