



# Techniques for Propagating Rhododendrons and Azaleas

## *Raising Plants from Seed*

*by Donald W. Hyatt*



# Raising Plants from Seed



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**Coconut palms have very large seeds, coconuts.**

# Raising Plants from Seed

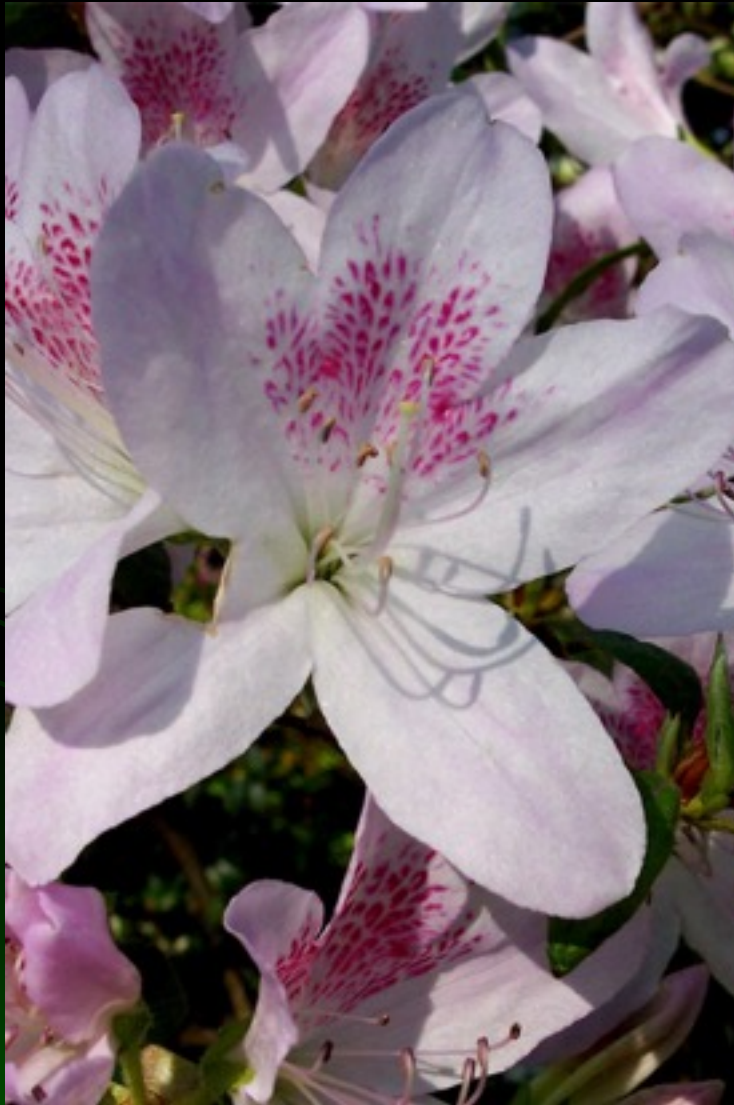


**Although some primitive plants like ferns and mosses reproduce by spores, most plants reproduce by seed.**

**Coconut palms have very large seeds, coconuts.**

**Orchid seeds are tiny, almost like dust.**

# Raising Plants from Seed



**Rhododendrons and azaleas can be easily propagated by seed.**

# Raising Plants from Seed



**Rhododendrons and azaleas can be easily propagated by seed.**

**Their seeds are small and will require some care at first, but this presentation will show how and why to raise them from seed.**

# Seed Variations

The size and shape of seedpods and seeds will vary depending upon the species. Here are some example rhododendron and azalea seed types.





# Seed Variations



*R. fortunei* – Large Elepidote  
*Rhododendron*



*R. fortunei*



# Seed Variations



*R. keiskei* – Dwarf Lepidote  
*Rhododendron*



*R. fortunei*



*R. keiskei*



# Seed Variations



*R. arborescens* – Native Azalea



*R. fortunei*



*R. keiskei*



*R. arborescens*



# Seed Variations



*R. kiusianum* – Evergreen Azalea

**All Azaleas are Rhododendrons!**



*R. fortunei*



*R. keiskei*



*R. arborescens*



*R. kiusianum*

# Where to Get Seed

## Sources

1. Plants in the Wild



# Where to Get Seed

## Sources

1. Plants in the Wild



# Where to Get Seed

## Sources

1. Plants in the Wild
2. Open Pollinated Garden Sources



# Where to Get Seed

## Sources

1. Plants in the Wild
2. Open Pollinated Garden Sources
3. Controlled Crosses





# How to Make a Cross

Flower Parts

Corolla



# How to Make a Cross

Flower Parts

Corolla

Stamens



# How to Make a Cross

Flower Parts

Corolla

Stamens

Pistil



# How to Make a Cross

**‘Pastel Perfume’**

The cross is done!

**‘Pastel Perfume’ x ‘Apritan’**

Female Parent  
Listed First

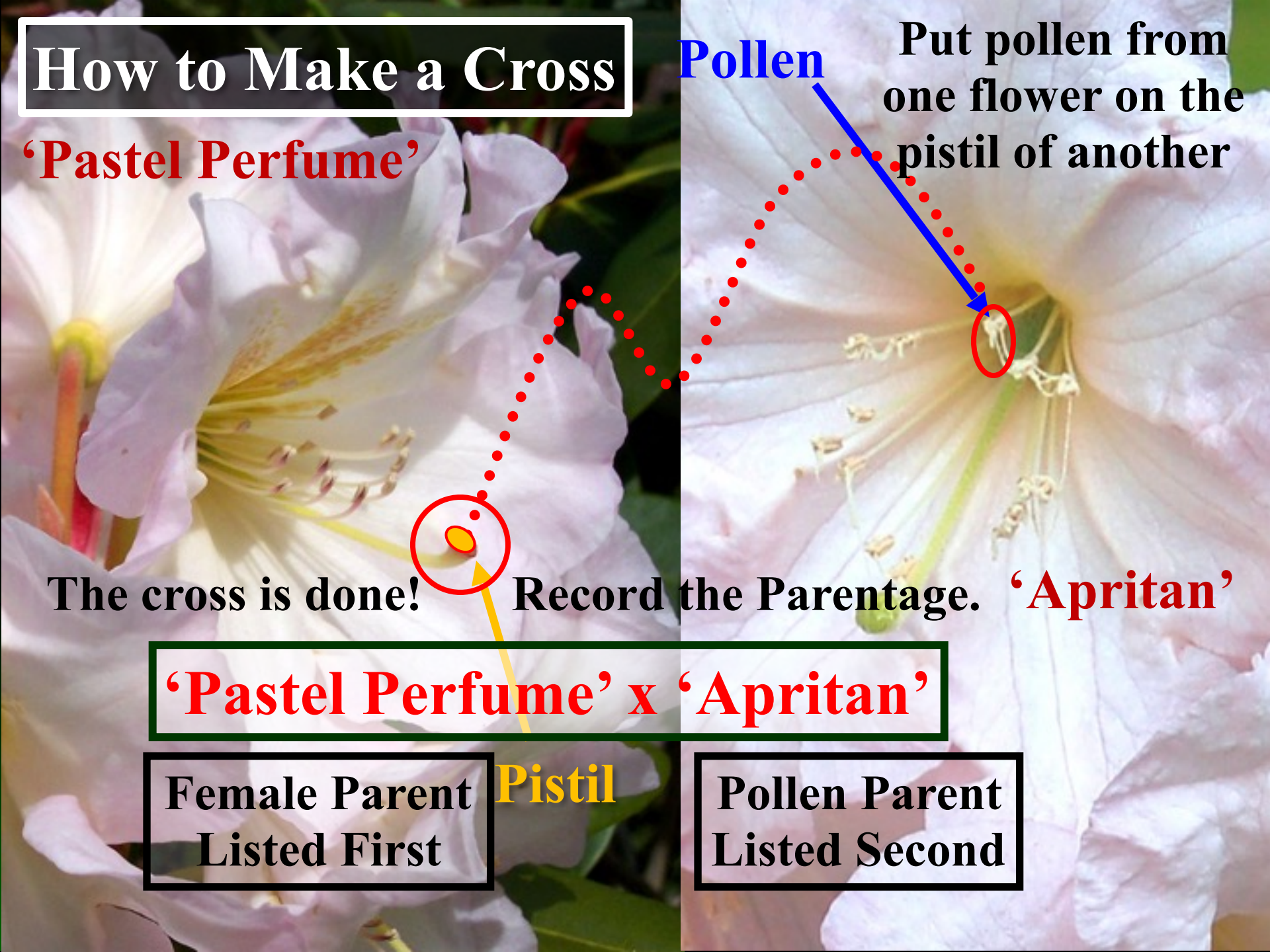
**Pistil**

**Pollen**

Put pollen from  
one flower on the  
pistil of another

Record the Parentage. **‘Apritan’**

Pollen Parent  
Listed Second



# Keeping Bees Away

**Bees may bring in unwanted pollen from other sources**



**Keeping Bees Away**



**Emasculate  
the Flower**

**Remove the Corolla**



**Remove the Corolla**  
**Remove the Stamens**





**Make the Cross**

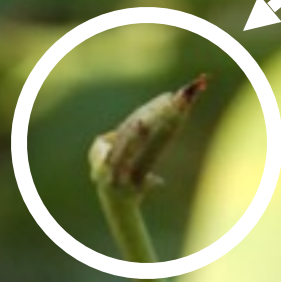


**Cover with Plastic Bag**



# Seed Pod Development

No Seeds



Successful



# Where to Get Seed

## Sources

1. Plants in the Wild
2. Open Pollinated Garden Sources
3. Controlled Crosses
4. ARS & ASA Seed Exchanges





**Potomac Valley Chapter  
Seed Exchange**

# Seed Preparation

## Procedure

1. Collect capsules in late fall



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2. When dry, crack open capsules



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# Seed Preparation

## Procedure

1. Collect capsules in late fall
2. When dry, crack open capsules
3. Separate seed from chaff

Note: This approach does create a lot of chaff. The debris is hard to remove and may become moldy, spreading to the seedlings.



# Alternative Seed Cleaning Method

**Clean one pod  
at a time!**



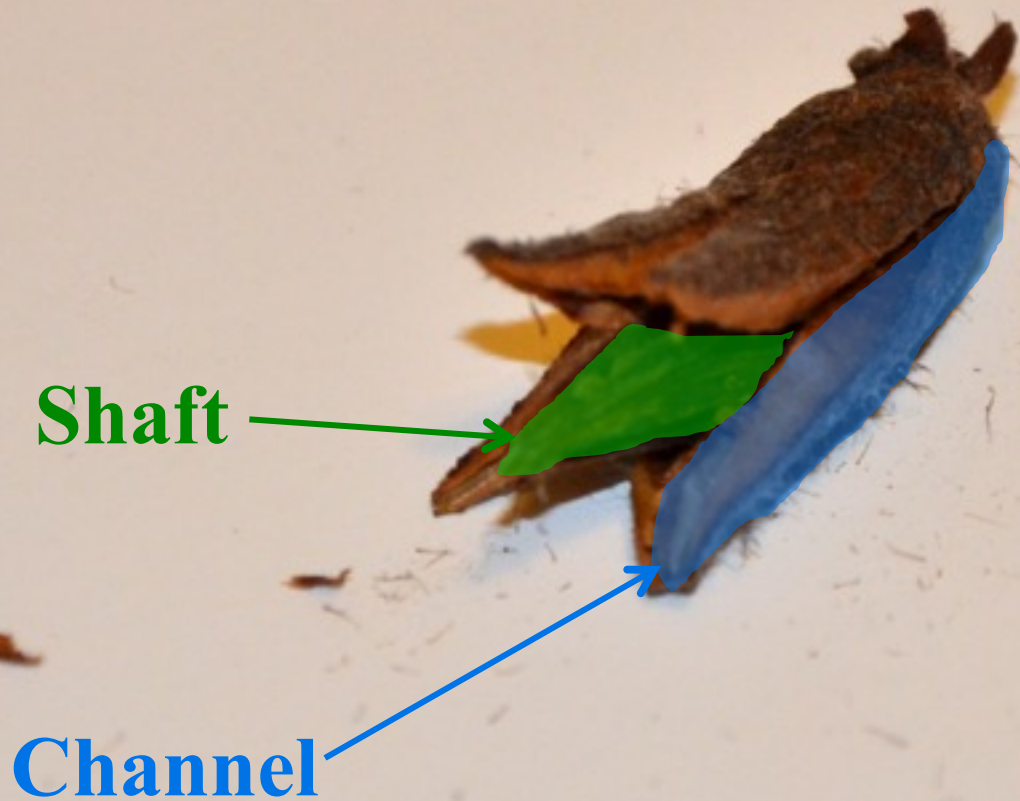
# Alternative Seed Cleaning Method

Clean one pod  
at a time!



*R. calendulaceum*

**Most seedpods have multiple channels surrounding a central shaft.**

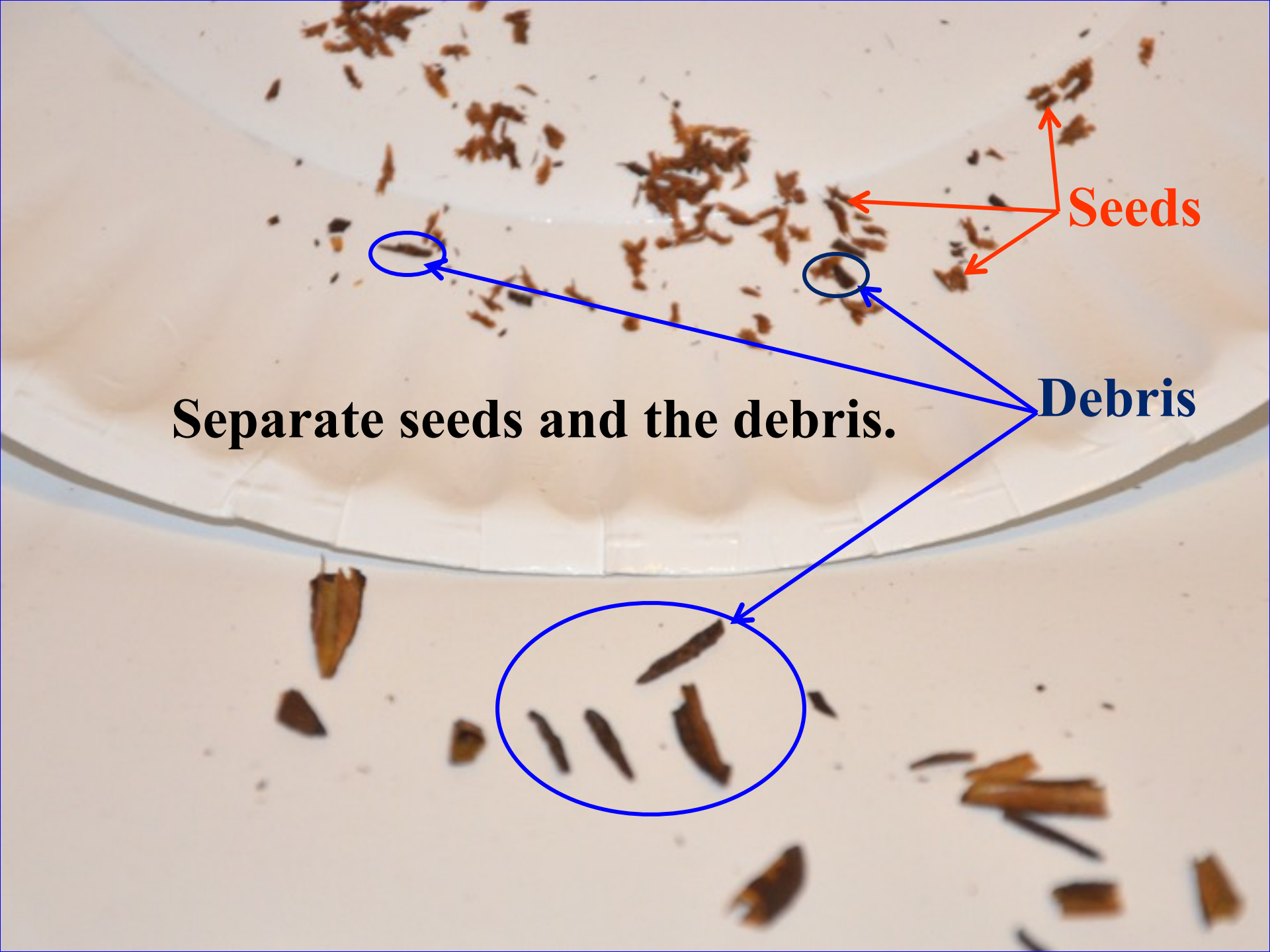


**Seeds attach to the shaft are in the channels.**



**Remove seeds from the shaft and channels.**



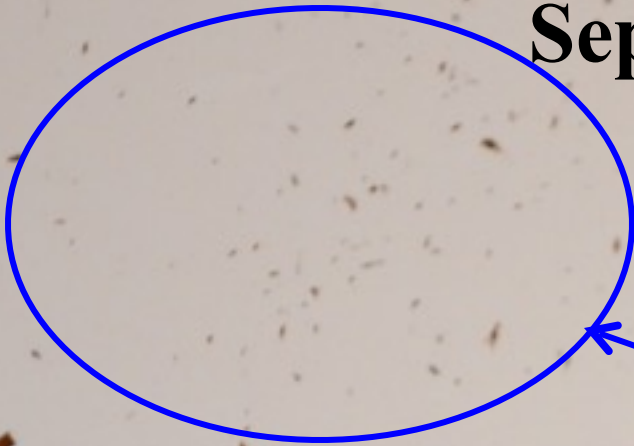


**Seeds**

**Debris**

**Separate seeds and the debris.**

**Separate seeds from dust.**



**Dust**

**Seeds**







**Separate seeds from dust.**

*It is a technique similar  
to panning for gold.*

**Paper Plates are Great!**

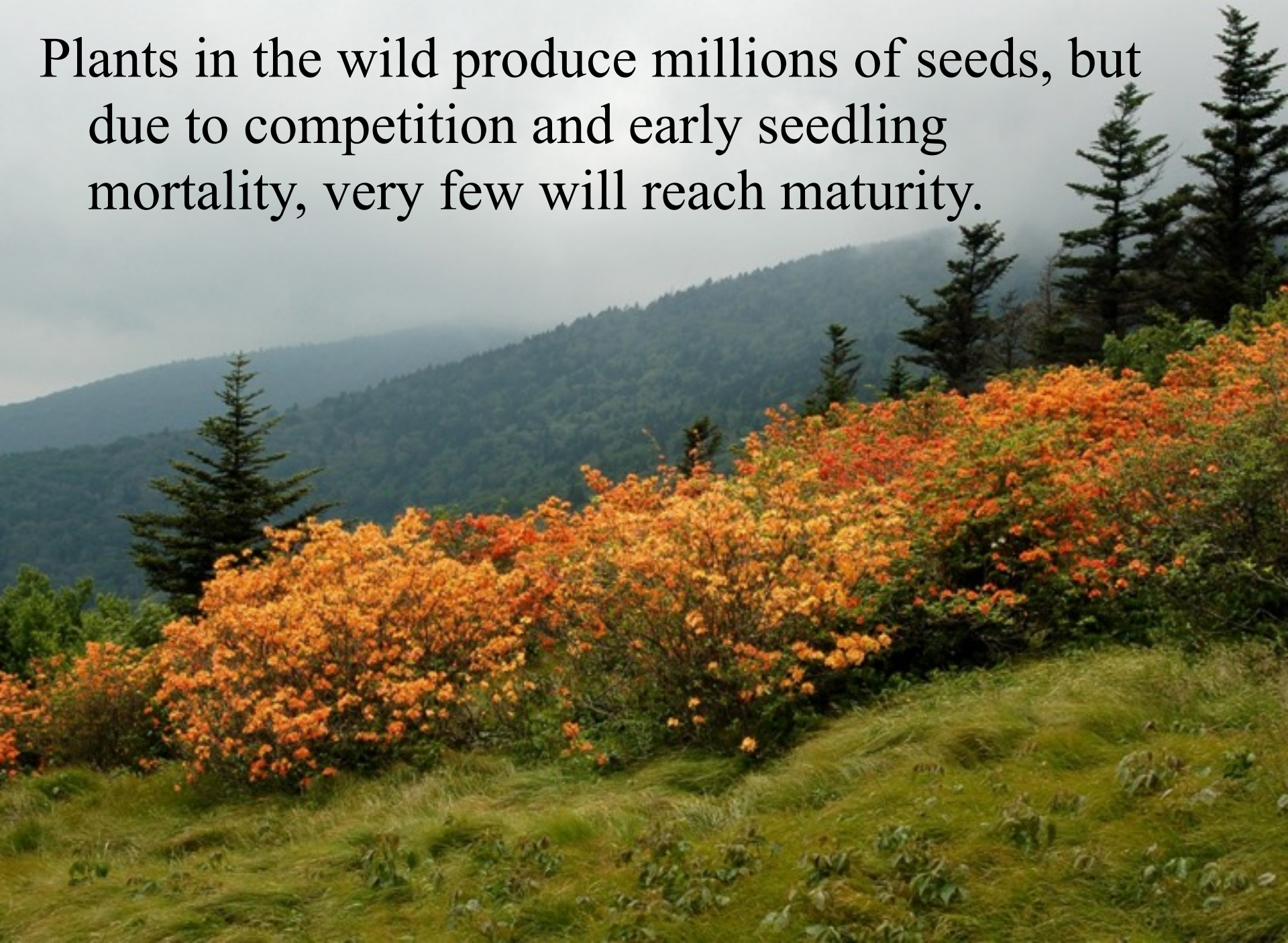
# How Much Seed?

Seedpods may  
have no seeds  
to hundreds.

Share seeds  
with others.



Plants in the wild produce millions of seeds, but due to competition and early seedling mortality, very few will reach maturity.



If we can get seedlings past the vulnerable stage, they can make it on their own.





# Planting the Seed

## Procedure

1. Find a suitable pot

Cut-off Milk Jug



# Planting the Seed

## Procedure

1. Find a suitable pot

Cut-off Milk Jug

Make slits for drainage



# Planting the Seed

## Procedure

1. Find a suitable pot
2. Prepare medium:
  - 50% Peat
  - 50% Perlite
  - Coarse Sand, Pine Fines*





# Planting the Seed

## Procedure

1. Find a suitable pot
2. Prepare medium:
  - 50% Peat
  - 50% Perlite
  - Coarse Sand, Pine Fines*
3. Plant on surface
  - Moisten but do not make too wet!



# Germination

## Process

1. Put pots in a clear plastic bag to make a mini-greenhouse.
2. Put containers in a warm spot out of direct sun or under fluorescent lights.



# Germination

## Process

1. Fluorescent lights are best and they should stay on 18 24 hours a day
2. Seed germinates in 2 to 3 weeks



# Germination

## Process

1. Mini-greenhouses need little care
2. The condensation on the bag will drop like rain on the soil
3. Plants in low light don't need much fertilizer

*Weak fertilizer, once!*



Liquid Fertilizer (1/8 strength)  
or Slow Release (a few grains)

# Germination

## Process

1. Harden off before transplanting

Hardening off means to get plants used to lower humidity levels. Those seedlings are used to 100% humidity so open the bags slowly over several days so they get adjusted to normal conditions.



# Germination

## Process

1. Harden off before transplanting
2. Transplant to flats or small pots





# Growing On

1. Transplant to flats or small pots
2. Give more light  
Increase fertilizer





# Growing On

1. Transplant to flats or small pots
2. Give more light  
Increase fertilizer
3. Transplant to larger pots when ready



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Grow in strong sun for better bud set



A photograph of a rhododendron tree with light pink flowers in a lush green woodland setting. The tree is the central focus, with its branches and leaves filling most of the frame. The flowers are in various stages of bloom, some fully open and some as buds. The background is a dense thicket of green foliage, including ferns and other plants, creating a rich, textured backdrop. The lighting is natural, with dappled sunlight filtering through the leaves.

# Site Selection

## **Rhododendrons**

- 1. Rich Woodland Border**
- 2. Dappled Sun and Shade**
- 3. Wind Protection**

# Site Selection

A scenic mountain landscape with rolling hills and a large bush of bright yellow-orange azaleas in the foreground. The background shows layers of mountains under a clear blue sky. The azaleas are in full bloom, with many small flowers. The overall scene is bright and sunny.

## Native Azaleas

1. At Least a Half Day of Full Sun
2. Afternoon Shade Best in Hot Climates



# SOIL



1. Rich Humus Soil
2. Good Drainage

# SOIL

A photograph of a dirt path on a hillside. The path is reddish-brown and appears to be made of heavy clay soil. The path is surrounded by green vegetation, including bushes and trees. In the background, there are more trees and a utility pole. The sky is blue with some clouds. The overall scene suggests a rural or undeveloped area.

**Heavy Clay Soils are Bad**



**Poor Drainage Can Kill**



**Poor Drainage Can Kill**

**Do not plant deeply.**



**Poor Drainage Can Kill**

**Do not plant deeply.**



**Set the plant high.**





**Mulch well!**



**Set the plant high.**



**Mulch well!**




**But not too well.**



**Fertilizer  
can kill!**

# FERTILIZER





**Use  $\frac{1}{2}$  to  $\frac{1}{4}$  of  
recommended  
strength.**

# FERTILIZER

**Never fertilize  
rhododendrons  
or azaleas after  
mid July since  
plants may not  
go dormant in  
the fall. They  
will be prone  
to winter kill.**

# Container Plants



**Pull apart the roots  
to help them get  
established in the  
new soil.**

**Container Plants**



# Pot Bound Plants



## Pot Bound Plants



# Pot Bound Plants





## Pot Bound Plants

They may be better moved to a larger pot so the roots can get adjusted before trying to plant out.

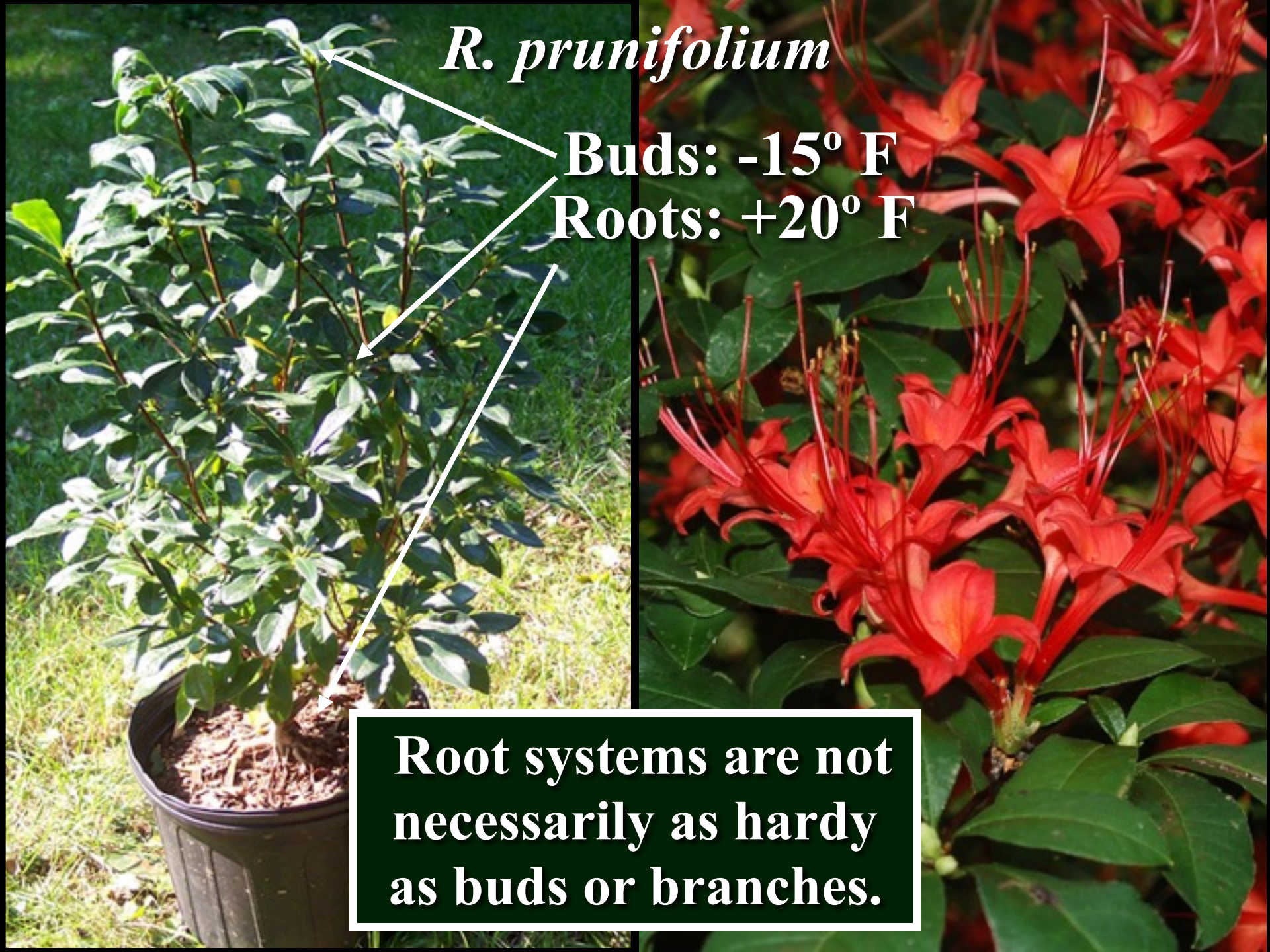


*R. prunifolium*

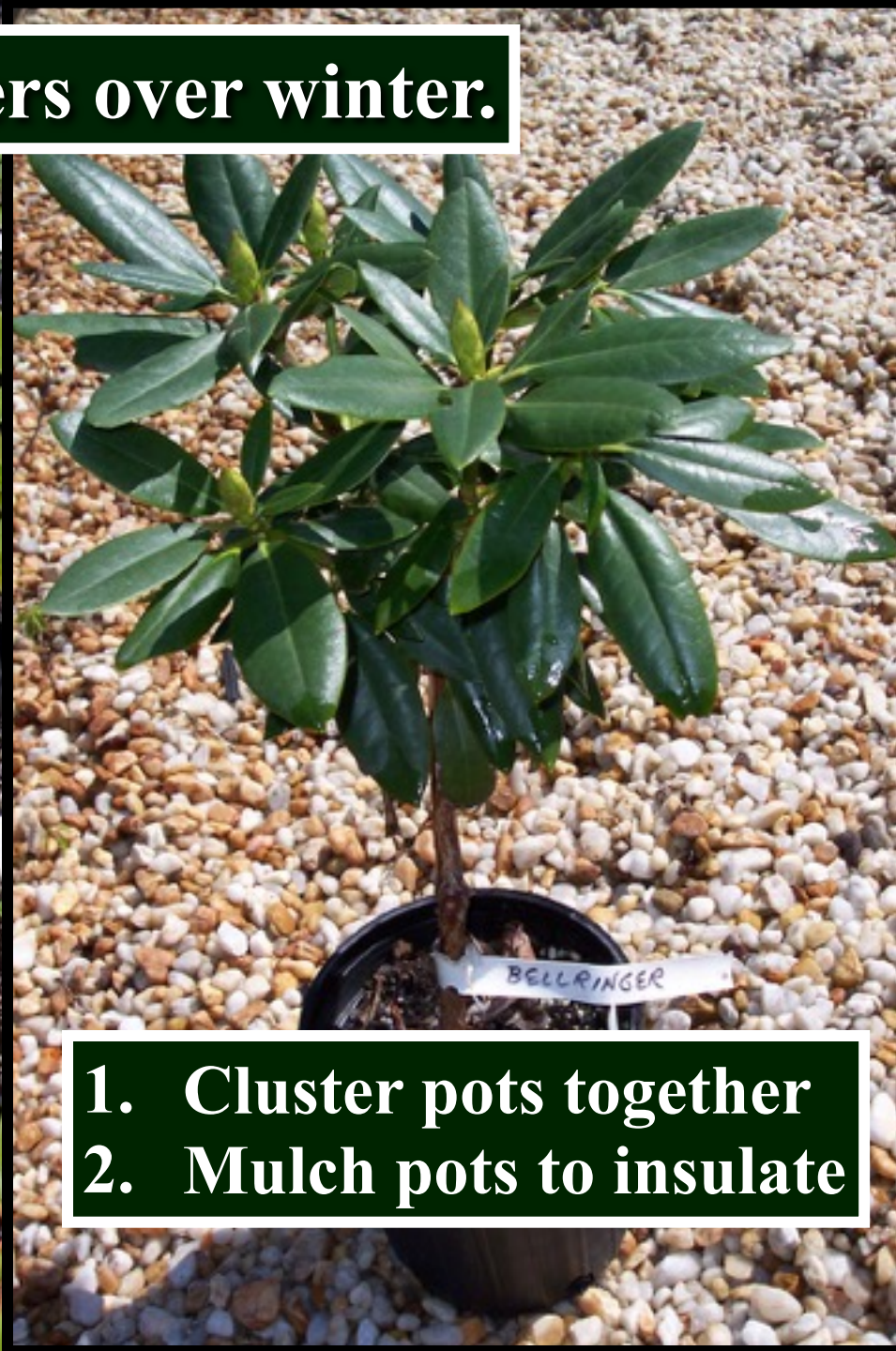
**Buds: -15° F**

**Roots: +20° F**

**Root systems are not necessarily as hardy as buds or branches.**



**Protect containers over winter.**



- 1. Cluster pots together**
- 2. Mulch pots to insulate**

**Protect containers over winter.**



**Snow can insulate, too!**

Enjoy!



***For More Information:***

**American Rhododendron Society**

[www.rhododendron.org](http://www.rhododendron.org)

**Azalea Society of America**

[www.azaleas.org](http://www.azaleas.org)

**Potomac Valley Chapter ARS**

[www.arspvc.org](http://www.arspvc.org)

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**The End**