Native Plant Propagation

Gregory A. Koob
Methods

Seeds
Seeds

- Harvesting seeds
- Cleaning seeds
- Storing seeds
- Seed starting media
- Planting seeds
- Care of seedlings
Harvesting Seeds

• Ripe seeds are best
• Pick at peak of ripeness
• Process immediately
Harvesting Seeds

Dry seeds such as *Bidens hillebraniana*

Into your hand, or . . .

directly into an envelope.
Harvesting Seeds

Some fruit don’t look ripe until it is too late. *Brighamia insignis* fruit stay green until they pop open and drop all their seeds.

Place the green, but full-size fruit on a piece of paper until they pop open and drop their seeds.
Harvesting Seeds

Some plants take what seems like forever to form fruit.

*Gardenia brighamii* takes several months to form and ripen fruit.
Harvesting Seeds

Wait for *Gardenia brighamii* fruit to get brown, soft, and drop their blossom end before harvesting.
Seeds

- Harvesting seeds
  - Cleaning seeds
  - Storing seeds
  - Seed starting media
  - Planting seeds
  - Care of seedlings
Cleaning Seeds

• Dry seeds
  – Remove from fruit or separate from junk
Cleaning Seeds

- Fleshy fruit
  - Place in water
Cleaning Seeds

• Fleshy seeds
  – Place in water
  – Crush fruit to remove seeds
Cleaning Seeds

- Fleshy seeds
  - Place in water
  - Crush fruit to remove seeds
  - Pick out large pieces
Cleaning Seeds

• Fleshy seeds
  – Place in water
  – Crush fruit to remove seeds
  – Pick out large pieces
  – Swirl and dump to removed junk
Cleaning Seeds

Clean seeds ready for planting
Cleaning seeds

- Use a knife to remove flesh
Seeds

- Harvesting seeds
- Cleaning seeds
  - Storing seeds
- Seed starting media
- Planting seeds
- Care of seedlings
Storing Seeds

• Not all native seeds store well, experiment
• Dry to a low relative humidity
• Store in paper envelopes placed in plastic bags in crisper of refrigerator
Seeds

- Harvesting seeds
- Cleaning seeds
- Storing seeds
- Seed starting media
- Planting seeds
- Care of seedlings
Seeds Starting Media

- Vermiculite
- Perlite
- Sterile potting mix
Seeds

• Harvesting seeds
• Cleaning seeds
• Storing seeds
• Seed starting media
• Planting seeds
• Care of seedlings
Planting Seeds

- Remove seeds from water
- Evenly spread seeds on surface of medium
Planting Seeds

- Remove seeds from water
- Evenly spread seeds on surface of medium
- Water
  - top water for big seeds
  - Bottom water for small seeds
- Keep moist, but not wet
Planting Seeds

• Remove seeds from water
• Evenly spread seeds on surface of medium
• Water
  – top water for big seeds
  – Bottom water for small seeds
• Keep moist, but not wet
• No need to cover most native seeds with medium
Seeds

- Harvesting seeds
- Cleaning seeds
- Storing seeds
- Seed starting media
- Planting seeds
- Care of seedlings
Care of Seedlings

- Transplant at cotyledon stage or first true leaf stage
Care of Seedlings

- Transplant at cotyledon stage or first true leaf stage
- Prick out with pencil or chopstick
Care of Seedlings

- Transplant at cotyledon stage or first true leaf stage
- Prick out with pencil or chopstick
- Grab by cotyledon or leaf, not stem
- Transplant to individual pots
Methods

Cuttings
Cuttings

- Harvesting cuttings
- Preparing cuttings
- Rooting hormones
  - Rooting media
- Humidity control
- Care of cuttings
  - Juvenility
Harvesting Cuttings

- Choose healthy growth
- Non-flowering, non-seeding growth is best
- When taking cuttings from woody plants, use proper pruning methods
Cuttings

- Harvesting cuttings
- Preparing cuttings
- Rooting hormones
  - Rooting media
- Humidity control
- Care of cuttings
  - Juvenility
Preparing Cuttings

• Remove lower leaves
• Use sharp pruners or knife to make a clean cut
• Dip in rooting hormone, if needed
Cuttings

- Harvesting cuttings
- Preparing cuttings
- Rooting hormones
  - Rooting media
  - Humidity control
- Care of cuttings
  - Juvenility
Rooting Hormones

- Liquid
- Powdered
- Not necessary for all cuttings
Cuttings

• Harvesting cuttings
• Preparing cuttings
• Rooting hormones
  • Rooting media
• Humidity control
• Care of cuttings
  • Juvenility
Rooting Media

- Perlite
- Vermiculite
- Potting mix
Cuttings

- Harvesting cuttings
- Preparing cuttings
- Rooting hormones
  - Rooting media
- Humidity control
- Care of cuttings
  - Juvenility
Humidity Control

- None
Humidity Control

- None
- Plastic bag
Humidity Control

- None
- Plastic bag
- Humidity chamber
Humidity Control

- None
- Plastic bag
- Humidity chamber
- Mist
Cuttings

- Harvesting cuttings
- Preparing cuttings
- Rooting hormones
  - Rooting media
- Humidity control
  - Care of cuttings
    - Juvenility
Care of Cuttings

- Remove any dead or dying leaves while roots are forming
- Transplant to potting mix when roots emerge from cutting pot or new growth starts
Cuttings

- Harvesting cuttings
- Preparing cuttings
- Rooting hormones
  - Rooting media
- Humidity control
- Care of cuttings
  - Juvenility
Juvenility

- Seedlings/plants that have not yet started to flower
- Hard-to-propagate plants may sometimes propagate from cuttings if juvenile growth is used
Juvenility

- Examples
  - Kauila
  - Alahe`e
Methods

Air Layering
Air Layering

- Choosing a branch
- Procedures
- Maintenance of air layer
- Care of air layered plant
Choosing a Branch

- Pick a healthy, non-flowering branch that is the size and shape of the plant you want to produce.
- Choose a spot on the branch that will result in a proper prune when the air layer is removed.

*Rauvolfia sandwicensis*
Air Layering

- Choosing a branch
- Procedures
- Maintenance of air layer
Air Layer Procedures

• Make two incisions in the bark around the diameter of the branch one inch apart and connect with another incision.
Air Layer Procedures

• Remove the bark between the incisions using the connecting incision as a starting point
Air Layer Procedures

- Apply rooting hormone.
- Place damp, not wet, sphagnum moss around the wound.
Air Layer Procedures

• Compress and shape sphagnum moss to cover the wound and about one to two inches in either side of the wound.
Air Layer Procedures

- Cover with plastic (and foil if desired) and tie off ends with twist ties.
Air Layering

• Choosing a branch
• Procedures
• Maintenance of air layer
Maintenance of Air Layer

- Leave it alone for a few months.
- Check occasionally for roots by gently squeezing the sphagnum moss.
- Remoisten moss if it dries out.
Division

- Use on many clumping, rosette-type plants

*Machaerina angustifolia*
Division

- Use natural division as place of separation
Division

- Pot up separate plants and water well.