



Ti Leaf Plant Propagation at Kaimukī High School Recommended Cutting Techniques

Prepared by UH Oahu Master Gardeners: Shannon Fagan and Barbara Maresca

Key Points Specifically for Kaimukī High School's Project:

- Ti Leaf Plants are hardy and resilient: upon cuttings completed, they are highly unlikely to suffer any ill-effects that would result in the originating plant's death.
- Cuttings themselves will naturally "take" to rooting and sprouting new shoots without specific day-to-day care, except for regular watering and a moist soil layer.
- Expect results of rooting and leaves to a visible seedling stage in 2 to 3 months, with a low failure rate under the right environmental conditions. Rooting can occur fast. They should be allowed to grow to about 3 inches tall prior to planting into the ground when initiated in separate seedling pots, which, depending on the Ti Plant variety, could take approximately one month. Cuttings can also be planted directly into the ground, sidestepping the seedling pot process. Success rates are dependent on the plant variety.
- Ideal environment conditions for growth are for cuttings to be kept moist in a well-drained soil mixture or on direct-ground, in partial sun or near-full shade.
- Post-seedling stage, the new growth can be transplanted from a potting soil environment to ground, however direct-in-ground from the start is also successful, noting that the latter is less labor intensive, and the former is a two-step process requiring more time, support labor, materials, and therefore cost.
- Fertilizer is not necessarily required, however can be applied as a 20-20-20 mix of ratio 1 tablespoon to a standard 2-gallon water can and used once per month. Fertilizer is not required when rooting the cuttings, however, is recommended afterwards for healthy maintenance and growth. Recommended is Peters Original Water-Soluble Fertilizer 20-20-20 or a fertilizer such as Miracle Gro with similar formulation.



- 4-inch cuttings with several (4 to 5) nodes present. Expect that only 1 to 2 nodes will result in new growth. When done horizontally, plant the cutting about 3/4 - inch deep in soil and water daily. Not all nodes will grow because hormones will inhibit adjacent nodes from growing.
- When done vertically, place the cuttings in soil at a depth of 1/2 - inch. Keep moist. It is best to position the cuttings correctly. Top of cutting be planted up and bottom be planted down, although there is a possibility of it still rooting if planted upside down.



- Top of plant cuttings can be completed 1-inch from the base of the leaves.
- The leaves themselves should then be entirely removed with one single leaf and the center stalk remaining; as otherwise, the leaves will tend to rot during the propagation process. The cutting stalk should be planted vertically with 1-inch placed into the soil. Removal of most leaves is crucial in preventing water loss at a time when the plant has no root system.

- Any loose mix potting soil or ground soil is adequate and will produce as good results as creating a handmade mixture. If a handmade soil mixture is desired, suggested is 1 part potting soil to 1 part perlite to 1 part coco coir (ground coconut shells or other loose organic fibrous mix). An alternative mix is 1 part perlite and 2 parts coco coir with no potting soil.



- Ti Plants tend to produce seeds in late winter / early spring. The black seeds are contained within the red berry stalks on the plant.
- These berries can be planted, however the success rate of producing plants from seeds is significantly less than from the cuttings and requires more finesse to the initial stage growing process to ensure a plant start and later transplant from seedling pots to the ground soil. Planting from seeds might lead to a different looking plant, though the same variety.



- When propagating the plants in water, a cutting will take about two-weeks to see initial rooting take place. This is seen as a white “dot” in the center of the far-left stem at top.
- After 3 to 4 weeks, larger roots will develop, and the plant is ready to be placed in soil.
- This propagation example took place with indirect sunlight indoors with no fertilizer or rooting stimulator applied.



- From the same plant cutting in the example above, there is new green growth evident on the right stem. Though the original leaves from the cutting have dried, new growth has occurred from one of the plant nodes after about 2 to 3 weeks in water.

Acknowledgements

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Further Reading

Kobayashi, K., J. Griffis, A. Kawabata, and G. Sako. 2007. Hawaiian Ti. Cooperative Extension Service, College of Tropical Agriculture and Human Resources, University of Hawai'i at Mānoa, Ornamentals and Flowers OF-33.

Wong, M. 2007. Ti Plants for Hawai'i Landscapes. Cooperative Extension Service, College of Tropical Agriculture and Human Resources, University of Hawai'i at Mānoa, Ornamentals and Flowers OF-36.