

Taro

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Scientific Name and Introduction

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

Quality Characteristics and Criteria

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

Horticultural Maturity Indices

Roots are harvested when they are the size desired by the market. 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

There are no U.S. or international standards. 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.

Precooling 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 Atmosphere (CA) Considerations

There are no published reports on CA and taro. 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

Taro should be displayed dry and should not be misted.

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 sometimes occurs; the cause is unknown.

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 out diseased tissue, corms should be dried (cured) so that wounds can heal. 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 poi.

References

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