

A close-up photograph of yellow forsythia flowers on a branch, with a white scalloped-edged shape in the center containing text.

LOOKING AHEAD FEBRUARY

**WSU COWLITZ COUNTY MASTER
GARDENER PLANT AND INSECT CLINIC
FOR GARDEN QUESTIONS
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WHAT'S IN THIS ISSUE

- [OSU: Garden Tasks for February](#)
- [Pruning shrubs and trees](#)
- [Pruning fruit trees/bushes: Apple, Pear, Peach, and Cherry trees, Blueberries, Raspberries in February](#)
- [Problems to manage in February](#)—lots of new ones to scout!
- [IPM: Smart way to manage plant problems!](#)
- [Least toxic pesticides](#)
- [Resource Guide for February topics](#)
- [Diagnostic Resources](#)

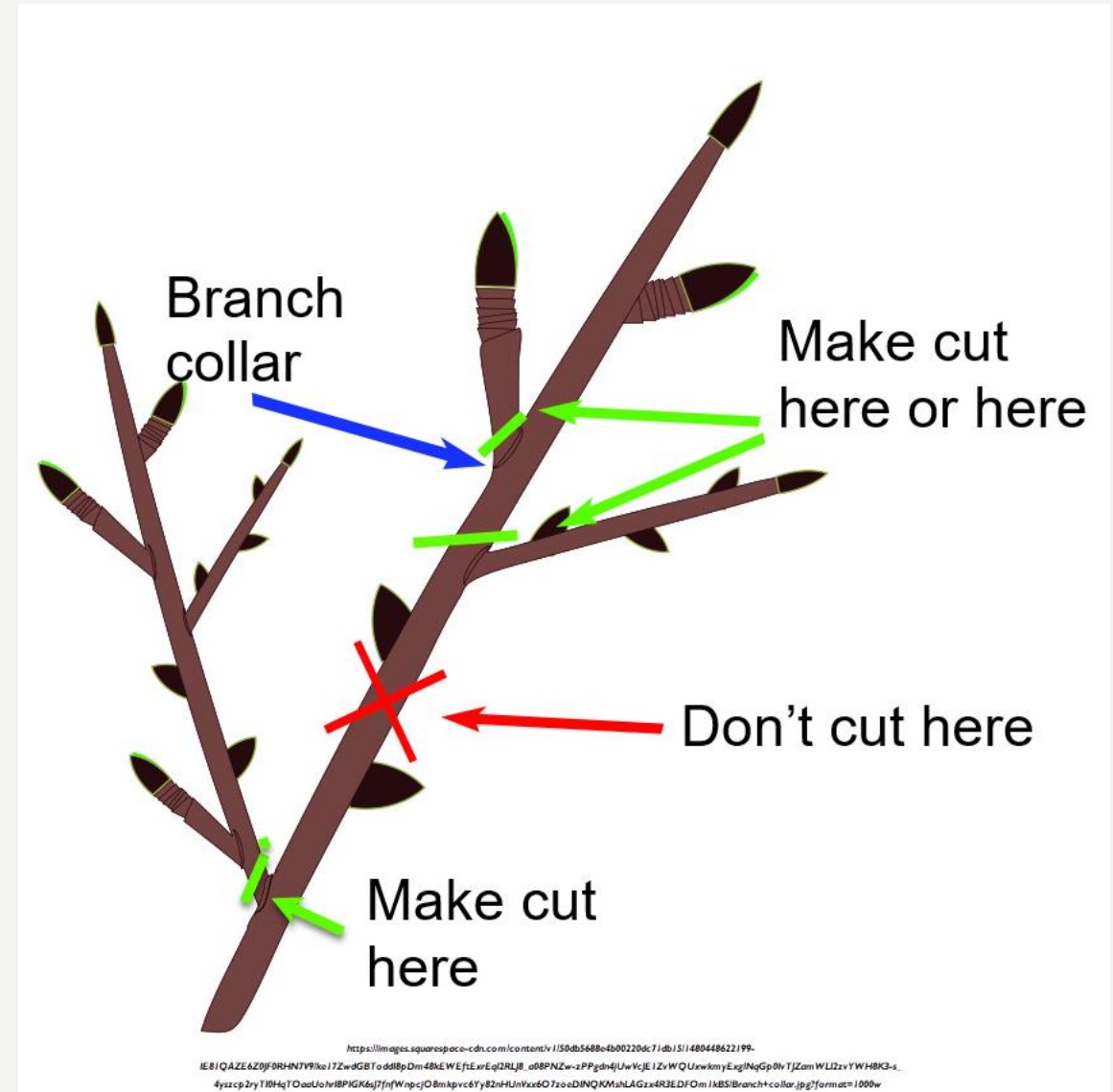
PRUNING SHRUBS AND TREES

- Continue to prune deciduous landscape trees and shrubs (plants that lose their leaves and go dormant in winter). Here's a great guide of what plants you can prune and when:
https://portlandnursery.com/docs/trees/Pruning_Calendar.pdf
- Spring-blooming shrubs like forsythia, mock orange, flowering quince, deutzia, star magnolia, and lilac, should be left alone until flowering is over.



BASIC PRUNING CUTS

- There are more comprehensive instructions for pruning in this article—including how-to videos: <https://extension.umd.edu/hgic/topics/pruning-shrubs-and-hedges>
- Here are the basic cuts you can make. Pruning correctly makes for a healthier plant!



SHRUBS TO PRUNE THIS MONTH

Maple (Acer)	Trumpet (Campsis)	Cotoneaster
Kiwi (Actinidia)	Hornbeam (Carpinus-)	Euonymus
Serviceberry (Amelanchier)	Bittersweet (Celastrus)	Malus-Crabapple
Barberry (Berberis)	Wintersweet (Chimonanthus)	Elderberry (Sambucus)
Birch (Betula)-	Dogwood (Cornus-)	Stauntonia
Katsura	Filbert (Corylus)	Wisteria
Crape myrtle	Smoke Tree	Vitex
Rose of Sharon	Hardy fuchsia (Fuchsia magellanica)	Winterberry (Ilex verticillata)
Hardy Fuchsia (Fuchsia magellanica)	Cape fuchsia (Phygelius)	Russian sage (Perovskia)
Bluebeard (Caryopteris).		

SHRUBS TO PRUNE THIS MONTH

The following shrubs should be pruned very lightly

Rhododendron

Azalea

Rockrose (Cistus)

California lilac (Ceonothus)

The following only need to have their old flowers cut back

Pieris

Rosemary

Daphne odora and other
winter daphnes

ABOUT HYDRANGEAS

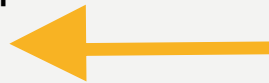
- Most hydrangeas bloom on last year's wood, so they should be pruned just after blooming in summer. The later and the more harshly you prune, the fewer flower blooms can be expected the next season.
- **Exceptions:** You can prune *Hydrangea paniculata* and *Hydrangea arborescens* (*Wild hydrangea* or *Sevenbark*) later this month because they bloom on



H. paniculata

<https://www.amazon.com/Hydrangea-paniculata-Vanilla-Strawberry-Macrophylla/dp/B01G5BJ9QS>

upright, sharply-pointed, conical, terminal flower panicles



***Hydrangea arborescens* (Wild hydrangea or Sevenbark)**

https://www.wildflower.org/image_archive/640x480/SCB/SCB_IMG0269.JPG

ORNAMENTAL GRASSES

- You can **prune** them now to 2 to 3 inches before their new growth begins to emerge in March.



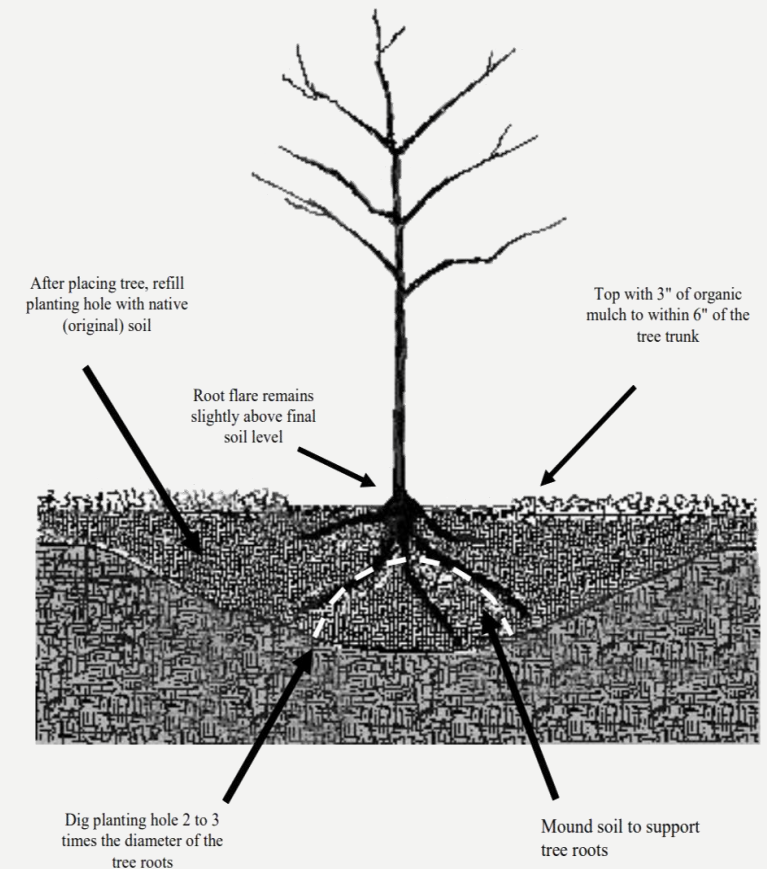
HOW ABOUT EVERGREENS?

- Conifer evergreens require very little pruning.
 - However dead, diseased, or damaged branches can be removed any time.
 - Rule of thumb: never remove more than one-third of a plant at any time. Removing too much growth all at once is very stressful to a plant and it will take them a long time to recover.
- Spruces, firs and Douglas firs can be pruned now, before new growth begins.
- DO NOT prune pines, arborvitae, junipers, yews or hemlocks now.

WHAT TO DO—AND WHAT NOT TO DO THIS MONTH

- Transplant small shrubs and trees during February. It's still a great time to plant new bare-root fruit trees—Here's how:
<https://s3.wp.wsu.edu/uploads/sites/2076/2017/06/CI08-Planting-Bare-Root-Trees-15a.pdf> (See image to the right)
- Protect the south facing trunks of young trees with white latex paint diluted with an equal amount of water. This will help to protect against bark splitting due to fluctuating extremes of temperature from daytime hot sun on trunk to freezing temps at night.

PLANTING A BARE ROOT TREE



BASIC PLANT/TREE CARE

- Now is the time to look for *disease and pest resistant fruit tree varieties*. Check with local nurseries.
- Get a [SOIL TEST](#) so you'll know what soil care your plants will need. It costs \$24, but it will save you a lot of money in the long run.
- [Proper pruning](#) will help with better air circulation, better quality fruit, better pesticide coverage
- **SANITATION**—this is a biggie! Remove and burn diseased branches and leaves. Remove and destroy all old fruit on the ground. Don't use diseased leaves as mulch

BASIC PLANT/TREE CARE

- *Pest monitoring is crucial!!* Learn the pests that will likely attack your trees, and when you should expect them. Get out there and inspect your trees. Stay tuned to our “Looking Ahead” for upcoming problems to watch for.
- Use the *least toxic choices* for pesticides. Insecticidal soaps and oils are effective against a lot of fruit tree pests. BT (*Bacillus thuringiensis*) is another organic option that controls many caterpillars.
- Something frequently overlooked—*using as few pesticides as possible, or spot treating, protects beneficial insects that keep the pests at bay!*

GUIDE TO FEBRUARY FRUIT TREE PRUNING

PRUNING—JANUARY-FEBRUARY— WHILE DORMANT—NO NEW GROWTH

- Apples and pears—Here's how: [Pruning Apple and Pear Trees video](#)
- Plums—Here's how: [How to Prune Plums video](#)
- Cherry—Wait until August to prune to help avoid bacterial infection.
- Sweet Cherries don't do well in western WA (rain cracking, fungal rots, bacterial canker).
 - See [EB 0937 Fruit Handbook for Western Washington: Varieties & Culture](#)

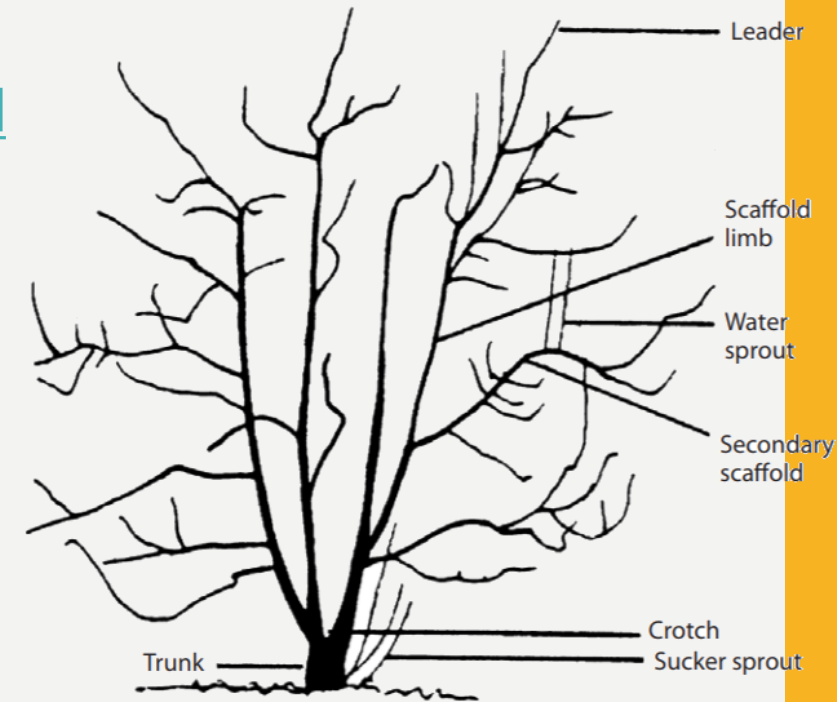
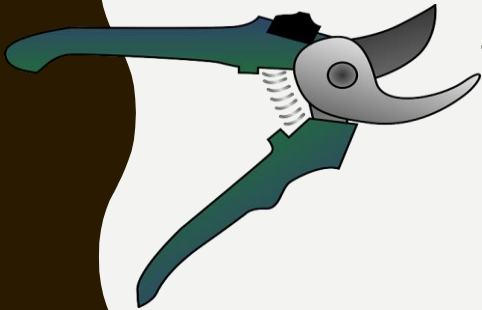


Figure 1. Common terms used in pruning and training fruit trees.

PRUNING—JANUARY-FEBRUARY— WHILE DORMANT—NO NEW GROWTH

- Peach—Here's how: [How to Prune a Mature Peach Tree](#) (includes link to pruning younger peach trees)
- Raspberries (summer bearing- most common)—while plants are dormant, remove all weak, broken, diseased, and insect-damaged canes, leaving healthy primocanes on the hill
How to: [Video](#)
- Blueberries—Prune after 3rd year after planting. Here's how: [Pruning Blueberries video](#)
- [Grapes](#)—you can prune them now or in early March. Attend our **FREE Grape Care and Pruning Workshop** on Feb. 15! See next slide



FREE WORKSHOP!



Get a head start on a healthy season of grape growing in this FREE workshop. On February 15 at 10:00 am, Master Gardener Art Fuller will discuss how to grow healthy grape vines and grape vine starts, including growing requirements, pest and disease monitoring, and pruning styles. You will also have the opportunity for hands-on pruning in our Demonstration Garden at the Fairgrounds, do bring gloves and pruners. Participants will receive free starts of grape varieties Canadice and Venus. The class will be held at the Cowlitz Co. Fairgrounds starting in the Floral building. After a short discussion, we will move to the Master Gardener Demonstration Garden to show pruning techniques. The Cowlitz Co. Training Center, 1942 First Ave., Longview, WA is on the dike in the Hall of Justice parking lot. For more information contact: Carlee Dowell at 577-3014 Ext 0 or DowellC@co.cowlitz.wa.us

**PROBLEMS TO
MANAGE IN
FEBRUARY**

WINTER CUTWORMS TURF DAMAGE



IPM for Turfgrass
<https://vimeo.com/113410441>
IMP for Turfgrass, WSU CAHNRS Video Production
<https://vimeo.com/113410441>

ARMYWORM TURF DAMAGE



pupae

WINTER CUTWORMS

- Large caterpillars –from 1/8 inch to 2 inches, depending on development
- Eat grass roots
- Might large numbers of birds on damaged lawn—eating larvae
- Nocturnal—go out at night and dig under edge of area where healthy grass meets dead grass
- If tiny “worms” are present, you can treat with BT products (E.g., DiPel, Bonide Thuricide BT Conc)—doesn’t work on larger larvae (treatment same for armyworms)



IPM for Turfgrass
<https://vimeo.com/113410441>
IMP for Turfgrass, WSU CAHNRS Video
Production <https://vimeo.com/113410441>

WINTER CUTWORMS

- If there are more than 12 caterpillars in a 12 x 12 inch section, you should treat for it
- Apply granular spinosad (Success or Entrust) according to label (treatment same for armyworms)
- Keep your lawn fertilized, irrigated, and cut during summer.
- Control weeds--cutworms migrate from weedy areas even across pavement to your lawn

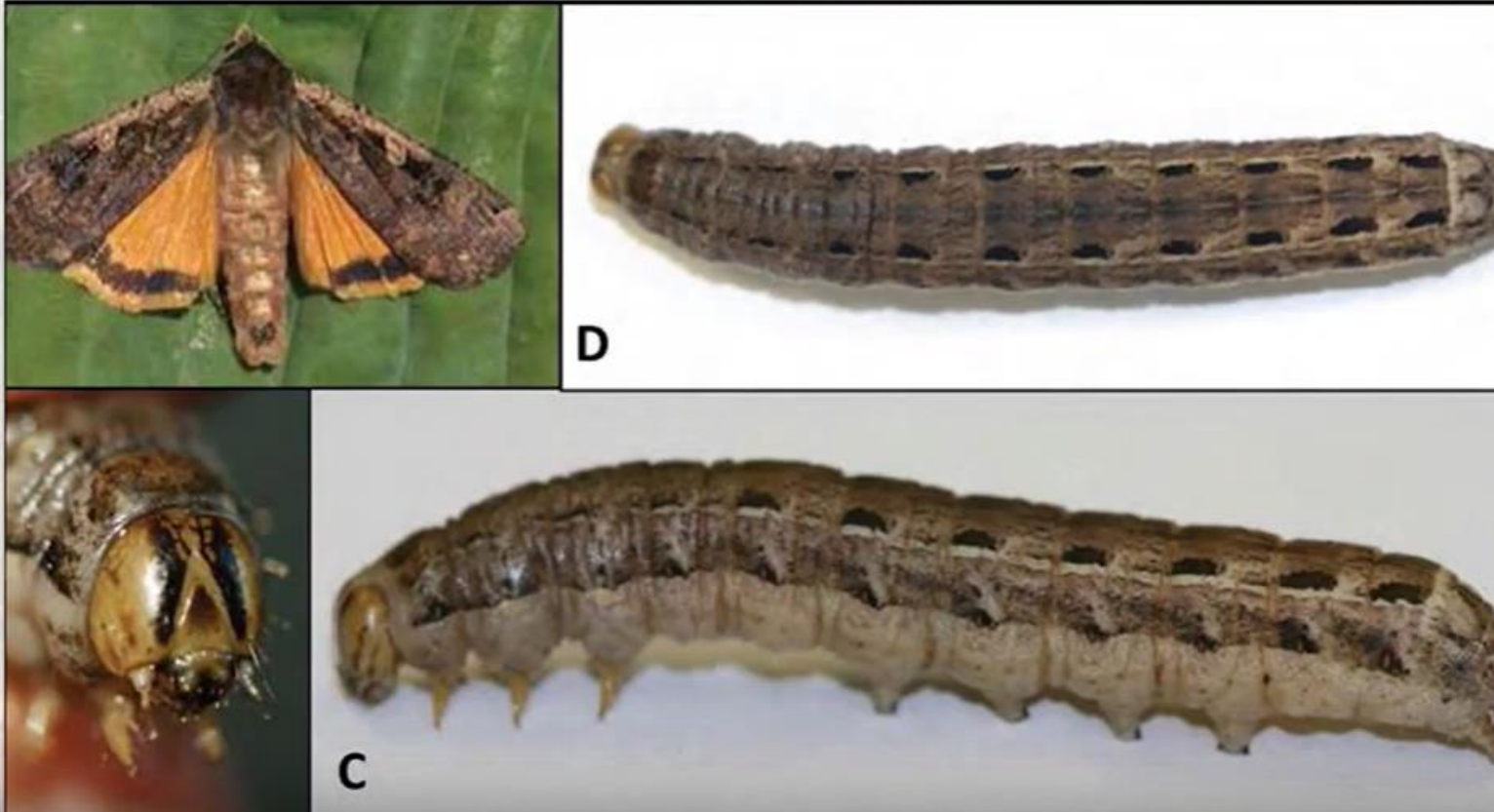


IPM for Turfgrass
<https://vimeo.com/13410441>
IPM for Turfgrass, WSU CAHNRS Video Production
<https://vimeo.com/13410441>



WINTER CUTWORMS

Noctua pronuba (Large yellow underwing moth)



- More info:
- PHW Handbooks
- <https://pnwhandbook.org/insect/legume-grass-field-seed/grass-seed/grass-seed-winter-cutworm>
- If you'd like to learn about other turf pests, watch this video from OSU: IPM for Turfgrass
- <https://vimeo.com/113410441>

BOTH ARMY WORMS AND CUTWORMS

- They are equal opportunity root, seedling and young plant destroyers in your garden
- Hand pick caterpillars
- Make collars around stem
- NO CHEMICALS recommended



Read about cutworms in the garden here:

<http://hortsense.cahnrs.wsu.edu/Public/FactsheetWebPrint.aspx?ProblemId=6035>

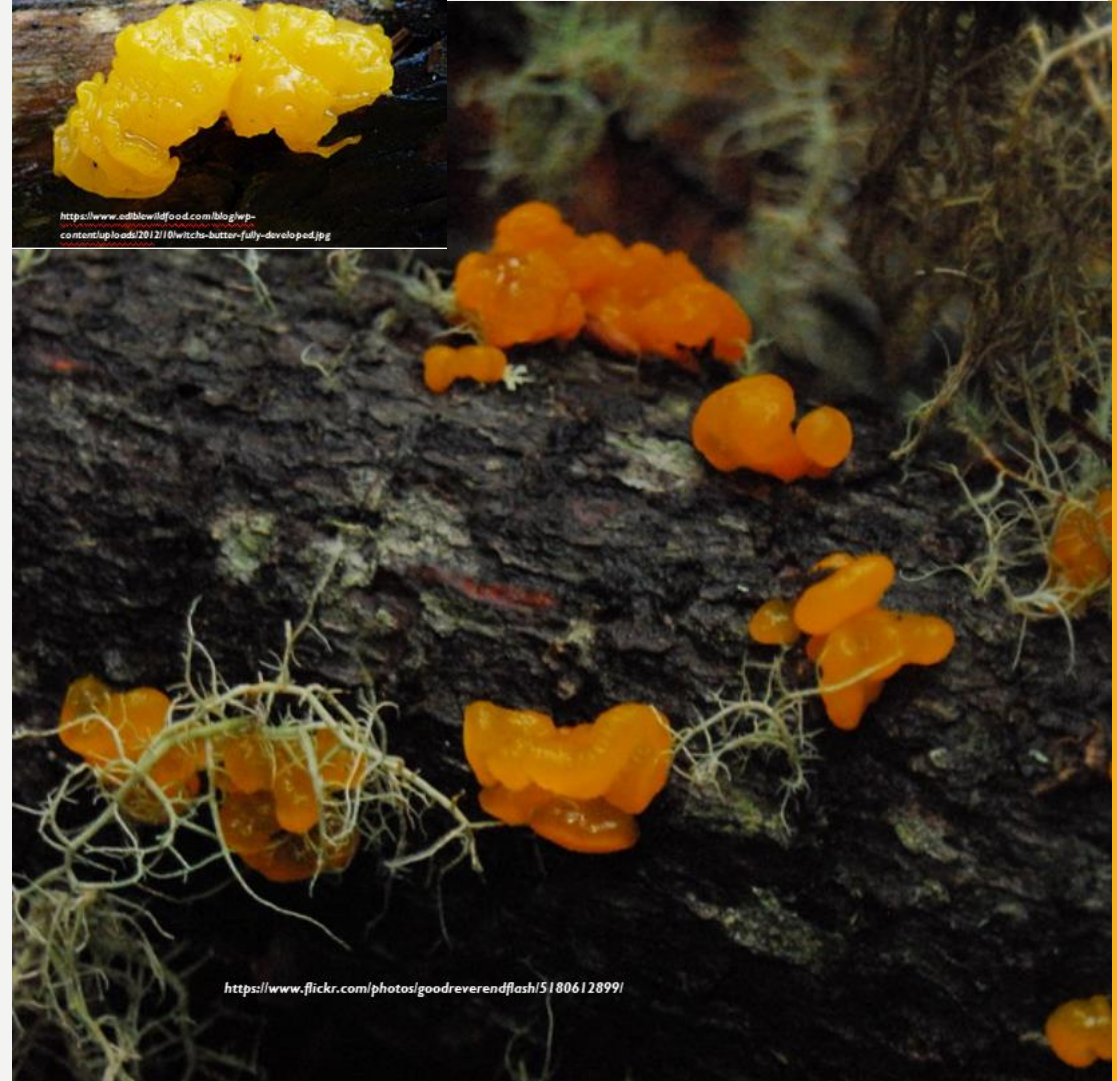
IS LICHEN A PROBLEM ON MY TREES?

- Be in the know! It's pronounced "LIKE enn" We hear folks incorrectly say "Litch-in".
- The short answer is NO. Lichen growth doesn't hurt anything. It's actually an indicator of health, fresh air!
- If you really hate it, you can strip it from trees, and spray it with a fungicide.
- You can also prune the tree to open it up to sunlight so the lichen won't grow as well.



WITCH'S BUTTER FUNGUS (*Tremela* sp.)

- Every late winter/spring we get questions about this odd gelatinous growth seen on cut logs and the bark of some trees.
- Although some have claimed the fungus to be inedible or merely "non-poisonous," most other sources agree that it is edible but flavorless.
- Read more about it here:
<https://www.fws.gov/nwrs/threecolumn.aspx?id=2147585017>



BEGIN CONTROL OF AZALEA LACE BUG

- If your azaleas suffered from Azalea Lace Bug last year, you may want to spray the along the mid-rib of undersides of the leaves (where the eggs have been laid) with **dormant oil**.
- This will suffocate the eggs.
- We'll talk about more control options later in the season.

<http://hortsense.cahnrs.wsu.edu/Search/MainMenuWithFactSheet.aspx?CategoryId=1&SubCatId=4&PlantDefId=3&ProblemId=782>



Top surface of the leaf with lace bug damage



underside of leafe with fecal pellets
(Courtesy Robin Rosetta/Oregon State University)

CHECK OUT YOUR AZALEAS

- Do your azalea or Rhododendron leaves look like this? If so, it's from damage caused by the Azalea Lace Bug last year. You will have a problem this year—the eggs overwinter along the mid-rib on the underside of the leaf—go out and look for the now. They hatch mid-April to mid-May—This is the time to attach them in their immature stage
- First step is to wash them off with a very strong spray of water.
- For complete information on how to manage Azalea Lace Bugs, see WSU Hortsense: <http://hortsense.cahnrs.wsu.edu/Search/MainMenuWithFactSheet.aspx?CategoryId=1&SubCatId=4&PlantDefId=3&ProblemId=782>

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Rhododendron lace bug
Stephanitis rhododendri Horvath
Egg(s) on host

© *Ken Gray Insect Image Collection*

ENEMY OF DAHLIA AND POTATOES: WIREWORM

- Wireworms are the larval stage of the Click beetle. They are about ½ inch long, and look like small worms.
- They LOVE underground tubers, roots, potatoes, corn roots,...etc.
- Your best bet is to rotate your root crops when you see a problem.
- Hortsense does not recommend chemical treatment
- <http://hortsense.cahnrs.wsu.edu/Search/MainMenuWithFactSheet.aspx?CategoryId=5&PlantDefId=52&ProblemId=271>



SPRINGTAILS—WHAT TO LOOK FOR

- Masses of “coffee grounds,” soot, or black metal shavings on their concrete drives, walkways, and front porches. Individually, they are too small to identify without a magnifying glass
- They jump en masse when disturbed!
- Springtails need a high-moisture environment, which makes them well-suited to southwest Washington in the winter and spring
- Beneficial scavengers—they eat decaying plant materials, mold, and fungus, and prefer to live in damp leaves and soil
- Usually disappear within a week.
- Sweep them out if they get in your house—and fix the moisture problem in your home! More info:
<http://pestsense.cahnrs.wsu.edu/Search/MainMenuWithFactSheet.aspx?CategoryId=2&ProblemId=812>



Caption: Springtails
Photo by: Doug Collins, WSU

APPLE ANTHRACNOSE

- Prune properly to open trees and improve air circulation. Remove and burn diseased branches and fallen leaves. Remove any mummified fruit left in the tree.



Figure 1



Figure 2

(Photos J. King, WSU)

<https://s3.wp.wsu.edu/uploads/sites/2109/2014/12/AppleAnthracnose20121.pdf>

- Do not cut cankers (tree wounds) until dry weather occurs.
- No fungicide spray until just after harvest--before fall rain starts.
- If planting new trees, plant far away from diseased trees
- Great article:

<https://s3.wp.wsu.edu/uploads/sites/2109/2014/12/AppleAnthracnose20121.pdf>

PEACH LEAF CURL

- **Plant resistant varieties—not much available for cold rainy springs in Western WA.**
 - Avalon, Frost, Indian Free, Mary Jane, Salish
- **Consider growing a peach tree in a moveable pot, and keeping out of the rain.**
- **Apply fungicide first and third week of January, and at 3 week intervals after that while cool and rainy..**
 - **Examples: Bonide Fung-onil Multi-purpose Fungicide**
 - **GardenTech Daconil Fungicide**
 - **Monterey Liqui-Cop Fungicidal Spray**



Jay W. Pschardt, 2013.

<https://pnwhandbooks.org/plantdisease/host-disease/peach-prunus-persica-leaf-curl>

IPM
THE SMART WAY TO
MANAGE PLANT
PESTS AND DISEASES

IPM: INTEGRATED PEST MANAGEMENT

- In IPM, the use of all tactics - biological, cultural and mechanical - are utilized prior to using a pesticide. IPM is not an instant fix, but it is effective. Your results will improve over time as you learn to better identify and control the problems in your garden.
- **Excellent source for IPM information based on plant, crop, or pest: WSU Hortsense** (E.g., search Google (e.g. for “WSU Hortsense apple”). That’s the easiest way. You can also go to the site: <http://hortsense.cahnrs.wsu.edu/Home/HortsenseHome.aspx> Always search for the singular, not the plural. “Apple” will get results, “Apples” will not.

YOU'RE NOT ALONE

- WSU Hortsense (E.g., search Google (e.g. for “WSU Hortsense apple”) That’s the easiest way. You can also go to the site: <http://hortsense.cahnrs.wsu.edu/Home/HortsenseHome.aspx> Always search for the singular, not the plural. “Apple” will get results, “Apples” will not.
- PNW Handbooks (E.g., search for “PNW Handbooks apple”) <https://pnwhandbooks.org/plantdisease/host-and-disease-descriptions> Always search for the singular, not the plural. “Apple” will get results, “Apples” will not. This site also has information for registered pesticide applicators. Only follow chemical advice for “Homeowners.”

5 STEPS OF IPM

1. Identify the pest (bring to Plant and Insect Clinic)
2. Understand its life cycle and behavior patterns
3. Monitor activity
4. Determine damage threshold
5. Implement control measures

If you would like a printable copy of this "Least Toxic Choices" information, download here:

<https://www.dropbox.com/s/fwto05jn0l33ntj/Integrated%20Pest%20Management%20handout-%20least%20toxic.pdf?dl=0>

IDENTIFY PEST/UNDERSTAND LIFECYCLE & BEHAVIOR AND MONITORING ACTIVITY

- Once you've identified the pest (bring it to the Plant and Insect Clinic for ID), ask yourself questions to identify the best control:
 - Where do they hide?
 - What time of day will they appear?
 - When are they most active?
 - What are their favorite food sources?
- Be on the lookout for the adult insects.
- Knowing their behavior will be your best guide to prevent their damage.

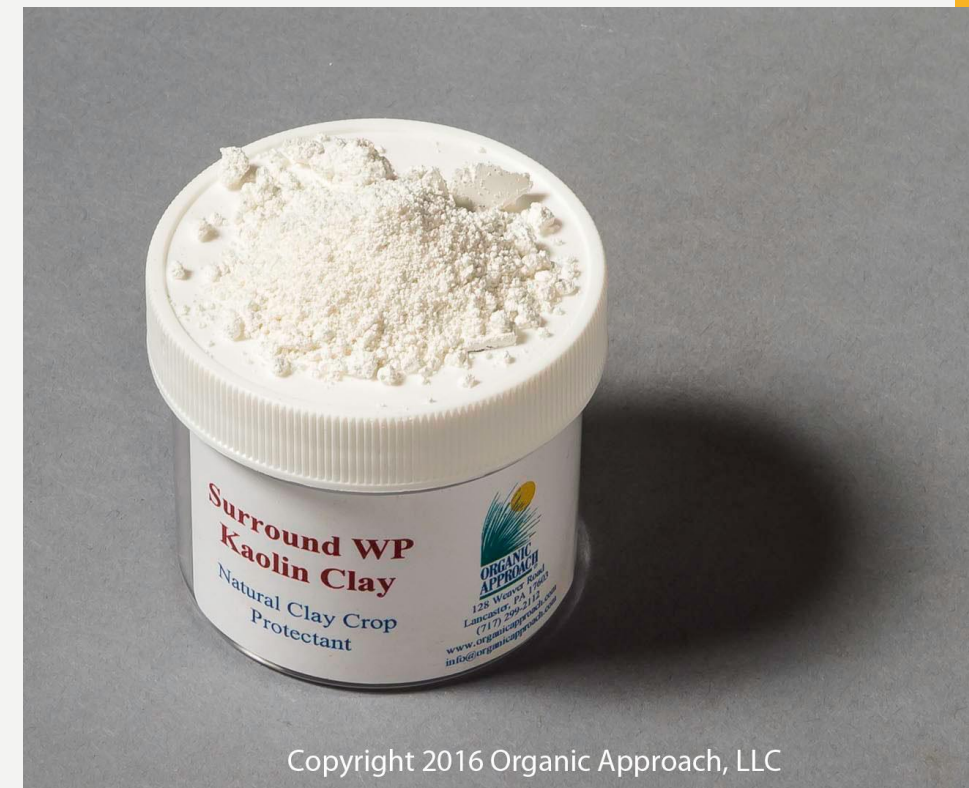
DETERMINE DAMAGE THRESHOLD

- How much damage are you willing to accept?
- Remember that the garden doesn't need to be perfect.
- Perfection is an unrealistic garden goal.
- When considering your damage threshold, ask questions like:
 - Is there enough foliage damaged to affect the plant's energy production?
 - Would the flower or ornamental value be impacted?
 - Would you eat it with the damage on it?
 - Can the damage on the fruit be cut out?
 - Are you selling the crop?
 - What's the cost benefit to the control measure?

PEST MANAGEMENT OPTIONS

(Step 5. Implement control measures)

- 1. Prevent access
- 2. Manual control
- 3. Repellent
- **Kaolin**-Applied as a spray to leaves, stems, and fruit, it acts as a repellent to some insect pests. Some formulations are OMRI-listed for organic use (E.g., Surround)
 - **Note:** kaolin application can disrupt bee foraging; apply at night to minimize exposure to foraging bees.



PEST MANAGEMENT OPTIONS

(Step 5. Implement control measures)

- **Organic treatment** (In order of most benign to most severe)
- **Bt**
 - (E.g., DiPel, Bonide Thuricide BT Conc)
 - **Note:** *Little or no toxicity to bees, but will kill all butterfly/moth larvae, even desirable ones.*
- **Diatomaceous earth** - *If bees or beneficial insects are seen crawling on leaf or stem surfaces with recently applied DE, spray clean water to wash away the DE. Take care to avoid creating clouds of DE dust during application.*
- **Neem oil]**
 - azadirachtin
 - E.g., Safer Brand BioNEEM Multi-Purpose Insecticide & Repellent Conc [Organic
 - Note: Only toxic to bees on direct contact—if applying during bloom, apply at night to minimize risk to bees

PEST MANAGEMENT OPTIONS

(Step 5. Implement control measures)

- **Organic treatment** (In order of most benign to most severe)
- **Insecticidal Soap**
 - Potassium salts of fatty acids
 - E.g., M-Pede, Safer's Soap
 - Note: Do not apply directly to bees or beneficials, apply at night
- **Spinosad** Some formulations are *OMRI-listed for organic use.
 - E.g., Entrust, Success, Regard, Bonide Captain Jack's Deadbug Brew R-T-U
 - Note: Apply at night during dry weather to minimize risk to bees. Granular products are less risky to bees

PEST MANAGEMENT OPTIONS

(Step 5. Implement control measures)

- **Organic treatment** (In order of most benign to most severe)
- **Boric Acid**
 - E.g., Revenge Liquid Ant Bait, Terro Ant Killer II Liquid Ant Baits
 - Note: Low toxicity to adult bees. Uses for indoor pest control are unlikely to affect bees- use caution if applying foliar fertilizers that contain boric acid.
- **Pyrethrin** Some formulations are *OMRI-listed for organic use.
 - E.g., PyGanic, Azera
 - Note: highly toxic to bees, Applying at night can reduce risk to bees)

PEST MANAGEMENT OPTIONS

(Step 5. Implement control measures)

- **SYNTHETIC treatment (in alphabetic order)** —you may see these options when looking up a problem in Hortsense. **ALL are toxic to bees** and other beneficial insects because the pesticide residual lasts for several days. Use as a very last resort, and spot treat only. Avoid flowering plants
- **Acetamiprid-** neonicotinoid -Highly toxic to bees (E.g. Acetamiprid RTU Insecticide, Ortho Flower, Fruit & Vegetable Insect Killer R-T-U)
- **Acephate**—(E.g., Bonide Systemic Insect Control) Highly toxic to bees. Residual toxicity lasts > 3 days.

PEST MANAGEMENT OPTIONS

(Step 5. Implement control measures)

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- **Bifenthrin**-(E.g., Brigade, Capture, Discipline, Sniper, Talstar)
Highly toxic to bees.
- **Carbaryl (E.g., Sevin)**-Highly toxic to bees.
- **Cyfluthrin** – (E.g., Bayer Advanced Power Force Multi-Insect Killer R-T-S) Highly toxic to bees. Residual toxicity longer than 8 hours

PEST MANAGEMENT OPTIONS

(Step 5. Implement control measures)

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- **Esfenvalerate-**. (Monterey Bug Buster II, Asana) Highly toxic to bees
- **Gamma-cyhalothrin-**(E.g., Bolton, Cobalt, Declare, Proaxis)Highly toxic to bees, Highly toxic to bees- residual toxicity longer than 8 hours
- **Lambda-cyhalothrin** (Warrior, Cyzmic, Demand, Voliam) Highly toxic to bees. residual toxicity longer than 8 hours

PEST MANAGEMENT OPTIONS

(Step 5. Implement control measures)

- **SYNTHETIC treatment** –(in alphabetic order) you may see these options when looking up a problem in Hortsense. **ALL are toxic to bees** and other beneficial insects because the pesticide residual lasts for several days. Use as a very last resort, and spot treat only. Avoid flowering plants
- **Malathion (E.g., Fyanon) Residual toxicity > 3 days**
- **Permethrin-E.g., Ambush, Bee Gone, Pounce, Permastar) Highly toxic to bees.**
- **Zeta-cypermethrin-Highly toxic to bees- residual toxicity longer than 8 hours**

MORE FRUIT TREE RESOURCES

- [Fruit Tree Care Workshop Resource Handout](#)
- [Grow a Little Fruit Tree](#) by Ann Ralph-If you're planning to get new trees, **READ THIS FIRST!** You'll be able to grow healthy, manageable trees with bountiful fruit that you can reach without a ladder--**HIGHLY RECOMMEND!**
- [Guide to Pruning: What, When, Where, and How to Prune for a More Beautiful Garden](#) by Cass Turnbull. If you're going to buy one book for **EVERYTHING** you need to prune, this is it. The bible of pruning!
- Pruning and Pruning Resources: <http://treefruit.wsu.edu/web-article/pruning-training-resources/>
- [Pruning Basics- Joe Gardener](#)-podcast
- [Pruning Basics—Joe Gardener](#)-article with pictures

MORE FRUIT TREE RESOURCES

- **Raintree Nursery Plant Owner's Guide:**
https://raintreenursery.com/info/RT_Plant_Guide.pdf
- **Best fruits for western Washington**
<https://www.cityfruit.org/sites/default/files/file-uploads/bestfruitvarieties.pdf> and
<http://nwfruit.org/recommended-fruit-trees/>
- **Training and Pruning your Home Orchard**
<https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/pnw400.pdf>
- **Plant Amnesty's Guide to Pruning:**
<https://www.plantamnesty.org/assets/docs/guide-pnw-2011.pdf>

DIAGNOSTIC RESOURCES

- **Hortsense:** <http://hortsense.cahnr.wsu.edu/Home/HortsenseHome.aspx>
- **Pestsense:** <http://pestsense.cahnr.wsu.edu/Home/PestsenseHome.aspx>
- **PNW Handbooks:**
- Insect Management <https://pnwhandbooks.org/insect>
- Plant Disease Management Handbook: <https://pnwhandbooks.org/plantdisease>
- Weed Management Handbook: <https://pnwhandbooks.org/weed>
- **WSU Plant & Pest Diagnostic e-Network:** <http://www.dddi.org/wsuv>
- **WSU Plant Pest Diagnostic Clinics:**
- [CAHNRS Plant Pest Diagnostic Clinic, Pullman](#)
- [WSU Puyallup Plant & Insect Diagnostic Laboratory](#)