



UPLAND HOLISTIC DEVELOPMENT PROJECT

Nursery Activity: Transferring Seedlings and Rooted Cuttings

Objective: To gain skills in transferring seedlings and rooted cuttings from propagation beds to seedling bags.

Time Req: 30 minutes to 1hour

Materials: Recently rooted cuttings (e.g, katuk/pak wan, cha-om, snowflake tree) or seedlings (rattan, tea, black sugar palm, fan palm, fish tail palm), medium-sized seedling bags, trowels/scoops, spoon, potting soil, UHDP staff.

References: *Seeds and Plant Propagation, Plant Propagation: Principles and Practices, How to Plant a Forest: The Principals and Practice of Restoring Tropical Forests*

Basics of Propagation:

Whether in small-scale, backyard plant-production nurseries or large commercial operations, **plant propagation** is the most essential activity. Basically, plant propagation comes down to **sexual methods** (propagating by seeds) or **asexual/vegetative methods** (propagating by cuttings, grafting, budding, layering, division, in vitro, etc.).

Plants in the UHDP nursery that are propagated sexually (by seed) include various palms, prickly ash, tea and papaya. However, species that are propagated by vegetative methods (mainly stem cuttings) include snowflake tree, forest peppers, katuk (pak wan) and cha-om.

Propagation of these species within the nursery, whether by seed or cuttings, takes place in either large **propagation beds** or small, **plastic basins and trays** filled with **sand medium** (although rattan seeds, placed within basins, are often mixed with **coconut fibers**).

Regardless of the method of propagation, **moisture management** is important so as to prevent seeds or cuttings from drying out. Moisture is maintained by keeping the propagation areas **under shade** and by **regular hand watering** or by **automatic mist application**. **Clear plastic film** may also be fastened tightly over basins or propagation beds so as to **conserve moisture in both the sand medium and air**.

Transferring Small Seedlings and Rooting Cuttings (those up to ~ 10 cm tall):

Step 1 – Make sure the potting soil is moist (but not soaking wet). Fill the seedling bags to the brim with the potting soil and “bang” the bag on the ground a few times to allow the soil to settle inside the bag. Then, add more potting soil to top up the bag. The plastic bags should be able to stand up straight, unsupported.

Step 2 – Seedlings or rooted cuttings should be transferred directly from either the propagation beds or basins in a procedure called “pricking-out.” Pricking-out must be done in the shade. With the seedling bags having been filled with potting soil, make a hole in the medium that is big enough for the seedling’s roots without the roots needing to bend when placed in the hole.

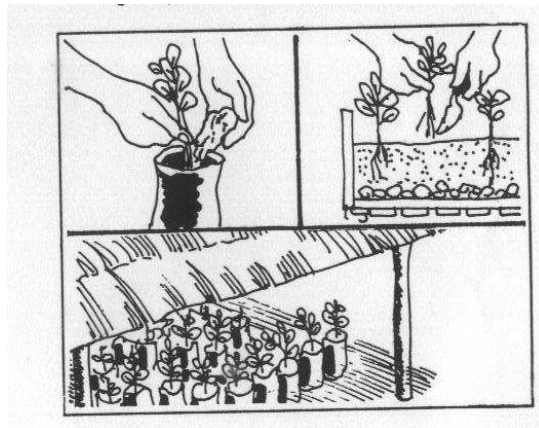
Step 3 – Very carefully, grasp the seedling/cutting and slowly lift it out of the basin or propagation bed with a spoon.

Step 4 - Carefully place the seedling/cutting’s root into the hole in the potting soil (making certain the root hasn’t bent) and fill the hole with more medium.

Step 5 – Gently bang the container on the ground to settle the medium.

Step 6 – Top up with more medium until the potting soil surface is 1-2 cm below the rim of the seedling bag and the seedling/cutting’s root collar is at the medium surface.

Step 7 – Press the potting soil to make sure the plant is upright and centrally placed.



Transferring Larger Seedlings and Rooted Cuttings (greater than ~ 10 cm tall):

Step 1 – Partially fill seedling bags with medium.

Step 2 – Prick out seedlings/cuttings as described in **steps 2-4** above, adding medium around the roots.

Step 3 – Same as **steps 5-7** above.

Questions: By which method were the cuttings/seedlings you transferred propagated?

After filling the nursery bags with medium (potting soil) why is it important that the medium not be too compacted? Or too loose?

Why should a spoon be used to lift cuttings/seedlings out of a bed, tray or basin?