



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 hillebrandiana



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



Gardenia brighamii takes several months to form and ripen fruit.

Some plants take what seems like forever to form 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



Rauvolfia sandwicensis

- 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

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.



Methods

Division

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.

