# **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 ← → Water
  - Held in spaces between soil particles
  - Containers restrict air and water movement
  - Total air and water space ~ 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,<br>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.



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





Moisten soil and transfer into pot.

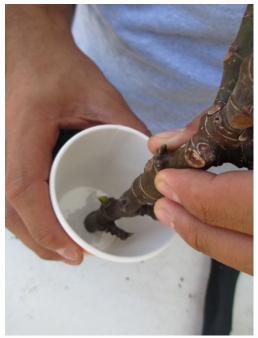


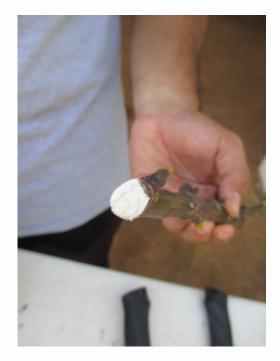




 Before using root hormone, place the amount needed in a separate container. Dip bottom part of cutting into rooting hormone.











- 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









 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.







 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**





# Mist System for Cuttings

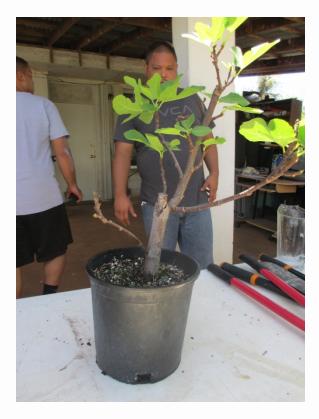




### **Removal of Plastic Covering**

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)





# si yu'us ma'ase! Thank You!



