

Mohawk College Horticultural Apprenticeship



Proud of My Pruning

By Sean James NPD & MG

Safety Gear!

- **Safety glasses**
- **Gloves**
- **Hard hat (when pruning trees)**
- **Steel toes (always!)**

The 'Don't's'...

- **DON'T open old wounds**
- **DON'T use tree paint**
- **DON'T top trees**
- **DON'T leave stubs**
- **DON'T remove more than $\frac{1}{4}$ of a tree at a time.**

Which way to hold your secateurs (snips)?

- You want the 'big' blade toward the big wood.
- Another way to put it, the cutting blade, (as opposed to the bed against which the cutting blade cuts) should be on the inside of the tree.



The 3 D's

What are the first three things we want to remove when pruning?

- **Dead**
- **Diseased**
- **Damaged**

And then we look for...

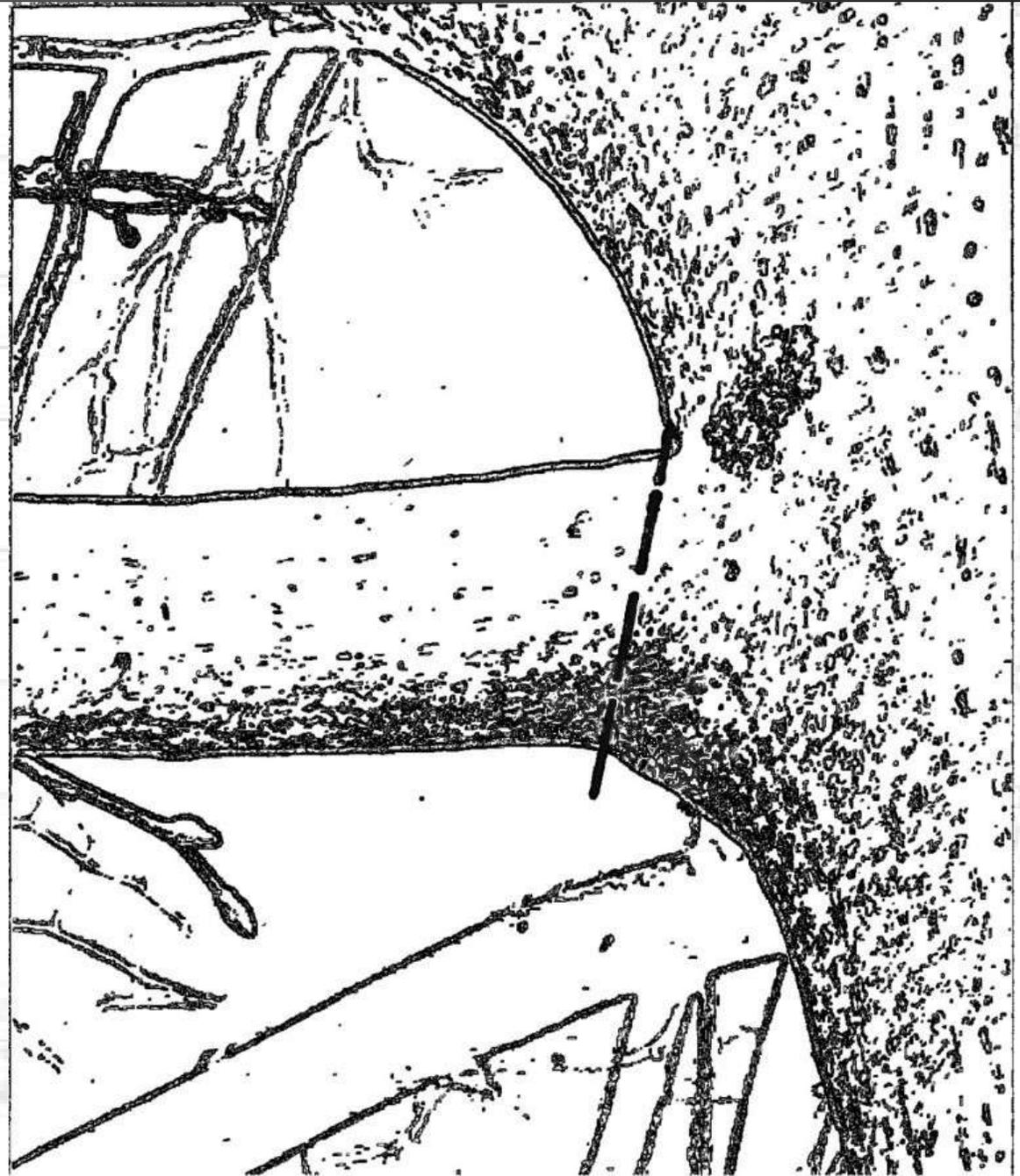
- **Interfering wood – wood that's rubbing up against other wood, opening wounds allowing infection to invade.**



**So how do you tell
when it's alive?
The simple scratch test
shows green if it's
alive.**

Growth Collar

This 'knuckle' is where cuts should be made. It's where all the hormones are to heal the wound.



= Weak Union

The terms 'double leader' or 'codominant leaders' means that there are two (or more) branches that go roughly straight up. The union between them will be weak and prone to breaking.





SEEDS WITH NATIVE SEEDS AND WEEDING
TO BE MULCHED 75 THK.
LANDSCAPE WEED RETARDANT FABRIC TO
ENTIRE PLANTING BED
FINISHED
TOPSOIL

**This is what happens.
Imagine if this fell on a
bedroom.**



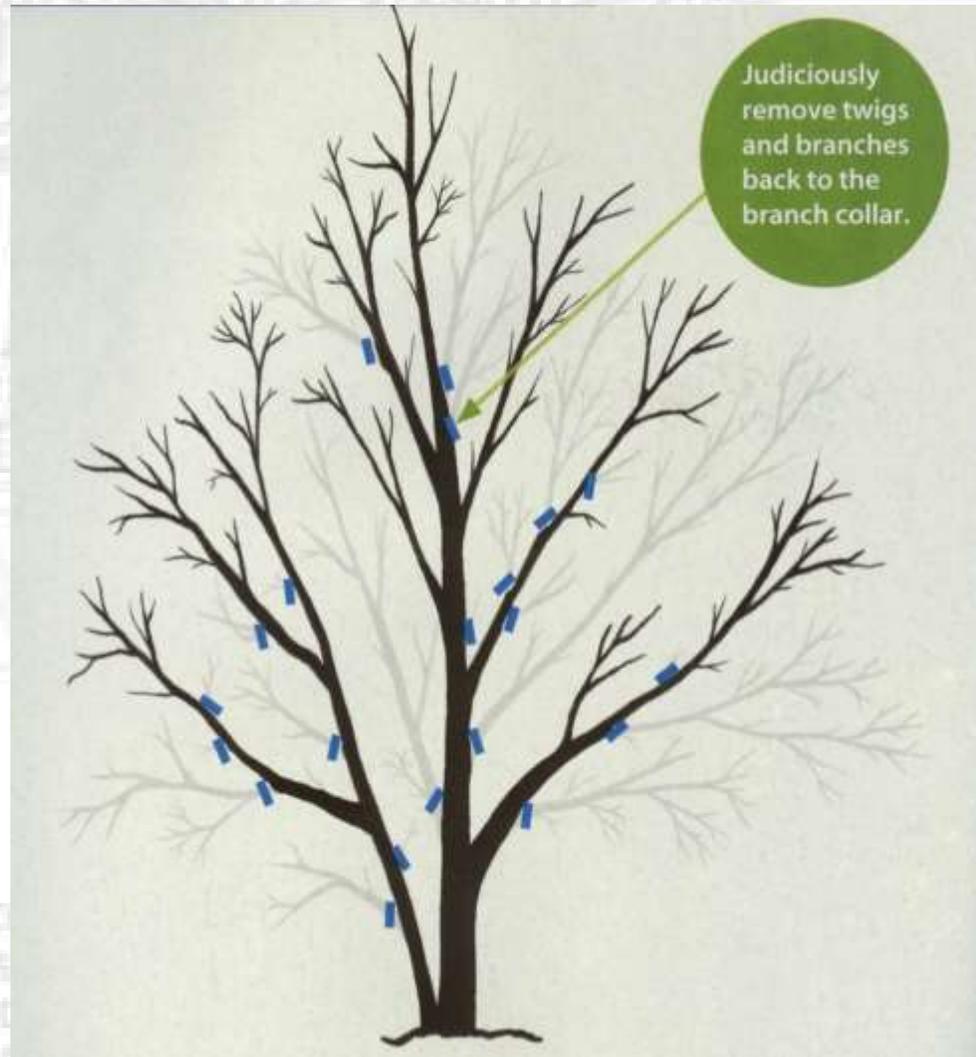
NOTES:
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PLANTING
TOPSOIL AND FINISH GRABBIT



Reduction Pruning

Thinning a tree and cutting back branches to a smaller 'side' branch allows one to down size a tree and reduce 'sail' (the amount the wind can push on the tree).

Pruning - Thinning



Enhance plant structure with **THINNING CUTS**

The thinning cut, which is defined as taking the branch off where it begins—at the branch collar (the swollen area where a branch joins the trunk of a tree)—is the coarsest and most radical cut in aesthetic pruning. The object of this cut is to reveal and enhance the architecture of the plant, while allowing light and air to penetrate its interior. Resist the temptation to start pruning at the front of the plant or at eye level. Go to the back and start at the base, where the plant's structure begins. This practice opens the plant up from the inside out, which leaves more room for mistakes. Any "oops" cuts that you happen to make are likely to go unnoticed from this perspective.



Pruning – Releadering

Keep plants to scale by **RELEADERING**

Releadering involves removing a coarse central leader and letting a side branch assume its role. This cut is made to keep plants in scale by controlling their height, a popular goal in the land of big trees and small yards. Prune the existing leader just above the side branch that will replace it. Try to do this when the point you wish to cut on the leader is relatively young (less than 3 inches in diameter) so that the cut will heal properly and grow to be less noticeable.



Pruning – Heading Cuts



Give plants a desired form with **HEADING CUTS**

The heading cut, which involves cutting the tips of branches back to a bud or leaf node, is the finest of all cuts. This technique allows you to shape a plant into a desired form and also helps you keep a plant in scale by controlling its perimeter and reducing its overall size. As you prune, keep in mind how much plant material you have already removed, especially if you have already thinned and releadered. Pruning away more than one-third of the plant in one growing season can stress and harm the plant. In the end, if your plant resembles a whirligig gone mad, take heart that this is a forgiving art form and that you can be sure that next year you will be able to mitigate any past egregious errors.



Pollarding – downsizing & for kindling & wattle



Always cut back to the growth collar, in the spring *before* the leaves emerge.





Pleaching

Like pollarding, but to a shape – used in formal landscape.



**Thanks to Jen
Mirosolin for this
photo of
pleached lindens
at the Hermitage
in St. Petersburg.**

Flat spot!



Girdling Roots: Symptoms

Girdling roots are those that wrap around the trunk and, as the root grows and the trunk grows, they strangle each other.



Crown Dieback





Girdling Roots: The Cure

Thanks to Dave Rustonberg for
these photos.

Carefully excavate to find
where the root is constricting
around the trunk. Use a
hatchet to cut away the root,
trying not to damage the
trunk.



Filbert Blight: Fatal

Bit by bit, learn your diseases and how and **WHEN** to treat them.



Cedar Apple Rust: freaky and ugly but takes years to kill a plant



**Some like
gummosis on
plums/cherries
cannot be
treated... but kill
very slowly.**



Also black knot, which *only* affects cherries

Step 1: Learn the life cycles. Then you can learn when to control them.

Prune black knot out in AUGUST when it won't/can't reinfect.



Fireblight

A bacterial disease affecting members of the ROSACEAE family, esp. **Pyrus, Malus, Cotoneaster**

Photos courtesy of University of Georgia



UGA5301096



UGA0590002b



Fireblight Control
(Yes, it CAN also be sprayed
with horticultural
antibiotics)

Nectria Canker

It's a symptom, not a disease.



This is a saprophytic fungus. It feeds only on dead or dying tissue. It tells us that maybe something is wrong (so maybe we need to look deeper) or that a branch is weak and should be pruned out.



**Diplodea Blight
on 2-needled
pines such as
black pine.**

**No cure, but will
live for years.**

**Quince Rust on
Serviceberry
(note the orange
powder)**



Verticillium Wilt is soil-borne, but very rare.



UGA2251099



Frost damage to vascular tissue is often mistaken for Verticillium Wilt.



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PLANTING
TOPSOIL AND FERTILIZER

Verticillium Wilt



When samples are being taken, take them from the edge of the infection.

Why?

Because the infection has died out where the plant is dead, and hasn't infected where the plant is healthy. You want to sample from the transition zone.



**The problem
with the
'remove 1/3 of
the eldest wood
every year'
rule...**





Conventional wisdom is to cut out 1/3 of the eldest growth, but how are you going to get ALL the way DOWN so the new growth comes from below the soil so it can root and rejuvenate?

Coppicing: Cutting a multistem deciduous shrub ALL the way to the ground to rejuvenate it. Aim for slightly below the ground.

When? Early spring!

Coppicing – clear the loose bits and pieces



**Coppicing – Used to rejuvenate over-grown or diseased shrubs.
Can be done in late March, every 3 – 5 years.**



Coppicing – Use loppers or a reciprocating saw to cut material RIGHT to the ground.



Coppicing – clean up as you go so you can see what you're doing.



Coppicing – final touch-ups



Some shrubs you can coppice...

- Weigela
- Spirea
- Elder
- Privet
- Beautybush
- Snowberry
- Hydrangea
- Honeysuckle
- Mock orange
- Viburnum
- Shrub roses
- Dogwood
- Willow
- Blue Mist Spirea
- Sparkleberry
- Buttonbush
- Serviceberry
- Barberry
- Chokeberry
- Flowering Quince
- Prickly Ash
- Clematis vines

Trees crowding the house or drive?

They need to come out, right?



**Slowly limb them up
OVER the landscape!**

**Big trees give
elegance and scale
and are worth saving!**

Topping: Don't do it!!!

'Topping' is when someone cuts a tree way back to a random point, leaving large open wounds that the tree cannot heal. Eventually this tree needed to be removed. ☹️





Topping leads to rotting and removal

THE BEDS
PARTICULAR SHRUB SPECIES
WITH SPECIFICATION SECTION



Candling 2-needled Pines

‘Candling’ is a technique to make dwarf evergreens like mugo pine more dwarf. Where you *would* have had 1 long point of growth, you’ll have 3 or 5 much shorter ones. Hover your mouse over the picture for a video demonstration.

Fun fact?

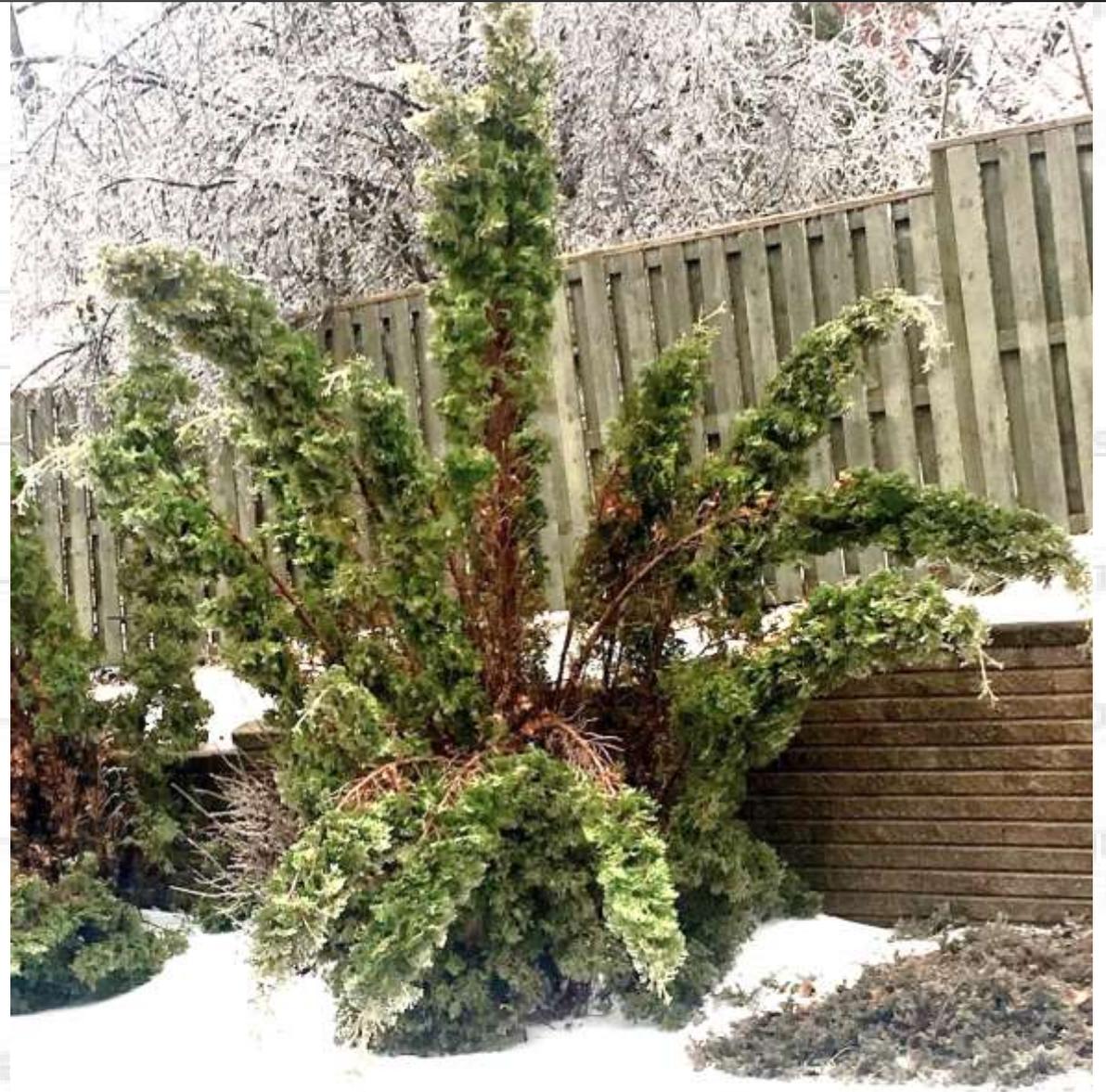
If you get sap on your hands, mix cooking oil and sugar to remove it!

Shear evergreens lightly before winter to avoid snow damage



**Shearing
helps
avoid
this...**

**Octopus
Syndrome**





Hedges

Hedges are a whole different type of pruning.

Hover your mouse over the picture for a video demonstration.

PLEASE AVOID USE OF INVASIVES

- They do terrible damage to the environment.
- There are ALWAYS better options! E.g.: Norway Maple vs. Ruby Lace Honey Locust)



June 12, 2019

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Ontario Landscape Tree Planting Guide

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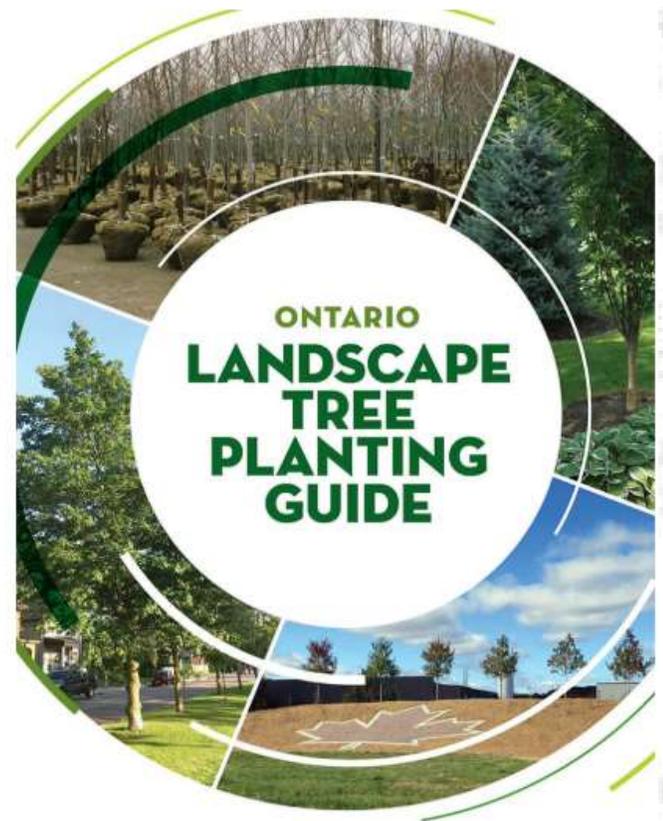
It's here!

Landscape Ontario and Vineland Research and Innovation Centre are proud to announce the release of the *Ontario Landscape Tree Planting Guide*

The *Guide* is intended for landscape architects, landscape designers, landscape contractors, urban forest managers, horticulturists, and other professionals who understand tree attributes and tree requirements, and who have a working knowledge of terms commonly used in the horticultural trades. The recommendations in this guide are intended to be specific to Ontario and are consistent with the *Canadian Landscape Standard*. All landscape trees should be nursery-grown and in compliance with the current edition of the *Canadian Nursery Stock Standard*.

The guide was reviewed by a committee established through Landscape Ontario. Prior to publication, it was submitted to horticulture professionals in Ontario for review and endorsement in order to develop industry consensus. The information contained in this *Guide* reflects best practices of the landscape horticulture industry. The *Guide* is subject to periodic review and may be updated at any time.

Comments and suggestions for improvement are welcome. All recommendations should be sent to Landscape Ontario.



Click the image to learn about the tree planting guide. Bigggggggg rabbit hole! 😊

RELATED ARTICLES:

Certification branding request for proposal
Canadian Nursery and Landscape Association (CNLA) is seeking proposals from qualified entities for branding and developing a strategy for promoting the new Canadian nursery and landscape industry certification program.

In Memoriam - Luigi Pignatelli
Luigi Pignatelli, one of the founders of Tree Valley Garden Centre in Stouffville, Ont., passed away peacefully on Sept. 8, 2019.

Rose Pruning

Hybrid Tea Roses (the classic!)

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PLANTING

TOPSOIL AND WEED RETARDANT

REMOVE ALL WEEDS FROM PLANTING BEDS TO BE MULCHED 75 THK.

LANDSCAPE WEED RETARDANT FABRIC TO COVER ENTIRE PLANTING BED

FINISHED GRADE / MOWN AREA

TO SOIL

REMOVE SHRUB FROM ALL CONTAINERS WITH BREAKING ROOT BALL

PLANTING SOIL MEDIUM / NATIVE TOPSOIL REFER TO SPECIFICATION

FIRMLY COMPACT ANY BACKFILLED SOIL TO ELIMINATE AIR POCKETS AND PREVENT SOIL SETTLEMENT

Roses

Just before winter, when danger of it warming up is past, cut them down to knee height first to stop the wind from rocking them.





Then, in the Spring...

REMOVE WEED RETARDANT FABRIC FROM ENTIRE PLANTING BED TO BE MULCHED 75 THK.

LANDSCAPE WEED RETARDANT FABRIC TO ENTIRE PLANTING BED

FINISHED GRADE / MOWN AREA

TOPSOIL

REMOVE SHRUB FROM ALL CONTAINERS WITH BREAKING ROOT BALL

REMOVE WEED RETARDANT FABRIC FROM BOTTOM OF PLANTING BED TO A DEPTH OF 100mm

PLANTING SOIL MEDIUM / NATIVE TOPSOIL REFER TO SPECIFICATION

FIRMLY COMPACT ANY BACKFILLED SOIL TO ELIMINATE AIR POCKETS AND PREVENT SOIL SETTLEMENT

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PLANTING

TOPSOIL AND WEED RETARDANT



Remove oldest growth. It'll have bark or stripes, as opposed to green or red smooth skin.

is to be removed.



Use your pruners as hands to avoid thorns.



Switch to loppers or a saw!





Take old wood back to the crown.



Definition: The 'crown' of the plant is where the above-ground stems meet the below-ground roots. Upward growth from here becomes branches. Downward growth becomes roots.

**There won't be much left when you're done.
Don't be scared!**



Cut to an out-facing bud



3 – 5 buds per stem



Some parameters...

- **Nothing smaller than a pencil**
- **Nothing with stripes**
- **Left with 3 – 5 stems per plant**



Rose Pruning

When?

After danger of hard frost is past!

Is this method for all roses?

Nope! Multiflora and grandiflora roses:

5 – 7 stems per plant

5 – 7 buds per stem

Shrub roses? Prune them as you would shrubs.

Some tips for the following video links:

- There are good things in each of the following videos!
- Video one:
- Pretty darn good, especially for our climate. Chicago is **VERY** similar to our climate. It could have a bit more detail.

Rose Pruning: none of these are perfect. See thoughts in following slides.

<https://www.youtube.com/watch?v=bHCe2aehNbU>

Tools? PPE? Video 1 is pretty good and the climate in Chicago is similar to here.
Here's a better one...but not perfect:

<https://www.youtube.com/watch?v=KRn2CyjxP0c>



Climbers:

<https://www.youtube.com/watch?v=gNiOW1kBNGo>

More thoughts:

- **Video two:**
- **Powdery Mildew and Black Spot are NOT viruses. They are fungal.**
- **This is Seattle. It's MUCH warmer in the winter there and so the roses can stay alive much higher above the ground.**
- **In Ontario, winter's are much more harsh and so the graft union (which the instructor refers to as a 'bud union' at 3:06min) must be below the ground to protect it from the cold. In warmer areas it can be above the ground. The graft union is where a hardier and more vigorous root stock (a rose from the roots down) is grafted to a prettier, but weaker bud stock (buds of a rose from the roots up) to transfer some of the root stock's vigour and hardiness to the prettier bud stock.**

More thoughts, still on video two:

- Perhaps make the cuts a bit closer to the bud; around 6mm.
- At roughly 6 minutes, the instructor talks about hormones. We're still learning about how hormones work. The latest wisdom states that the hormones that govern how plants grow UP come from the top bud, actually retarding the growth of the lower buds. He also mentions cutting the buds on an angle to shed water. Much debate, but it seems to equal out, a flat cut has less surface area for infection. An angled cut sheds water, keeping it more dry, reducing disease. Translation? Don't worry about it.

Still More Thoughts:

- **Video three:**
- **Instructor is a bit aggressive for Ontario's climate.**
- **Perhaps if he had tied the canes that stuck out towards the path back against the trellis, he would have had more bloom in the current year. If the cane has green skin, try and find a way to keep it. Remove it if it has lots of stripes on the skin or bark.**
- **Think about using a softer tie such as an organic material instead of a plastic one. Less damage to the canes!**

Still more thoughts on the 3rd video:

- **Be gentle removing the material that's cut away. Pulling too aggressively can damage the remaining canes.**
- **Sometimes, the instructor breaks the rule about how to hold the secateurs: keep the big blade toward the big wood. This allows more precision in your cuts.**

Many pests affect roses, such as Rose Chafer Beetle





Rose Sawfly – look for damage & prune it out whenever you see it!

Look for scaring to find egg laying sites. The larva LOOKS like a caterpillar but is actually a wasp!



Rose Sawfly uses it's ovipositor (a tool on it's butt that's for laying/positioning eggs. The word 'ovipositor' means 'egg placer' or 'egg positioner'). In this case, it's like a little saw that allows the insect to cut into the new soft skin of the plant and place the egg underneath the skin. Insects have an incredible array of ovipositors!

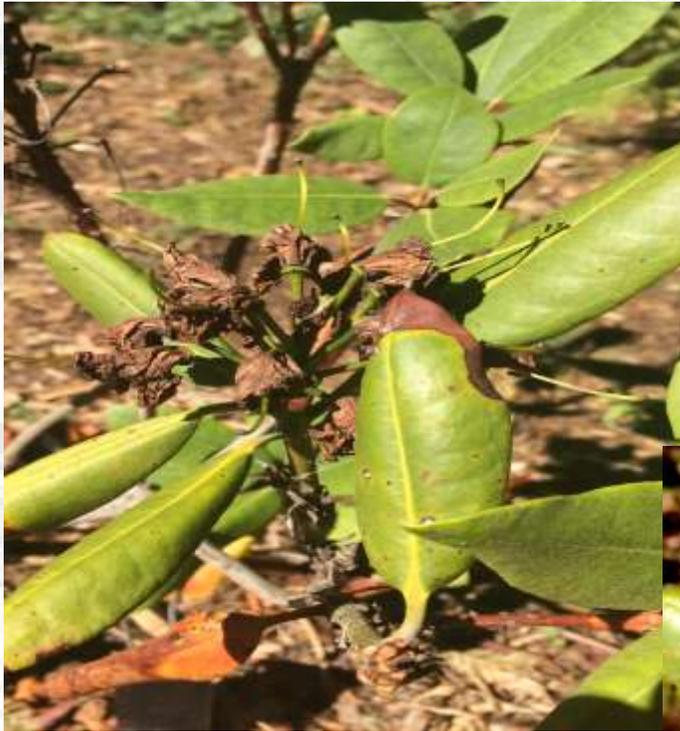
Dead-heading Rhododendrons

Dead-heading prevents seed formation, allowing more energy for next years flower show.

Hover your mouse over the picture for a video demonstration.



Deadheading Rhodos & Azaleas



Also note the leaf rolling. This is a sign of what?

Drying out, or ‘desiccation’! By rolling the leaves the plant can protect the ‘stomata’ through which it breaths, reducing ‘evapotranspiration’ (plant sweat).



Pruning

- Pruning is as much art as it is skill and science. We can do terrible damage when we prune poorly. We can do terrible things...**QUICKLY** when we use power tools.
- Some prune to harshly. (Sean's looking at YOU, men.)
- If you're having trouble pruning harshly, remember 3 little words:
 - Pruning promotes vigour!
- Take a moment to strategize before starting. Maybe you can find a few big branches to remove, solving a lot of problems before you fiddle with the little bits.
- Think **FIVE** years down the line when pruning. What is this going to do *later?*

And just because you made it through the whole thing... a pruning reward!

- <https://www.youtube.com/watch?v=KJnnnDSK378>



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