ADVANCED HOUSEPLANT PROPAGATION

with Lindsay Sisti, @alltheplantbabies

PART 1: LAYERING METHODS OF PROPAGATION

AIR-LAYERING

WHAT IS AIR-LAYERING?

- You *first* root the cutting while it's attached to the mother plant, *then* take the cutting
- Surround a node on the stem with moist substrate sealed in plastic for a month or two until roots form from the node
- On woody-stemmed plants/ trees an angled incision or small area of bark and cambium layer must be removed first exposing the hard wood on the stem, in order for new roots to form
- Creates exact clones of a mother plant
- This method results in slightly more robust cuttings since they're still attached and receiving nutrients and moisture from the mother plant for the entire propagation period prior to cutting

WHY WOULD YOU AIR-LAYER?

- Your large, tree-like houseplant grew too tall. You want to prune it down and make a new rooted plant out of the top cutting.
- Your tall tree-like plant such as a *Dracaena fragrans* aka corn plant, or a *Ficus lyrata* aka fiddle leaf fig, or your thick climbing aroid such as the Philodendron 'Pink Princess,' is now "too leggy." Meaning, it lost a lot of its lower leaves due to old age and environmental stress. You want to make a new plant out of the top cut that has leaves.
- You want your plant to grow more branches to create a more "full" look (after taking a top cut, the remaining stem below will often branch out).
- You have an aroid growing up a moss pole that you don't want to remove from the pole in order to root (ie. a large climbing monstera or philodendron)
- Your plant is large to root in a vase (i.e. a large Monstera).
- You have a woody-stemmed plant that you find is difficult to root using other methods

HOW TO AIR-LAYER

- **AROIDS:**
  1. Choose which node on your mother plant you'd like to be the base of your new plant
  2. Wrap a big, softball-sized ball of moist substrate (i.e. sphagnum moss) around the node with plastic wrap or a water bottle cut in half or plastic air-layering ball. The plastic keeps the moss together AND prevents it from drying out. Secure it on the top and bottom if necessary with gardening velcro, twine, or string.

3. Check substrate in plastic at least once a week. If you notice the substrate drying out, re-moisten it liberally

4. In approximately 3-4 weeks, once the roots are 2-4 inches long, you can remove the plastic wrap. Clean at least 80% of the moss from the roots if you plan on potting the new plant up in a chunky aroid mix from here (most common). Alternatively, remove all of the moss from the roots if you'll be potting it up in LECA or Lechuza pon in a self-watering pot.

5. Cut along the stem about ½-1/4" *below* the newly formed roots to reveal your new independent plant babe, aka the "top cut."

- **WOODY-STEMMED PLANTS** (i.e. Fiddle leaf fig- *Ficus lyrata*, Umbrella plant- *Schefflera*, Dragon Plant- *Dracaena*)
    1. Select a healthy woody stem/ branch and choose the area you'd like the roots to grow. If using a Fiddle Leaf Fig or Rubber Plant, remove a leaf first and include that area as part of where you will make your cut (since it will contain a node)

    2. Make two parallel cuts approximately one inch apart from each other on the stem/branch all the way around the branch with a sharp knife cutting through only the outer layer of the branch (bark) and the secondary layer (cambium). Stop when you hit the light-colored hard wood inside. You will now have two rings on the branch parallel to each other.

    3. Connect the cut rings by making a vertical incision and then peel away the bark and cambium layer. Scrape away any remaining slippery cambium layer.

    4. Apply rooting hormone to exposed wood (optional)

    5. Place a ball of moist substrate around the exposed bare wood and wrap plastic wrap around it.

    6. Tie the plastic wrap on both ends to seal in moisture

    7. Wait a month and a half to two months for roots to grow

    8. Take your "top cut" just below the newly formed roots

SIMPLE-LAYERING/ GROUND LAYERING

WHAT IS SIMPLE-LAYERING (aka GROUND LAYERING)?

Propagation technique that involves laying down and pinning down the exposed nodes of a vining plant (such as that of a hoya or trailing philodendron) onto moist substrate until new roots grow from those nodes. After new roots grow, you take cuttings.
This can be done by pining vines down into its own pot, or using a second pot next to your original one to layer into. It is the same concept as air-layering but doing so with multiple nodes at the same time!

WHY SIMPLE-LAYERING/GROUND LAYERING?

- Your vining plant is “balding” / lost a lot of leaves and you want to take advantage of all of the exposed nodes by pinning them down in the same pot and having them grow new roots and shoots

- Your vining plant is already growing in a humid environment, and you want to create a more full looking plant by encouraging more roots and shoots to grow.

HOW TO SIMPLE / GROUND LAYER:

1. Place a pot filled with moist propagation substrate next to your plant. (Alternatively, this can be done with a plant within its own pot in a very humid environment, right after watering).

2. Lay the vine(s) you want to propagate across the top of the second pot. Remove any leaves around the nodes that you will be burying into the substrate that are in the way.

3. Bury each node along the stem of the vine into the substrate the best that you can under the substrate. Use opened paper clips, floral pins or bobby pins to hold them down if needed.

4. Water the mother plant as you normally would, but keep the second pot evenly moist throughout the entire propagation period. A high humidity environment will help with this.

5. After 6-12 weeks or longer, depending on the species, when the new roots are at least 1 inch long, you have the option to cut the newly rooted nodes free from the mother plant.

6. If you separate it from the mother plant, you can cut it into individual rooted nodes and pot each piece up separately to make individual plants.

PART 2: PROPAGATION BOXES

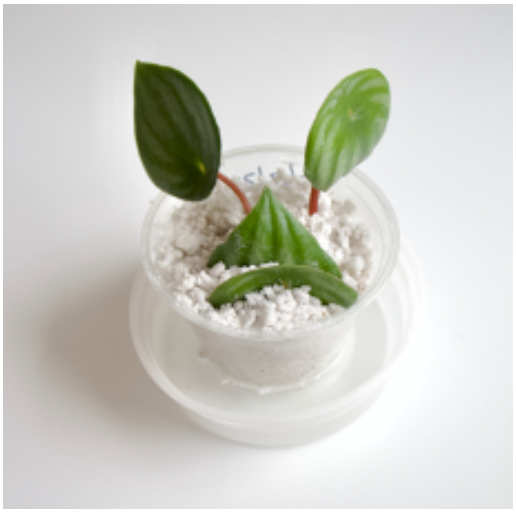
WHY USE A PROPAGATION BOX?

- Mini-greenhouse! Keeps humidity close to 100% and traps in warmth for ideal plant rooting conditions
- Transparent top and sides allow for light to penetrate
- Bed of substrate allows for the rooting of multiple propagules at a time
- “Set it and forget it” prop bin
- Perfect for propagating single nodes

COMPONENTS OF A PROP BOX:

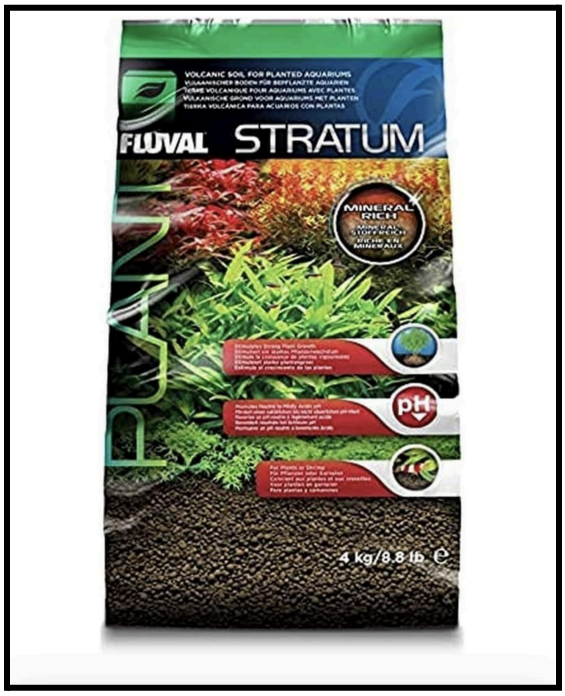
- Clear plastic bin with lid
- Drainage layer at least one inch thick on bottom made of perlite or LECA to capture excess water and nutrients (optional)
- At least a few inches of moistened rooting substrate layer on top of drainage layer (e.g. sphagnum moss)
- Empty space left for stems and leaves to grow on top of substrate
- Lid kept sealed on box the entire time

PART 3: SEMI-HYDROPONIC PROPAGATION



- Also known as "**passive-hydroponic**" growing
- Great if you want your props to grow in a sterile medium (such as perlite) to resist root rot, but grow roots acclimated to a solid medium (not water roots).
- The plant's roots obtain the water and nutrients they need by absorbing it from a nutrient reservoir *on the bottom of the pot* - instead of relying solely on being watered manually, from above
- Roots soak up nutrient solution through **capillary action**
- Ideally, the plant's roots do not physically touch the reservoir of water on the bottom
- For propagation, people will use net pots or any pot with many drainage holes on the bottom, sitting directly in a tray or container of water at least ½ inch deep
- Most popular semi-hydroponic substrates for houseplant propagation:
    - perlite
    - LECA (lightweight expanded clay aggregate)
    - pumice
    - Fluval Stratum (see next section)

PART 4: FLUVAL STRATUM



- Popular propagation substrate originally used in planted fish tank hobby / shrimp breeding
- Small compressed balls of nutrient-rich volcanic soil from the Mount Aso volcano in Japan
- Used in place of water / soil and watered from above. Can be used in semi-hydroponic set-ups such as in corm-cups for Alocasias.
- Also used often for starting aroid seeds.
- Its magic resides in its pH buffering capacity: lowers pH of the surrounding water to 6.0-6.5, the ideal pH for plant nutrient uptake
- Contains plant nutrients such as phosphorus, potassium and iron but lacks nitrogen so you will still want to supplement with a fertilizer.
- Will deteriorate after a year or two, can be messy and expensive.
- Often used 50/50 with perlite or pumice to cut costs