COOPERATIVE EXTENSION
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Sustaining Maile Production (*Alyxia oliviformis)*

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Introduction

There is a growing consumer interest and commercial market demand for Maile. Maile is a culturally important vine or shrub traditionally used in lei making and found in wet forest areas across Hawaii. It is commonly propagated from seed.

Maile is governed by the goddess of hula and the forest, Laka, and was revered by Hawaiian royalty. Maile was traditionally used at heiau altars and hula performances to honor Laka. Today, you can find Maile at wedding celebrations, building blessings, graduations, birthday celebrations, and various celebratory types of occasions.

To safeguard and sustain Maile growing in the native forest system, we aim to find new ways to cultivate Maile to meet growing market demands while minimizing over exploitation of native resources.

Tanabe (1982) demonstrated that propagation of 2 year old Maile via single node, semi hardwood and hardwood cuttings was achievable using the plant auxins, indolebutyric acid (IBA) and naphthaleneacetic (NAA). Cuttings were placed in vermiculite and underwent intermittent misting for 11 weeks.

Methodology

A greenhouse trial was established in October 2023 evaluating single and double node, semi hardwood cuttings using two different types of IBA rates. NAA was not easily accessible. The propagation material used for the trial was less than 6 months old, due to availability.

Cuttings were subjected to intermittent mist, 50% shade and planted in a 50% vermiculite and 50% perlite mix for 8 weeks. Cuttings were subject to the following treatments: no treatment, 0.8% IBA (Hormodin® 3) and 1.6% IBA (Hormex 16). Ten cuttings were selected per treatment. To minimize transpiration the leaf surface was reduced by cutting upper leaves in half.

	Single node (no hormone)	Single node (0.8% IBA)	Single node (1.6% IBA)	Double node (no hormone)	Double node (0.8% IBA)	Double node (1.6% IBA)
Rooted	20%	**40%**	20%	20%	**40%**	40%
Callus	30%	10%	10%	40%	10%	0%
Dead	50%	50%	70%	40%	50%	60%

Figure 1. Percent rooted vs percent with callus (alive) and percent which died. A feral cat interrupted the trial, but the initial results are above. The trial is being re-conducted.

We also attempted to air layer Maile and found very low levels of success (3%) using aloe and 0.8 % IBA. However, this initial work indicated air layering could be an alternative propagation method for Maile. More work is needed in this area.

Results and Discussion

Single node semi hardwood cuttings dipped in 0.8% IBA was the most efficient method tested in this trial, with 40% rooted cuttings, performing the same as double node cuttings (Figure 1). Previous research, which used semi hardwood cuttings from 2 year old plants treated with 0.8% IBA, obtained 57% rooting success (Tanabe, 1982), which is 42.5% higher than the results from this trial using 6 months old plants. This indicates that plant age and cutting stage may influence rooting success. More time is needed to refine the propagation of Maile using non seeding methods.

References

Hawaiian Native Plant Propagation Database, University of Hawaii at Manoa, College of Tropical Agriculture and Human Resources.

Tanabe, Michael J. 1982b. Single node stem propagation of *Alyxia olivaeformis. HortScience* 17.