



Build Your Own Micro-Propagation Station

A Field Guide from Wai Gardens · Hydroponics + Aquaponics · Mililani, O'ahu

GROW SOMETHING TODAY

One cutting, one 4oz jar, one new houseplant. Here's everything you need; what to snip, how to root it, the actual science behind rooting hormone, and how to keep your jar thriving long after today. **No green thumb required.**

WHAT TO GROW

What to Propagate?

 **Lives in the jar for good:** Golden Pothos, Heartleaf Philodendron, Chinese Evergreen, Wandering Dude, Peperomia.

 **Herbs & kitchen edibles:** Mint, Basil / Thai Basil, Lemongrass, Green Onion.

 **Local & cultural:** Ti leaf (ki), Sweet potato slip ('uala).

Local note — Central O'ahu's warm, humid air roots things fast. Bright, indirect light is all you need — skip the grow light.

CHOOSE YOUR PATH

Two Paths, One Cutting

Decide before you cut — it changes how you treat the roots.

Path A — Root to Live Here

Pothos, philodendron, mint, wandering dude, ti leaf. Built for water — stays in the jar indefinitely with weekly care.

Path B — Root to Transplant

Basil, coleus, sweet potato slips. Roots in water, but wants soil once roots hit 1–2".

Why — water roots are thinner & more fragile — don't rush a "transplant" plant.

1 Choose

4–6" stem, 2–3 leaf nodes

2 Cut

Just below a node, 45° angle

3 Strip

Remove leaves that'd sit underwater

4 Dip

Rooting hormone on the cut end

5 Submerge

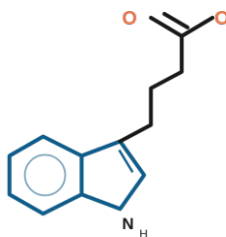
Node underwater, leaves stay dry

THE SCIENCE BIT

Why Rooting Hormone Actually Works

A fresh cutting can't take up water yet — no roots — so it's racing the clock on stored energy. The moment you cut, **auxin** floods the wound: it tells ordinary stem cells to *de-differentiate* and rebuild into a **root primordium**, the first bit of root tissue.

Your cutting makes a natural auxin, **IAA**, but it breaks down fast. Rooting powders use **IBA** instead, a sturdier cousin the plant converts into active auxin right at the cut, for faster roots, more root tips, and higher success on slower stems like coleus, basil, and ti leaf.



Indole-3-Butyric Acid (IBA)

Indole ring + 4-carbon acid chain, converted to active rooting signal at the wound.

"grow roots here" — your cutting, probably

Skip it for: pothos & mint. **Use it for:** basil, coleus, ti leaf, anything you want rooted fast.

Handle it like a garden product, not food — wash hands after, keep from eyes/mouth, away from keiki & pets.

AFTERCARE

Keeping Your Jar Happy

Task	How often
Change water	Every 5–7 days
Feed (¼-strength)	Each change, wk 2+
Light	Bright, indirect

Two birds, one habit — in Mililani's climate, standing water sitting more than a few days can breed mosquitoes, even in a 4oz jar. Weekly changes fix both.

SIGNS OF TROUBLE

→ Yellow leaves — more light or time to feed

→ Mushy stem — change water more often

→ Slimy jar — algae, cut back light

→ No roots after 6+wks — fresh cut + hormone

