

Project Coordinator

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SOFT TARO CULTIVATION GUIDE



Soft Taro Cultivation: Useful Facts

Climatic Conditions

Soft taro can be grown throughout the year in the Micronesia. It is best adapted to a warm, moist environment. Evenly distributed rainfall is ideal. Supplemental irrigation is necessary in dry, low-rainfall areas.

Soil Characteristics

Soft taro (*Colocasia esculenta* L.) can be grown on a wide range of soil types, but best results are obtained on deep, well drained, friable loams with pH 5.5-6.5. Rocky or stony soils should be avoided to prevent deformed corms and difficult harvesting.

Field Preparation

Soil preparation for soft taro is similar to that for most dryland crops, such as corn. Existing vegetation is turned under with a moldboard or disc plow, or by spading. Incorporate phosphate fertilizer, if required, during cultivation; also, most soils benefit from adding compost. After a few days to allow for decomposition, break soil clods by harrowing or rotovating or, in small gardens, with a hoe or rake. After the soil has been pulverized, the surface may be smoothed in preparation for soft taro planting. Soft taro can be planted on ridges, in furrows, or on flat ground. Prepare rows, and use a guide string to plant 60-90 cm apart within rows 45-60 cm apart.

Preparation of the Planting Material

Planting materials cuttings are prepared from suckers or main plants. These consist of the upper 0.5 cm section of the corms or cormels and the first 25-30 cm of the petioles. In the recent years, owing to the advantages of disease free planting material, uniformity in growth, as well as higher yields, the use of tissue cultured plants has become increasingly popular among the farmers.

Irrigation

Water availability can drastically affect the yield of taro. It thrives under moist soil conditions and can withstand prolonged water logging. However, soils growing soft taro,

should not be allowed to become waterlogged for any extended length of time. For best results, maintain soil moisture at or near field capacity (moist but fully drained) throughout the growing period. Irrigation water can be applied by furrow, sprinkler, or drip irrigation.

Fertilizer Application

In a tropical climate it is better to apply small quantities of fertilizer often, rather than to add a large quantity in one treatment. This makes the fertilizer more profitable and prevents too rapid growth. Soft taro requires good soil fertility. For home gardens, apply a 7-30-20, 10-20-20, or similar analysis fertilizer at 1.25-1.50 kg per 30 square meter before planting. Broadcast the fertilizer over the soil surface and work it into the soil by harrowing, rotovating, or raking. At two, four, and six months after planting, apply 450 gm per 30 square meter area of 16-16-16 or similar fertilizer as side-dressing. Alternatively, side-dress with 600 gm per 30 square meter three and six months after planting.

Weed Control

Taro is very susceptible to weed competition, especially during the first 3-4 months after planting, when the leaf canopy is being formed. During this time, control weeds by hand pulling or cultivating with a hoe. After the crop has attained the maximum vegetative stage, the lush foliage will shade out weed growth, and cultivation for weed control should be minimized to avoid injuring the roots and the developing corms.

Insect-Pests and Diseases

Several insects attack on soft taro. The most common and important are the leafhoppers (*Tarophagus proserpina*) and aphids (*Aphis* spp.). These insects usually do not cause serious damage unless they are present in large numbers. They damage the taro plants by sucking sap from the petioles and leaf blades. Leafhopper damage can be distinguished by the presence of numerous brown to black spots on the petioles, caused by stains from sap that has oozed from puncture holes on the petioles. Aphids are easily observed on the young leaves. The taro root aphid, however, is not easily observed because it may be confined to the below ground parts of the plant. Most taro insect pests can be controlled by spraying with insecticides, but the taro root aphid is difficult to control in this way. Among the diseases that affect soft taro, leaf blight caused by *Phytophthora colocasiae* is the most prevalent. Its incidence is influenced greatly by climatic conditions and is most serious during wet seasons. Its presence usually diminishes during the dry months of the year. To control leaf blight, at present there is no fungicide cleared for commercial use in taro production. The

only solution to this problem is to cultivate leaf blight resistant varieties. Leaf blight can be recognized by the formation of purplish to brownish circular water-soaked spots on the surfaces of the leaves. A clear yellow liquid is exuded from the spot. Other diseases of soft taro are dry rot caused by *Sclerotium rolfsii* and phyllosticta leaf spot caused by *Phyllosticta colocasiophyla*. These can be serious in soft taro but seldom occur in well-managed soft taro plantings.

Harvesting

Taro is ready for harvest 10-12 months after planting. As harvest time approaches, the leaves turn yellowish and the petioles are short, usually less than 60 cm long. The corms protrude from the ground. Soft taro is ready for harvest when all or most of the cormels have become dormant; that is, when the leaves have dried. Time of maturity varies with location, varieties used, soil fertility, and water availability. For home use, taro may be harvested as required over a period of several weeks. Soft taro can be harvested and stored for a considerable length of time. However, the corms should be thoroughly cleaned, washed, and drained before storage. Storage under refrigerated conditions will prolong the life of the corms. Taro leaves cannot be stored for any considerable length of time without seriously impairing its quality, whether for leaf or table use. Leaves can be harvested at any time during the growth of the crop. Only the young leaves are harvested, and the taro is allowed to continue to grow.

(Reference: University of Hawaii, USA)

