



Techniques for Propagating Rhododendrons and Azaleas

Rooting Cuttings

by Donald W. Hyatt

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Propagation by Cuttings



Evergreen Azaleas
Usually Easy



Deciduous Azaleas
Usually Difficult



Rhododendrons
Some are Easy
Some are Difficult

Evergreen Azalea Cuttings

Considerations

1. Timing
2. Selection
3. Preparation
4. Sterilization
5. Hormone
6. Rooting
7. Growing



Timing and Selection

1. Usually take
in June or July.



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2. Choose healthy growth that is getting firm.



Timing and Selection

1. Usually take in June or July.
2. Choose healthy growth that is getting firm.
3. Separate into single stems. Pinch out the soft tips. Remove lower leaves.



Timing and Selection

Be careful when removing lower leaves.



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Be careful when removing lower leaves.

Don't pull down since it can tear the bark off the stem.



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Timing and Selection

Be careful when removing lower leaves.

Don't pull down since it can tear the bark off the stem.

Pinch off leaves or pull upwards so that the bark is not harmed.



Cutting Length

Short cuttings
are preferred.



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Short cuttings
are preferred.

Long shoots
can be cut in
shorter pieces.



Why Short Cuttings?

Rhododendrons and azaleas are shallow rooted plants.

Long cuttings will root but those roots usually form at the end of the cutting.



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Sterilization

Avoiding potential insect and disease problems

1. Soak cuttings in dilute (5%) Clorox water for 5 minutes.



**This step is
optional**

Sterilization

Avoiding potential insect and disease problems

1. Soak cuttings in dilute (5%) Clorox water for 5 minutes.
2. Rinse well in clean water.



Rooting Hormone

1. If using a liquid hormone like Dip 'n Grow, use a weak solution at a 10 to 1 ratio.



Rooting Hormone

1. If using a liquid hormone like Dip 'n Grow, use a weak solution at a 10 to 1 ratio.
2. Dip the cutting base in hormone for about 3 to 5 seconds.



Rootone works, too!

Rooting Environment

1. Insert cuttings in rooting medium.

It is a good idea to wet the medium in advance and let it drain overnight. It should be damp but not too wet.



Rooting Environment

1. Insert cuttings in rooting medium.
2. Enclose pots in plastic bags.



Rooting Environment

1. Insert cuttings in rooting medium.
2. Enclose pots in plastic bags.
3. Keep under fluorescent lights while cuttings root.



Growing On

1. Transfer to individual pots.



Growing On

1. Transfer to individual pots.
2. Plants may be kept under lights or moved to a cold frame.



Growing On

1. Transplant to larger pots as cuttings grow.



Growing On

1. Transplant to larger pots as cuttings grow.
2. Provide more light, increase fertilizer, and prune plants to improve shape.
3. It is better to use several applications of dilute fertilizer than heavy doses.



WARNING!
Fertilizer can kill.

Growing On

1. Stop fertilizing by midsummer so cuttings will go dormant as autumn arrives.



Growing On

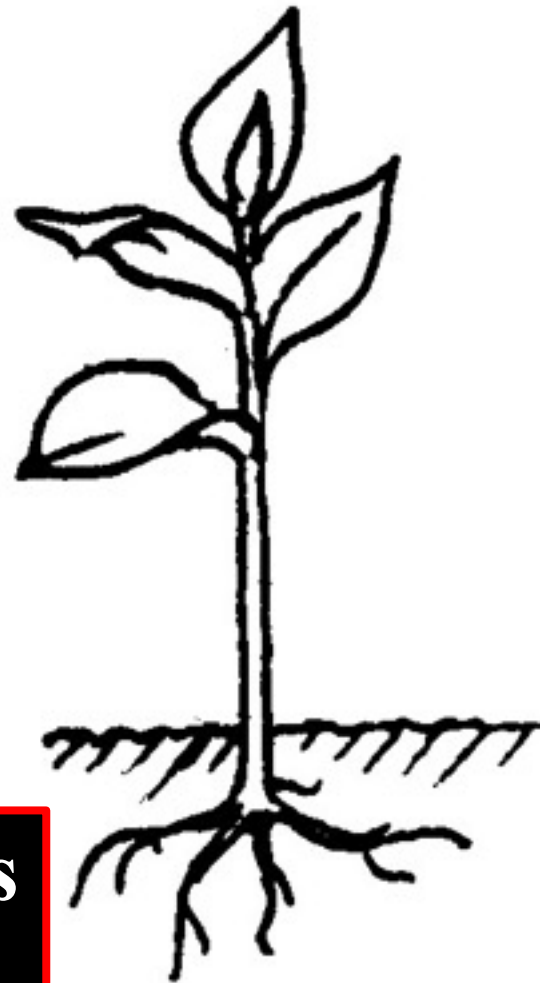
1. Stop fertilizing by midsummer so cuttings will go dormant as autumn arrives.
2. Young plants
 - usually need some winter protection.



Options include a cool greenhouse, a cold frame, or a shady sheltered spot.

Why do cuttings need protection?

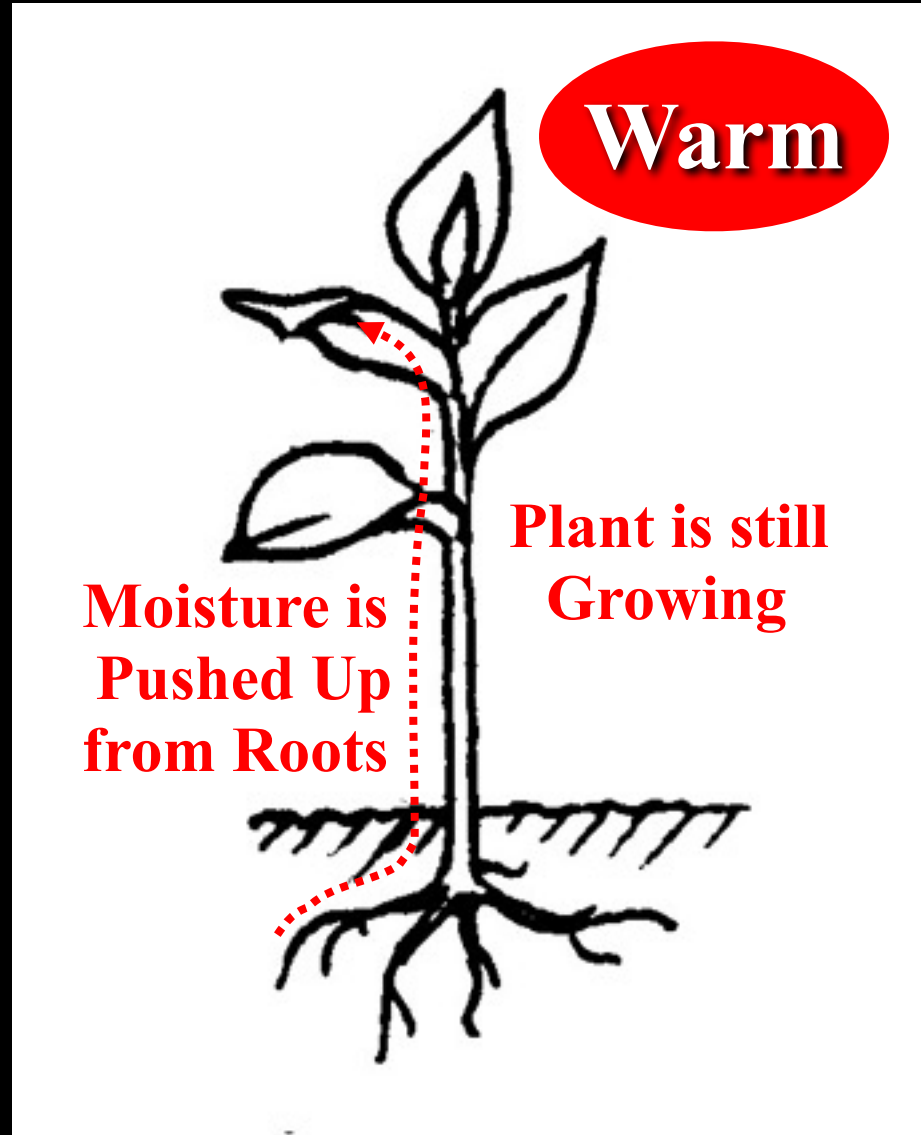
1. Cuttings and young plants that spend the winter outside will need protection from harsh winter cold.
2. If they have not gone dormant before frost arrives, they will be prone to *bark split*.



**What causes
Bark Split?**

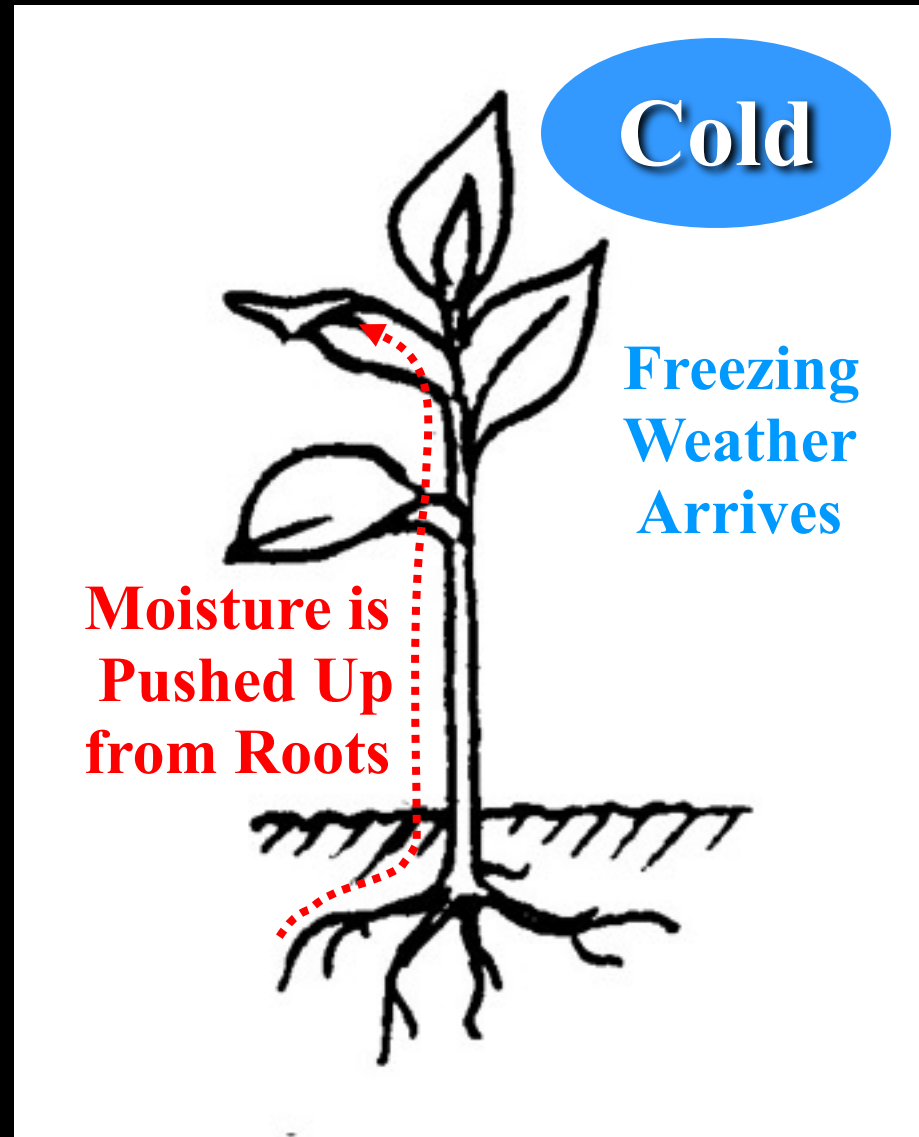
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Cutting is
Girdled
and Dies

Winter Problems!

Even large plants and trees can be susceptible to bark split if they are not dormant and there is a late spring freeze or an early fall frost.



Winter Problems!

The damage may not show up until summer when a plant that seemed healthy suddenly dies.



**Check the base
of the plant for
bark split.**

**Try rooting some
azalea cuttings.**

**A small plant
can make a big
statement in
the landscape
in a few years.**

**One Year
Liner**





**40 Years
Later**

Deciduous Azalea Cuttings

Considerations

1. Timing
2. Selection
3. Preparation
4. Sterilization
5. Hormone
6. Rooting
- 7. Dormancy!**



Why is Dormancy a Problem?

Deciduous azaleas drop their leaves in autumn and must go through a winter dormancy period.



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Deciduous azaleas drop their leaves in autumn and must go through a winter dormancy period.

Then they send out new growth in the spring.



Why is Dormancy a Problem?

Cuttings of deciduous azaleas usually root easily but dormancy requirements will often get messed up.



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Cuttings of deciduous azaleas usually root easily but dormancy requirements will often get messed up.

Rooted cuttings can stay in a dormant state for the entire year may never grow. The plants will eventually die if they do not have any leaves.



Why is Dormancy a Problem?

By rooting deciduous azaleas when the days are long and then maintaining summer like conditions until they send out a second flush of growth, the cuttings seem to avoid dormancy problems.



Timing and Selection

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early: late May
to early June.



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4. Never allow cuttings to dry out or wilt

Deciduous Azaleas tend to drop their leaves if cuttings become wilted.



Cutting Preparation

1. Cut long stems into pieces



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Cutting Preparation

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2. Remove the lower leaves



Cutting Preparation

1. Cut long stems into pieces
2. Remove the lower leaves
3. Pinch out soft center or flower bud



Cutting Preparation

1. Cut long stems into pieces.
2. Remove the lower leaves.
3. Pinch out soft center or flower bud.
4. Trim longer leaf ends.



Sterilization

Avoiding potential insect and disease problems

1. Soak cuttings in 5% Clorox solution for five minutes



Sterilization

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2. Rinse well in clear water



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Rooting Hormone

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in rooting
hormone for
3 to 5 seconds

Note:

Some people say
higher hormone
concentrations
may keep deciduous azaleas from breaking dormancy properly.



Rooting Environment

1. Insert cuttings in rooting medium (peat-perlite).
2. Medium should be damp, not wet.



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Excess moisture can encourage rotting and fungus diseases.

Rooting Environment

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2. Medium should be damp, not wet.
3. Enclose pots in clear plastic bags.



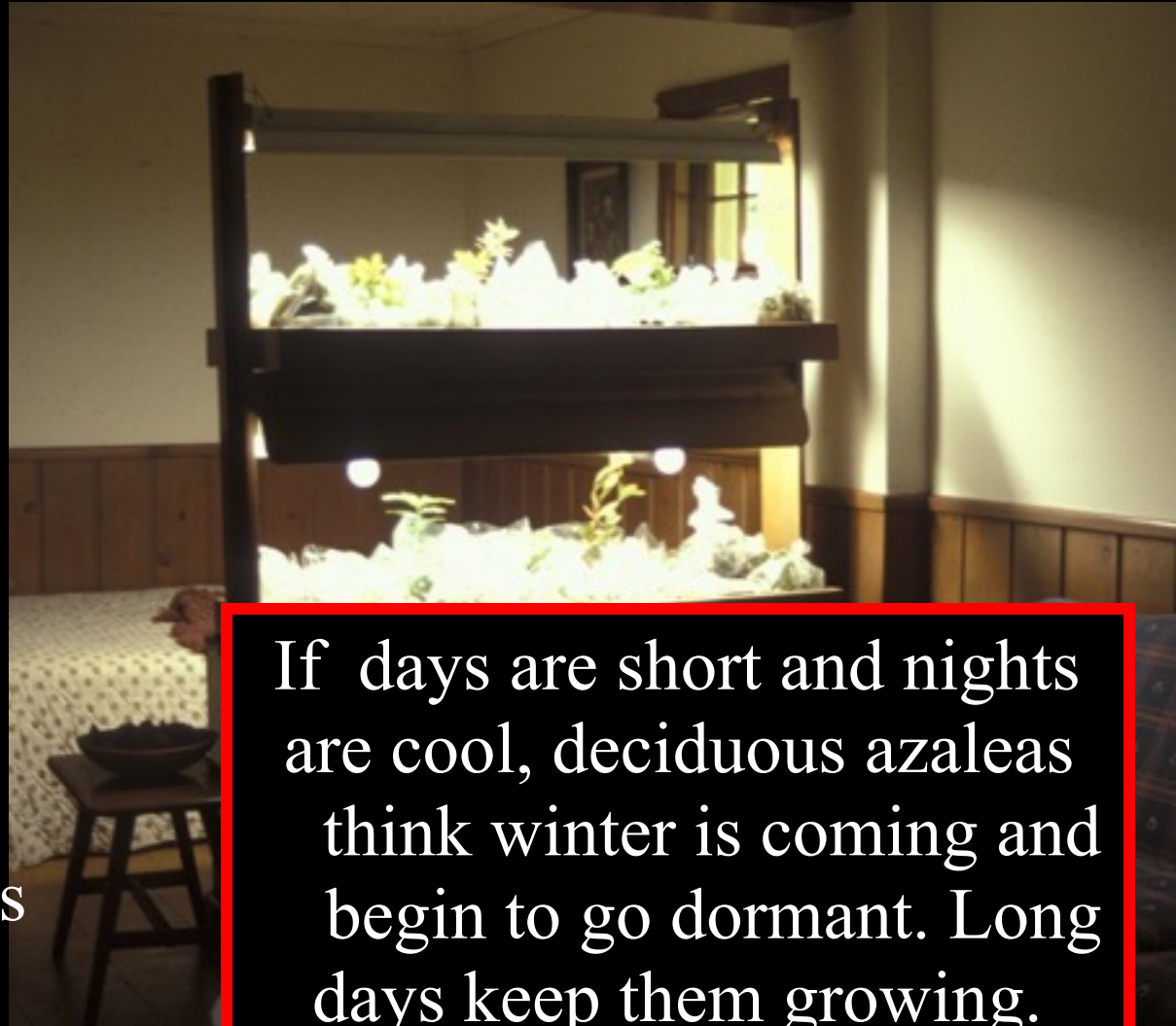
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4. Keep bags under fluorescent lights, long day conditions of 18 to 24 hours.



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If days are short and nights are cool, deciduous azaleas think winter is coming and begin to go dormant. Long days keep them growing.

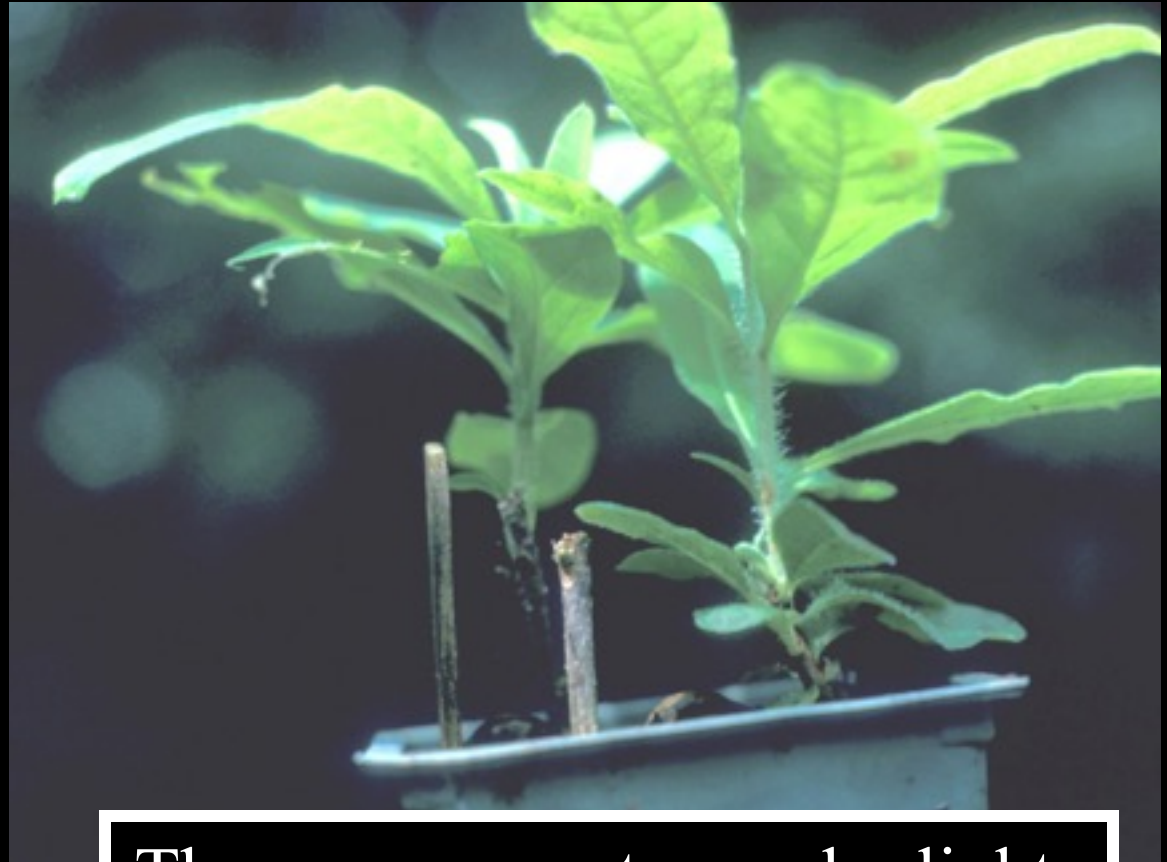
Breaking Dormancy

1. Keep cuttings under long-day conditions until they break into new growth.



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They can even stay under lights until the following spring.

Breaking Dormancy

1. Keep cuttings under long-day conditions until they break into new growth.
2. If cuttings don't break, they often fail to leaf out the next year and eventually perish.



Cuttings may have roots but with no leaves they starve.

Growing On

1. Transplant to larger pots in spring.



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4. Stop fertilizing in mid summer so plants go dormant by fall.





Blooming

1. Transplant to larger pots as needed.



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2. Grow to blooming size. (2 to 4 years)



Blooming

1. Transplant to larger pots as needed.
2. Grow to blooming size. (2 to 4 years)
3. Set plants out in the garden to enjoy!

Rhododendron Cuttings

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Two Rhododendron Types

Lepidotes

Elepidotes



Small Leaf Rhododendrons

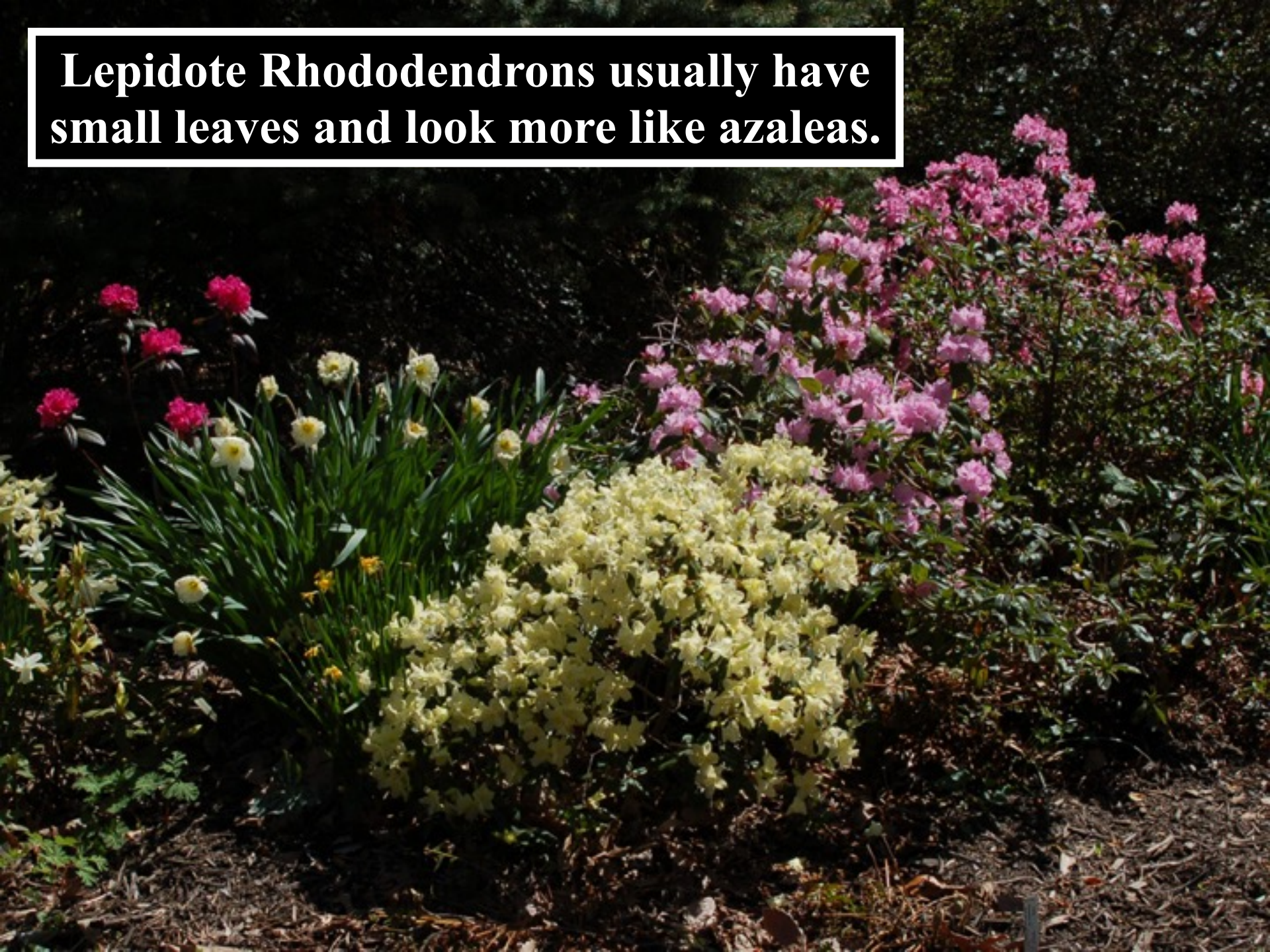
R. keiskei



Large Leaf Rhododendrons

'Blue Ensign'

Lepidote Rhododendrons usually have small leaves and look more like azaleas.



**Follow the same procedure
used to root azalea cuttings.**





Elepidote rhododendrons are the large leaf plants most people associate with the genus.



We handle them differently.

These Common Natives are Elepidotes

R. maximum



R. catawbiense



Elepidotes: *When to Take Cuttings*

1. Some varieties root better in July or August.



‘Wheatley’

Elepidotes: *When to Take Cuttings*

1. Some varieties root better in July or August.
2. Some varieties root better in late fall.



R. yakushimanum hybrids

Elepidotes: *When to Take Cuttings*

1. Some varieties root better in July or August.
2. Some varieties root better in late fall.
3. Some are hard to root at any time of year.



‘Caroline’

Elepidotes: *When to Take Cuttings*

1. Some varieties root better in July or August.
2. Some varieties root better in late fall.
3. Some are hard to root at any time of year.
4. Some are nearly impossible!



Try Grafting!

‘Jack Cowles’

Cutting Selection

1. Take cuttings in mid summer to late autumn.



Cutting Selection

1. Take cuttings in mid summer to late autumn.
2. Stems should be firm, not soft.
3. Smaller shoots without buds seem to root more easily.



Sterilization

Same as Before

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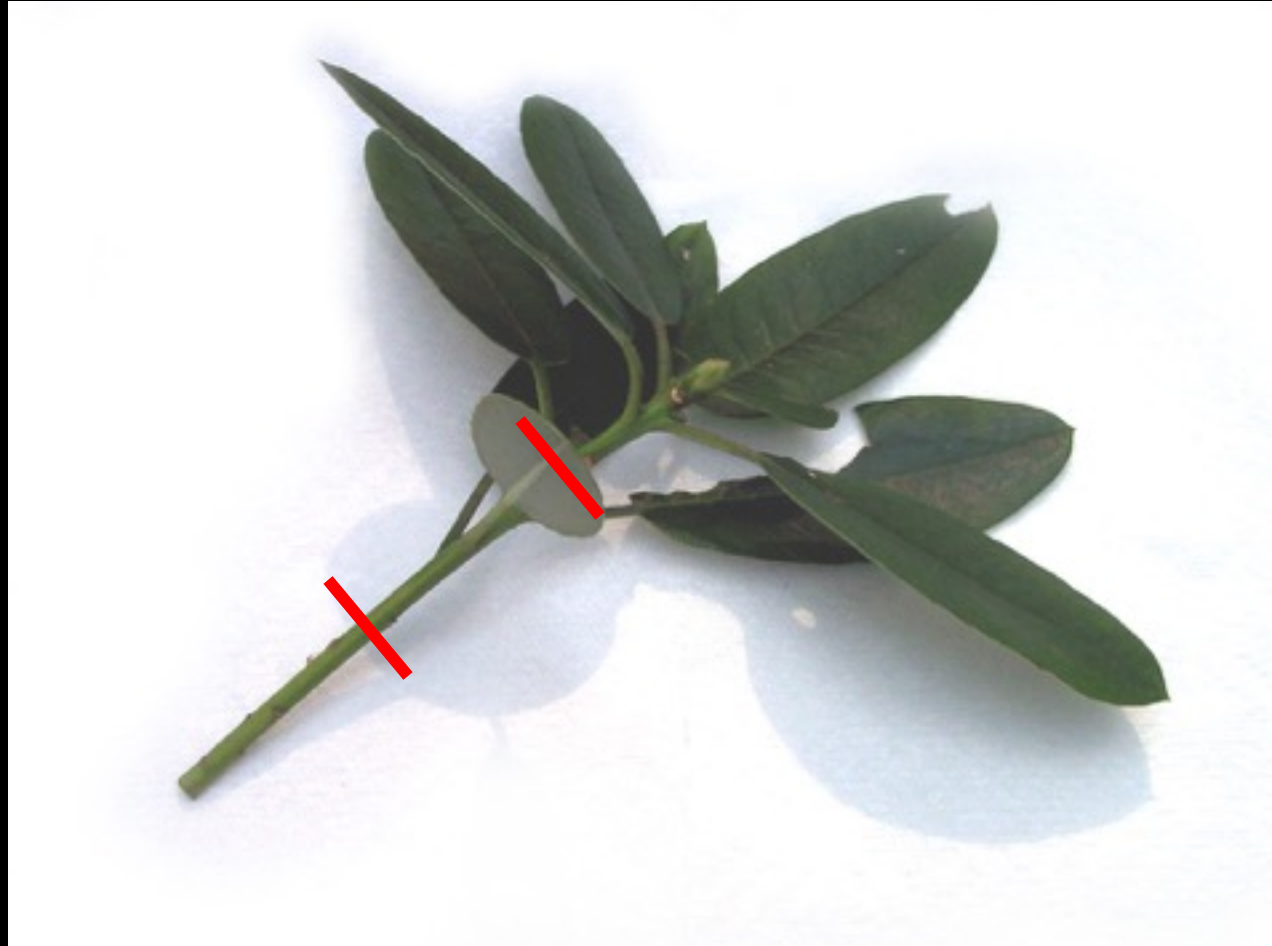
Alternative:

Spray with a fungicide and insecticide mix after sticking.



Cutting Preparation

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Cutting Preparation

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Cutting Preparation

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4. Wound the cutting base on each side.



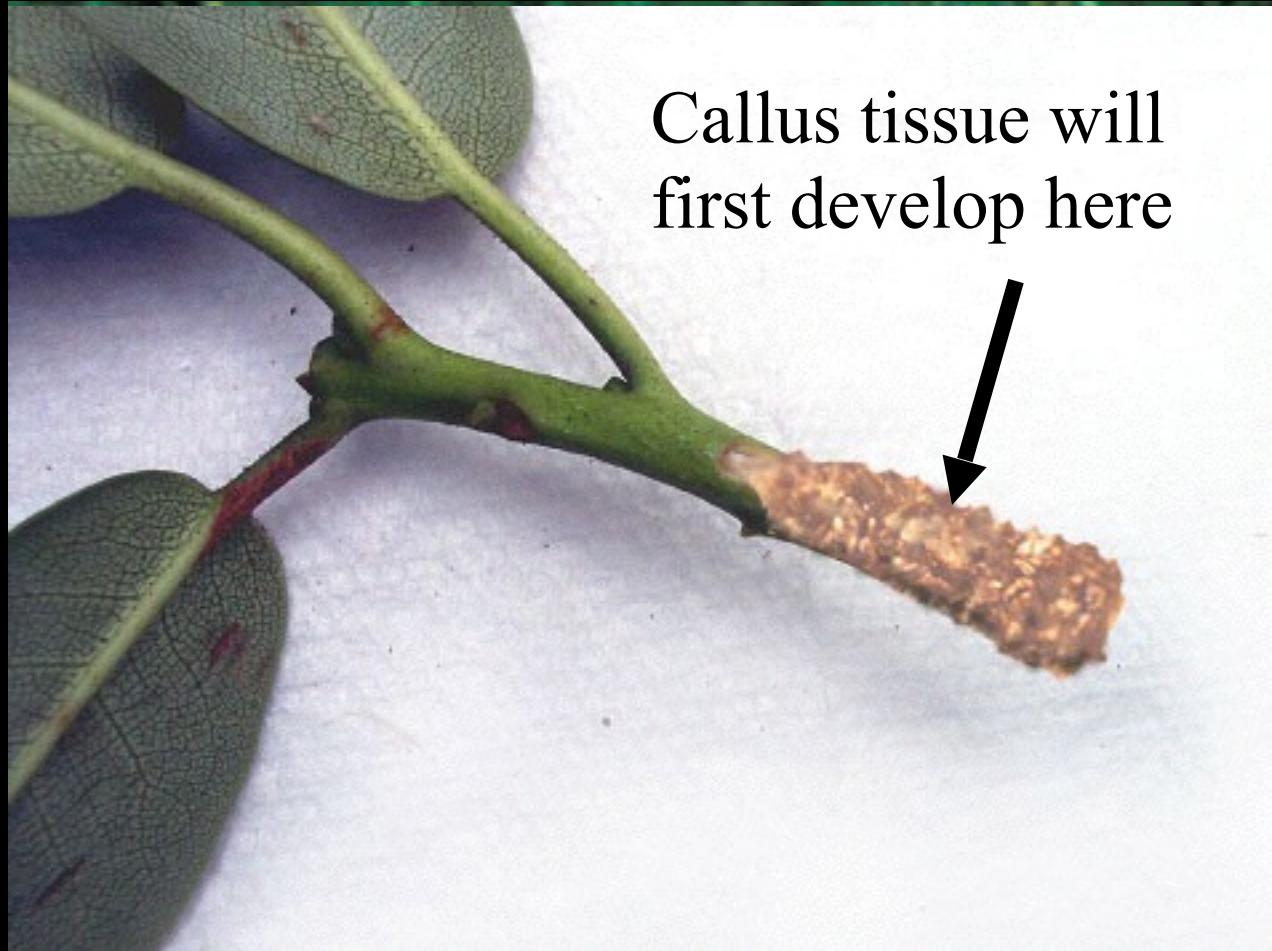
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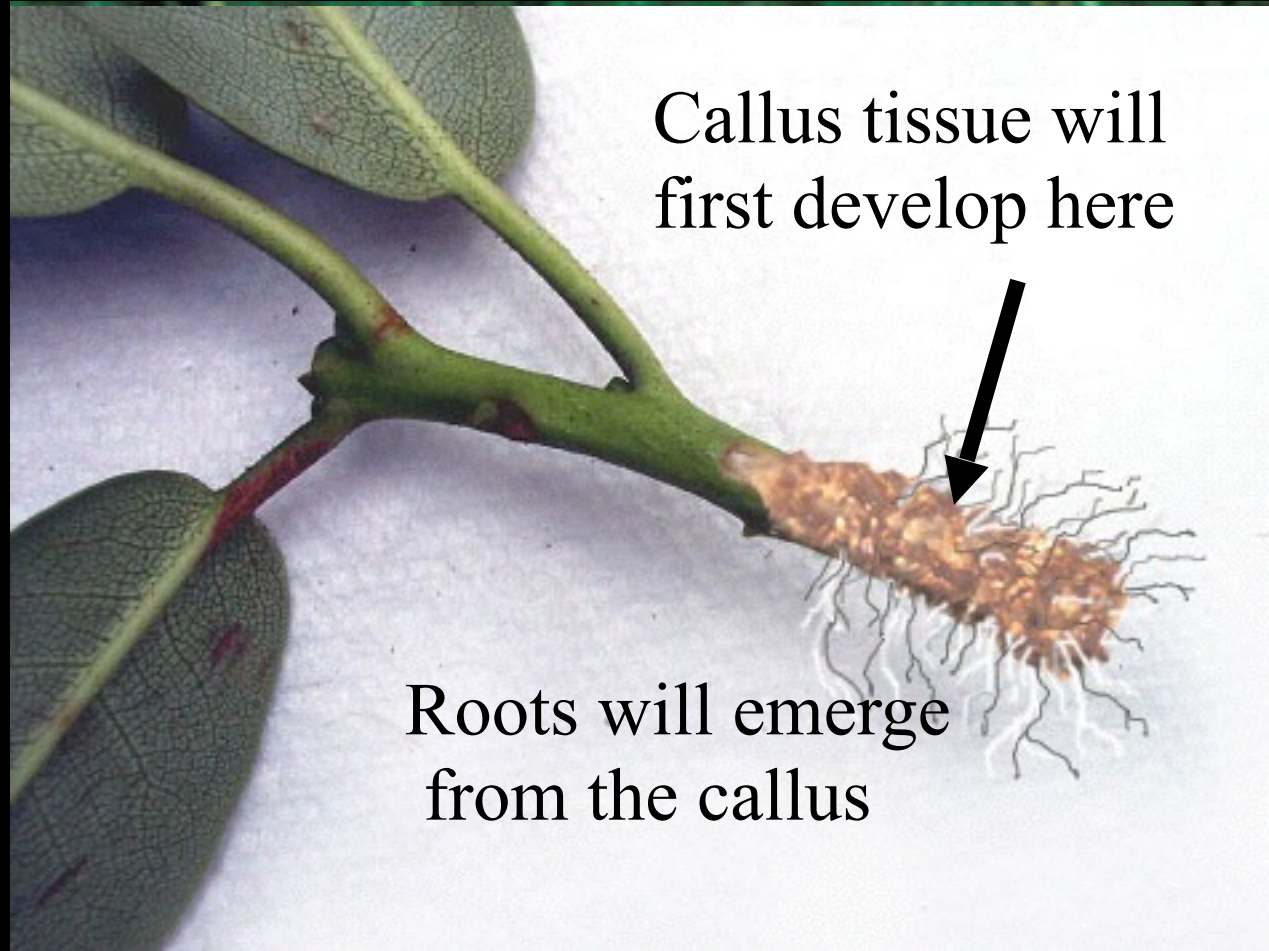
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Callus tissue will first develop here

Roots will emerge from the callus

Rooting Hormone

1. Stronger dilution:
Dip 'N Grow
5 to 1 ratio.
2. Dip cuttings
in rooting
hormone for
3 to 5 seconds.





Many propagators now recommend a purple gel called **CLONEX** for rhododendrons. It sticks to the cutting and protects the wound as it is forming roots.

Rooting Environment

1. Insert cuttings in rooting medium.



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1. Insert cuttings in rooting medium.
2. Enclose pots in plastic bags.



Rooting Environment

1. Insert cuttings in rooting medium.
2. Enclose pots in plastic bags.
3. Keep bags under fluorescent lights.
4. Bottom heat helps rooting.



Heating pads help but plants on the top layer will also get heat from the lights below.

Rooting Environment

1. Insert cuttings in rooting medium.
2. Enclose pots in plastic bags.
3. Keep bags under fluorescent lights.
4. Bottom heat helps rooting.
5. Cuttings root in 2 to 12 months.
6. Wait for strong root system to develop before transplanting.



Growing On

1. Repot and keep under lights until spring.



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2. Water, fertilize lightly, and keep in active growth.



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3. Grow outside over summer. With more sun, give higher fertilizer for strong growth.
4. Stop fertilizing by mid summer so plants will go dormant before winter.
5. Cluster pots together.
6. Mulch to protect roots.



Snow cover helps, too.

Other Types of Propagation

Methods Used on a Limited Basis

1. Leaf–Bud Cuttings
2. Layering
3. Dormant Cuttings



Leaf-Bud Cuttings

Make many plants from only one standard cutting!

We can make a miniature cutting using just one leaf and part of the stem if it has at least one viable growth bud.



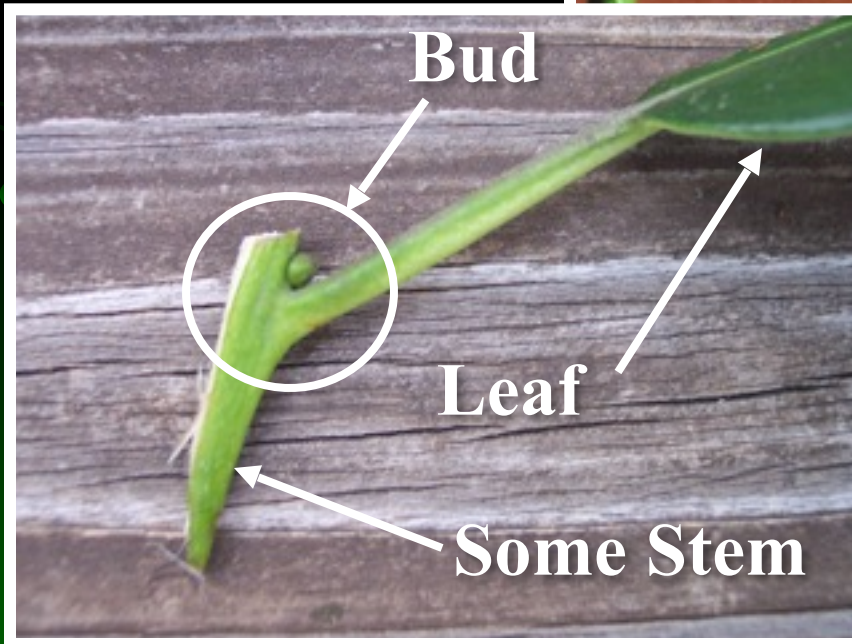
Leaf-Bud Cuttings

Cut each leaf off of the stem but make sure it has some wood and a growth bud.



Leaf-Bud Cuttings

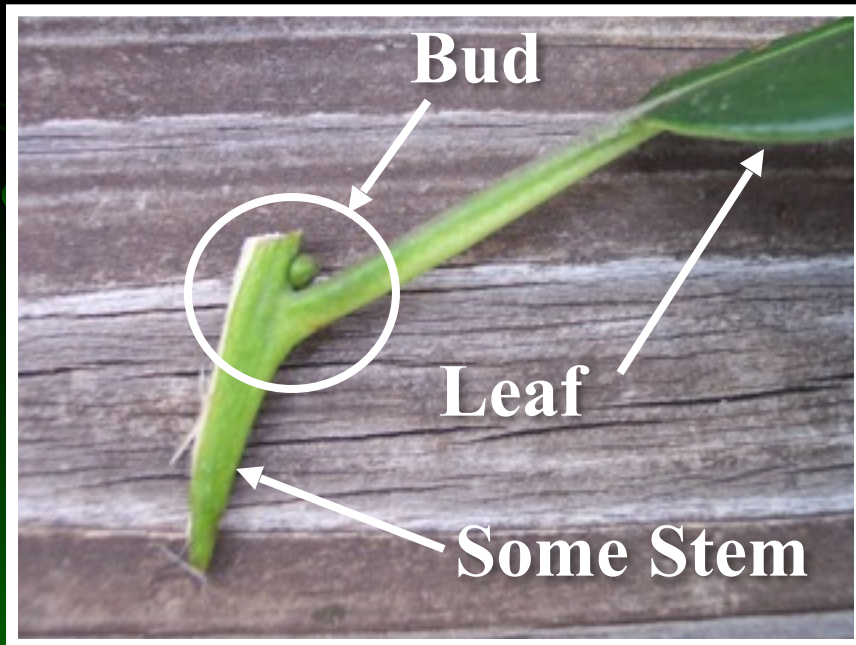
Cut each leaf off of the stem but make sure it has some wood and a growth bud.



Treat like a normal cutting.
Keep the bud above ground.

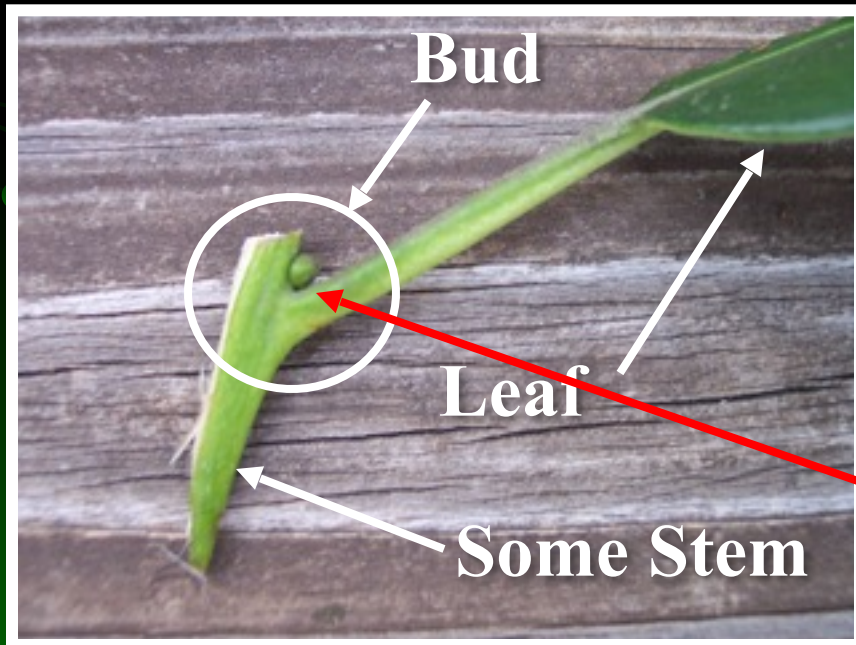
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Cut each leaf off of the stem but make sure it has some wood and a growth bud.



Leaf-Bud Cuttings

Cut each leaf off of the stem but make sure it has some wood and a growth bud.



Warning! If the bud gets damaged, the cutting may form roots but will have no way to send up a new shoot.

Layering

1. Find a plant with a branch near the ground.



Layering

1. Find a plant with a branch near the ground.
2. Place a pot with rooting medium under the branch.



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Apply rooting hormone

Layering

1. Find a plant with a branch near the ground.
2. Place a pot with rooting medium under the branch.
3. Place a rock on the branch to weigh it down.
4. Wait for at least a year or two to be sure the branch has its own roots.



Layering



**Cut off the branch
and let it establish
in a pot. You now
have second plant.**

Dormant Cuttings

Branches that get broken by winter storms can frequently be rooted.



Dormant Cuttings

Even if the stem is desiccated, it may be possible to rehydrate the tissue and then root cuttings.



Dormant Cuttings

Make a fresh cut at the base of the branch and insert the end in warm water.

Then cover the foliage with a plastic bag to increase humidity.

Move the branch to a warm room with bright light and see if the branch revives.



Dormant Cuttings

In a few days, if the foliage plumps up, those cuttings can be rooted in the normal way.



An Alternative to Do-it-yourself

Call in the Professionals!



Send Cuttings to Van Veen Nursery



Send Cuttings to Van Veen Nursery

They Can Root a Pencil.



Send Cuttings to Van Veen Nursery

Van Veen Nursery is a wholesale rhododendron nursery established in 1926 but they do extend courtesies to the American Rhododendron Society.

**Van Veen Nursery
4201 SE Franklin St.
Portland, OR 97206
(503) 777-1734**

Email:

vanveennursery@hotmail.com

Web:

www.vanveennursery.com

Send Cuttings to Van Veen Nursery



Mail them cuttings in the fall and they will ship back rooted liners the next year.

Pot them up and grow them on.



Propagate Those Plants!

**Making more
plants is easy!**



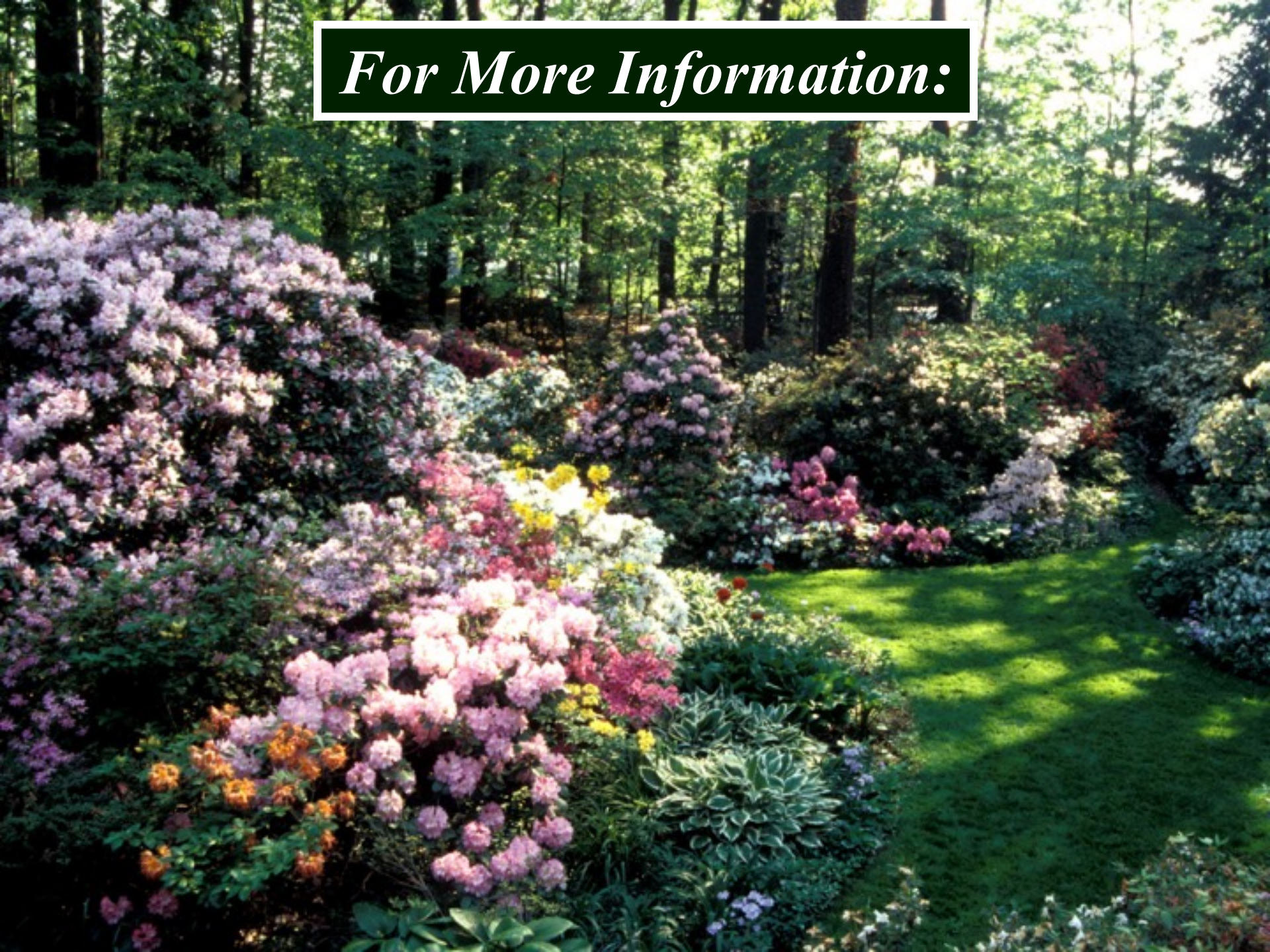
**Getting them planted
is another story!**



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For More Information:





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American Rhododendron Society

www.rhododendron.org

Azalea Society of America

www.azaleas.org

Potomac Valley Chapter ARS

www.arspvc.org

Donald W. Hyatt (author)

www.donaldhyatt.com

don@donaldhyatt.com



The End