

Propagation by Cuttings

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What is Cutting?

- Propagation
 - Making more plants
 - Two Methods
 - Vegetative
 - Seed
- Cuttings
 - Vegetative/Asexual Propagation



What is Asexual Propagation?

- Growing new plants without the use of seeds
- Creating a new plant from an existing parent plant
- Asexual techniques include: air laying, cutting, grafting, and division



Nursery for Cuttings

- Good water source
- Protected open area to grow plants
- Wind protection for cuttings
- Good growing media
- Containers or production beds
- Good plant material



Good growing media

- Air \leftrightarrow Water
 - Held in spaces between soil particles
 - Containers restrict air and water movement
 - Total air and water space \sim 50%
- Solids
 - Provide or holds nutrients
 - Holds roots which support the plant
 - Weight is important



Good growing media

- Disease free
- Weed seed free
 - Composting
 - Soil sterilization
 - Commercial mixes
 - Not all created equal
- Examples of media: perlite, coconut husk



Different Kinds of Cuttings

- Cuttings
 - Leaf – mother-in-law-tongue, kalanchoe
 - Root cutting and shoot – breadfruit, guava, citrus, pomegranate
 - Stem cutting – softwood, semi-hardwood, hardwood



Types of Stem Cuttings

Types	Local Examples
Herbaceous: non-woody, herbaceous plant	Basil, Dill, Mint
Soft-Wood: soft, succulent, new growth of woody plant	Hibiscus, Honeysuckle, Mulberry, Plumeria
Semi-hardwood: partially mature wood	Hibiscus, Citrus
Hardwood: dormant, mature stems	Fig, Breadfruit



Advantages and Disadvantages of Cuttings

- Advantages
 - Plant will be true-to-type, identical clone of the parent plant
 - Matures faster and produces flowers and fruits sooner
- Disadvantages
 - No tap root



Materials

- Tools – pruners/loppers/shovel
- Wheelbarrow
- Gloves
- Pots
- Soil Medium
- Root Hormone
- Plastic Bags
- Tape/rubber band
- Labeling materials
- Plant Cuttings



Propagation Step 1

- Obtain stem cuttings from healthy, disease-free plants.



Step 2

- Cut stems into at least 8 inch pieces. Remove any flowers or flower buds and lower 1/3 bottom of leaves from cutting.



Step 3

- Moisten soil and transfer into pot.



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Step 4

- Before using root hormone, place the amount needed in a separate container. Dip bottom part of cutting into rooting hormone.



Step 5

- Make a hole into the prepared soil in pot
- Insert cutting (at least 4 inches)
- Press soil around cutting to hold in place.
- Water again to settle the soil down



Step 6

- Wet the inside of the plastic bag then cover over the plant to maintain humidity
- Tape/rubber band around the plastic bag.
- Label your newly planted cutting.



Step 7

- To keep plants from drying out, place pots in a tray filled with water.



- Be sure to keep your plants in a warm area out of direct sunlight.



Non-Mist Cutting Structure



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Mist System for Cuttings



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Removal of Plastic Covering

- Remove plastic covering when sight of growth is seen.



Transplanting Your Cutting

- When your plant is growing well, transition from shade to sunlight and transplant into its permanent location.



Conclusion

- Asexual propagation
 - is growing new plants without the use of seeds
- Advantages
 - Plant will be true-to-type, identical clone of the parent plant
 - Matures faster and produces flowers and fruits sooner
- Different Kinds of Cuttings
 - (leaf, root, and stem)



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Thank You!



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