



LOOKING AHEAD JULY

**WSU COWLITZ COUNTY MASTER
GARDENER PLANT AND INSECT CLINIC
FOR GARDEN QUESTIONS**

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WHAT'S IN THIS ISSUE

Start Here: OSU—Garden Tasks for July

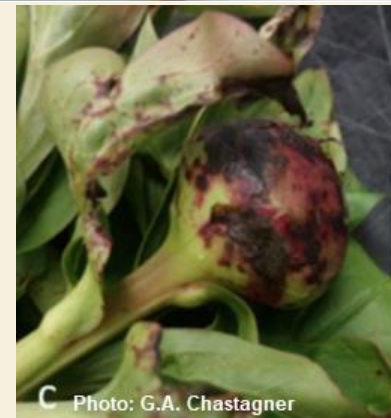
- [Flowering](#)—Peony problems, Lavender, Hanging baskets, Heuchera, Deadheading for rebloom, Caring for flowerbeds
- [Shrubs and Trees](#)—Wisteria, Roses, Azaleas/Rhodies, Irrigating trees and shrubs, Summer Pruning
- [Fruits](#)—Spray schedule for Codling Moth and Apple Maggot, Care of blueberries, strawberries, raspberries in June, Grapes
- [Weeds](#)—Spotlight on Tansy Ragwort
- [Garden Pests](#)—You may see some of these critters in your garden—here's what to do about them
- [Vertebrate pests](#)—Moles, Mice, Voles, etc.
- [Vegetable Gardening](#)—Monitoring for problems, Irrigation, Mulching, Composting, Fall gardening starts NOW
- [Lawn](#)—Tips to keep your lawn healthy
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FLOWERING PLANTS- PEONIES

No matter how you say it “PEE oh nee” or “pee OH nee,” we just love them! However, our cool, rainy springs here in the PNW are really tough on them—and a lot of other plants. Fungal and bacterial plant diseases flourish and spread in these conditions.

Here’s a great publication that tells you all about it and how to manage the problems:

A GROWER’S GUIDE TO THE MOST COMMON DISEASES OF PEONY IN THE UNITED STATES <https://mnpeony.org/wp-content/uploads/FS338E.pdf>



FLOWERING PLANTS-LAVENDER

Lavender—prune after the first summer flowering in June.

- **English lavender**—cut back by $\frac{1}{3}$ to $\frac{1}{2}$
 - Trim back to about 3 inches from where the woody stem begins. Don't cut into the woody stem.
 - You can give it a second light trim after the second bloom, but no pruning after August.
 - **Non-English lavender**—(with the little “tufts”—trim slightly—they don't grow as fast.
- <https://pss.uvm.edu/ppp/articles/lavender.html>
 - <http://www.lavenderfestival.com/wp-content/uploads/2013-LAVENDER-OWNERS-MANUAL-.pdf>



FLOWERING PLANTS-HEUCHERA-CORAL BELLS

- Pronounced HYOO ker uh
- Carefree shade/part shade plant with gorgeous variations in foliage color.
- Require well-drained soil- planting on mound will help.
- Common problems—leaf spots caused by rust fungus, botrytis, bacterial blight—give plants lots of space for air circulation, pick off affected leaves.
- Heuchera prefer soil pH around 7.0.

<https://pnwhandbooks.org/plantdisease/host-disease/coral-bells-heuchera-spp-leaf-spots>



- Fungicides labeled for use against botrytis, bacterial blight, and rust may be used if cultural controls do not adequately manage the problem. Read and follow label directions.

FLOWERING PLANTS—HANGING BASKETS

Hanging baskets—keeping them lush and beautiful

- They will need to be fertilized and watered regularly—water soluble fertilizer with the NPK numbers (Nitrogen/Phosphorus/Potassium) as close as possible to this ratio: 20-10-20.
- Feed them every time you water with $\frac{1}{2}$ strength solution of fertilizer.
- Water early in the morning, if possible, and don't let your plant dry out—the roots will be damaged. You may be able to keep the plants alive, but they will never reach their full potential.
- If you find that you're needing to water 2-3 times a day, only use the feeding solution the first time.
- Water when the top of the soil feels dry.
- Apply more time release fertilizer to the top of the soil in mid-July for an extra boost.
- Give them adequate sun and protect them from strong winds.

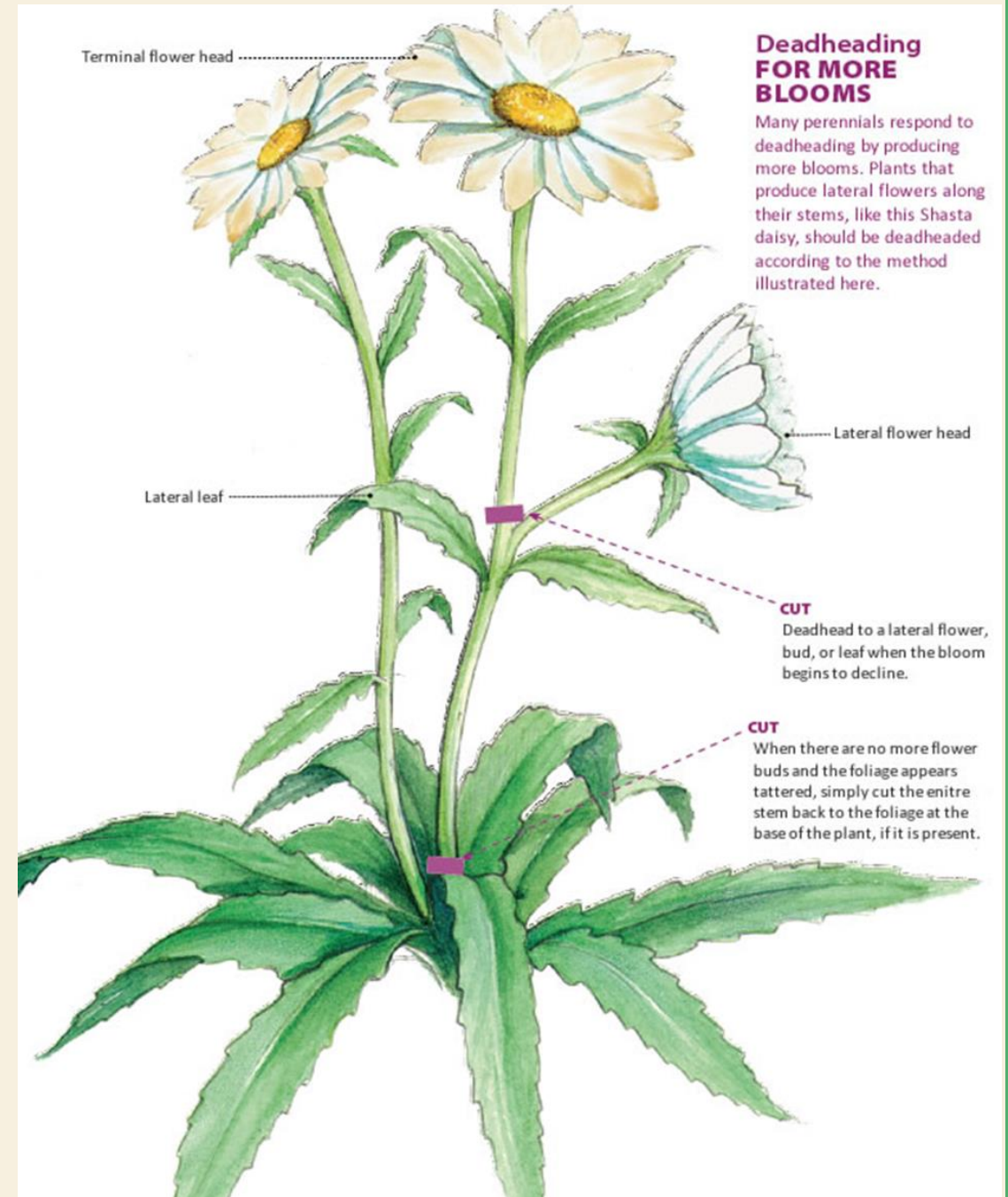
FLOWERING PLANTS- HANGING BASKETS

- Deadheading will encourage your flowers to re-bloom, and tidies up the appearance. Here's how to do it.
- For a list of plants that may bloom after deadheading :

Fine Gardening magazine, Issue 92, "Off with Their Heads," offers an extensive list of perennials that may rebloom after deadheading, as well as those that do not but benefit in appearance from deadheading. <http://www.finegardening.com/their-heads-deadheading-perennials>

Should you deadhead your flowers?

<https://extension.oregonstate.edu/news/should-you-deadhead-your-flowers>



FLOWERING PLANTS-ANNUAL BEDDING FLOWERS

- When planting, add good quality compost and granular, time release flowering plant fertilizer to the hole. Follow label directions.
- Keep the soil evenly moist. Using drip irrigation is best, but if you don't use that, try not to get the leaves wet, or water early in the morning so leaves can dry out. Don't overwater!
- Mulch around the plants with 2-3 inches of mulch to moderate soil temperatures and help to keep the soil moist.
- Great reference for annual flowers and their care.

<https://web.extension.illinois.edu/annuals/directory.cfm>

SHRUBS AND TREES

- **Roses**—WSU's *Growing Roses in Washington State* series
 - [Planting](#)
 - [Seasonal Calendar](#)
 - [Common Diseases and Insect Problems](#)
- **Azaleas and Rhododendrons**—This publication will walk you step-by-step through finding and treating your problems! Watch for vine weevil damage on the leaves this month.
 - [Identifying, Treating, and Avoiding Azalea and Rhododendron Problems](#)
- **Wisteria**—prune after blooming, leaving only 5 or 6 leaves of the new growth and check them to train them to your trellis structure. Prune off wandering shoots. You can prune them again in February.

http://marinmg.ucanr.edu/Our_Projects/Leaflet/Proper_pruning_of_wisteria_produces_a_plethora_of_blossoms/



GROWING ROSES IN WASHINGTON STATE:
COMMON DISEASE AND INSECT PROBLEMS



Figure 24a. Adults of most root weevil species feed on the leaf edges, causing irregular notching.

SHRUBS AND TREES-SUMMER IRRIGATION

- **Irrigate young trees!** They need 3-5 gallons of water a week during the summer. You may need to water more during hot, dry weather. <https://extension.umd.edu/hgic/topics/watering-trees-and-shrubs>
- We are seeing cumulative damage on many trees and shrubs because of inadequate summer irrigation. This leaves them vulnerable to pests and diseases.
- If we go for a month without rain, large landscape trees will appreciate a deep watering, too. Water slowly, deeply, and thoroughly. Use 5 gallon buckets with a few holes drilled in the bottom and place under the dripline of the tree.
- Grass competes with trees for water—use mulch instead to help with water evaporation.
- For more details, see: HOW TO GET TREES, SHRUBS, AND TURF THROUGH A DROUGHT
<https://www.wsdot.wa.gov/publications/fulltext/Roadside/WiseWaterUse.pdf>



SUMMER PRUNING

Summer: Pruning done during peak growth times tends to slow growth by removing leaves that manufacture nourishment. However, too much summer pruning can damage a tree.

- Summer (June-August) **To direct the growth by slowing the branches you don't want, or to "dwarf" the development of a tree or branch**, prune soon after seasonal growth is complete. Another reason to prune in summer is for corrective purposes. Limbs that hang down too far under the weight of leaves can be reduced. Be aware that late summer pruning may stimulate new tip growth that will not have time to harden off before cold weather.
- **Asian Pears and Cherry trees** are pruned in the dry summer after fruiting to prevent disease from entering the cuts.



SUMMER PRUNING

Great Sites:

<https://s3.wp.wsu.edu/uploads/sites/2076/2015/07/CI09-Keys-to-Good-Pruning-14.pdf>

<https://extension.oregonstate.edu/crop-production/fruit-trees/tree-pruning-basics>

<https://s3.wp.wsu.edu/uploads/sites/2076/2015/07/CI09-Keys-to-Good-Pruning-14.pdf>

<https://s3.wp.wsu.edu/uploads/sites/2076/2017/07/CI11-Pruning-Evergreens-15.pdf>

<https://research.libraries.wsu.edu/xmlui/bitstream/handle/2376/4990/FS13IE.pdf?...>

Book:

Pruning & Training, The American Horticultural Society, Christopher Brickell & David Joyce.

FRUITS: APPLE SPRAY SCHEDULE

- Suggested spray schedule for home garden apples-WSU:
- http://s3-us-west-2.amazonaws.com/treefruit.wsu.edu/wp-content/uploads/2019/07/25133917/SUGGESTED_SPRAY_SCHEDULE_FOR_HOME_GARDEN_APPLES.pdf

| | | | | |
|--|--|---|--|---|
| <p>Late Spring & Early Summer</p> | <p>Starting 17-21 days after full bloom. Keep protected through August/mid-September.</p> <p><i>Reapply after brief, heavy rainfall or showers of longer duration, then resume regular schedule</i></p> | <p>➤ Codling moth “Stings”- shallow entries made on surface of fruit. Treat “stung” apples as source of codling moth by removing infested apples from the tree, seal in black garbage bags. Leave in sun for two weeks to kill worms.</p> | <p>PRIMARY PEST OF APPLES. Start preventative spraying of fruit 17-21 days after full bloom or 10 days after petal fall. SPRAY TIMING IS CRITICAL – First generation lasts 6 weeks, second generation lives another 6 weeks. Protect during this entire period. Follow spray schedule on label.</p> <p>➤ Esfenvalerate (Monterey Bug Buster II); Spinosad (Ex. Monterey Garden Insect Spray); Permethrin (Ex. Bonide Eight Insect Control Garden and Home RTU), Acetamiprid (Ex. Ortho Flower, Fruit & Vegetable Insect Killer).</p> | <p>If the apple is not protected, the egg laid by the codling moth will hatch and the worm will enter the apple and be protected from the sprays. Handle infested apples as described at left under “Stings”.</p> |
| | <p>➤ Apple maggot</p> | <p>Apply first in early July</p> <ul style="list-style-type: none"> ◆ Pesticides as above for codling moth. ◆ Follow spray schedule on label for apple maggot. | | |



FRUITS: APPLES CODLING MOTH



Codling Moth



Codling moth trap



Continue treatment for Codling Moth. Apply your choice of pesticide one more time in June, and once in August. Follow all label instructions! Several choices-Spinosad ingredient is one organic option—see [Hortsense](#) article.

- To minimize risk to bees, apply in the evening after bees have stopped foraging for the day.

FRUITS: APPLE MAGGOT



- As if Apple Maggot wasn't bad enough!



Washington Invasive Species Coun



gton State Department of Agriculture



Apple maggot adult female

- Cowlitz County is a quarantine zone—can't transport home grown tree fruit!
- Hang sticky trap to monitor for fly; apply pesticide within 7 days of trapping first fly.
- Last week JUNE, first week of JULY.
- Be sure to read all instructions on the label to protect yourself, pollinators, and the environment.
- <http://hortsense.cahnrs.wsu.edu/Public/FactsheetWeb.aspx?ProblemId=19><https://extension.umn.edu/yard-and-garden-insects/apple-maggot#pesticides-1814714>
- <http://pubs.cahnrs.wsu.edu/publications/wp-content/uploads/sites/2/publications/eb1928.pdf>
- http://treefruit.wsu.edu/crop-protection/opm/am-control_waapple-growers/



Apple maggot traps: left, yellow sticky panel; right, red sphere. credit: JF Brunner, WSU

FRUITS: BERRIES

- If possible, place netting or row covers on blueberries, raspberries, and strawberries to deter bird feeding.
- **Strawberries**—June bearing varieties are done for the year. **Mow or cut off foliage 2 inches above the crown.** Remove plant if it didn't produce. Remove all runners for the rest of the season. <https://catalog.extension.oregonstate.edu/ec1307/html>
- **Pick when they ripen**—don't leave over-ripe fruit on the plant or ground.



<https://bonnieplants.com/gardening/protecting-strawberries-from-birds/>

https://cdn11.bigcommerce.com/s-xj69ljw63/images/stencil/935x701/uploaded_images/blog_images/get-bird-netting-for-blueberries-to-keep-birds-away.png



FRUITS: STRAWBERRIES

What to do

When to do it

Rake straw away as plants start to grow, leaving a little straw to protect them

April

Plant dormant transplants

April, May

Plant potted transplants

May, June

Pinch flower buds off transplants for a few weeks

May

Thin June-bearing plants within two weeks after harvest

July

Apply compost to day neutral plants if needed

July, August

Remove runners from June bearing plants as needed. Mow or cut off foliage 2 inches above the crown

July through October

Cover plants with straw mulch if overwintering

November

- Strawberry problems and what to do about them: Hortsense

<http://hortsense.cahnrs.wsu.edu/Search/MainMenuWithFactSheet.aspx?CategoryId=2&PlantDefId=71>

- Growing Strawberries in the Home Garden

<https://extension.umn.edu/fruit/growing-strawberries-home-garden>



FRUITS: BLUEBERRIES

Consistent watering prevents cracking fruit.

- Full production occurs in 6th – 8th year.
- Plants produce for 10 – 15 years.
- Potential yield is 1 gallon per plant.
- Moderate yearly pruning keeps blueberries healthy and productive. Prune in late winter or early spring before new growth begins.
- Canes are most productive during their 2nd and 3rd growing seasons. Four year old canes become weak and unproductive and should be removed.
- Keep two of the strongest new canes each spring and remove all other new canes (suckers).

Excerpt from **Blueberries** <https://s3.wp.wsu.edu/uploads/sites/2076/2017/06/C008-Blueberries-15.pdf>

- **Blueberry problems and what to do about them: Hortsense**

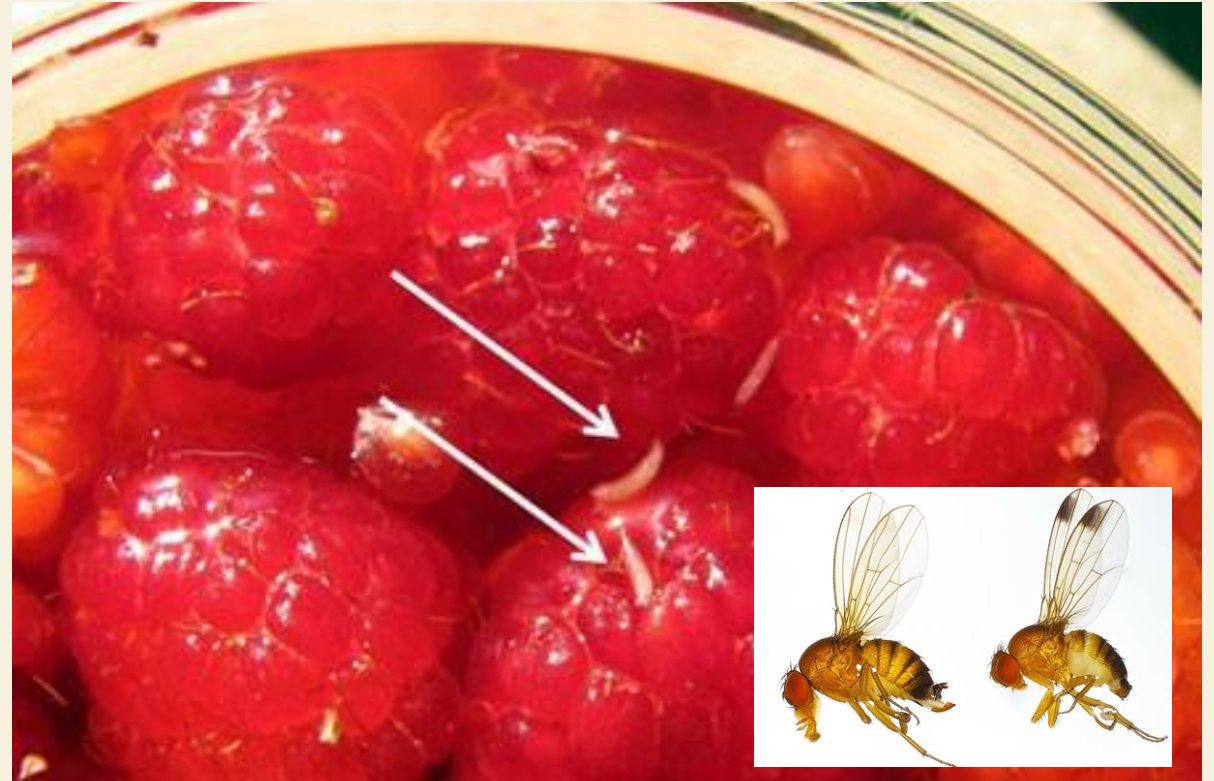
<http://hortsense.cahnrs.wsu.edu/Search/MainMenuWithFactSheet.aspx?CategoryId=2&PlantDefId=67>

- **Blueberries Great info here:** <https://s3.wp.wsu.edu/uploads/sites/2076/2017/06/C008-Blueberries-15.pdf>



FRUITS: ALL BERRY AND STONE FRUITS (PLUMS, PEACHES, CHERRIES)

- Be sure to pick raspberries, blueberries, strawberries, plums, etc., as they ripen. Overripe fruit and fruit that falls to the ground is a mighty fine attractant for Spotted Wing Drosophila (SWD). This tiny red-eyed fruit fly pierces the raspberries, lays eggs, and the tiny white thread-like “worms” ruin the fruit.



https://spottedwing.org/sites/agscid7/files/swd2_editedpair_elagasa_wsda_1289.jpg

- <http://hortsense.cahnrs.wsu.edu/Search/MainMenuWithFactSheet.aspx?CategoryId=2&PlantDefId=74&ProblemId=790>
- <https://blogs.cornell.edu/berrytool/2017/02/26/raspberries-spotted-wing-drosophila/>

FRUITS: RASPBERRIES

For summer-bearing (floricane) red, yellow, black, and purple raspberries:

- **March**— For red and yellow raspberries, cut canes back to 4-5 feet tall before growth begins
- **March**— For black and purple raspberries, cut side branches back to 12-18 inches; prune all but 4 to 5 canes per hill to the ground
- **April, May**— Plant bare-root transplants as soon as the soil can be worked
- **May, June**— Plant potted transplants after threat of frost has passed
- **June through August**— Keep an eye out for spider mites, stink bugs, & spotted wing drosophila flies
- **July, August**— Pinch black and purple raspberry cane tips
- **July, August**— Harvest
- **August**— Cut fruit-producing canes to the ground after harvest
- **November**— Apply mulch for winter protection
- **November**— Set up fence around plants if rabbit damage is expected during winter

Pests Of Raspberries: <http://hortsense.cahnrs.wsu.edu/Search/MainMenuWithFactSheet.aspx?CategoryId=2&PlantDefId=74>

Growing Raspberries in Home Gardens:

<https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/ec1306.pdf>

<https://extension.umn.edu/fruit/growing-raspberries-home-garden>

FRUITS: GRAPES

- **Herbicide injury**
 - Grapes are very sensitive to herbicide injury. Avoid using herbicides in hot and windy conditions.
- **To prevent powdery mildew and botrytis (gray mold)**
 - Ensure sure that your vines have good air circulation throughout the vine and exposure of the grapes to sun and wind by shoot thinning, leaf pulling, and shoot positioning.
 - Clean up and discard infected fruit and leaves. Do not compost.
- Growing Table Grapes
<https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/ec1639.pdf>



Figure 27. Symptoms of 2,4-D injury on a grape leaf.

TANSY RAGWORT - *JACOBAEA VULGARIS* B

- Toxic, noxious weed and a threat to livestock.
- Honey made from this tastes so nasty that it can't be sold!
- One plant produces 5,000 to 200,000 seeds (seeds remain viable for 16 years!)



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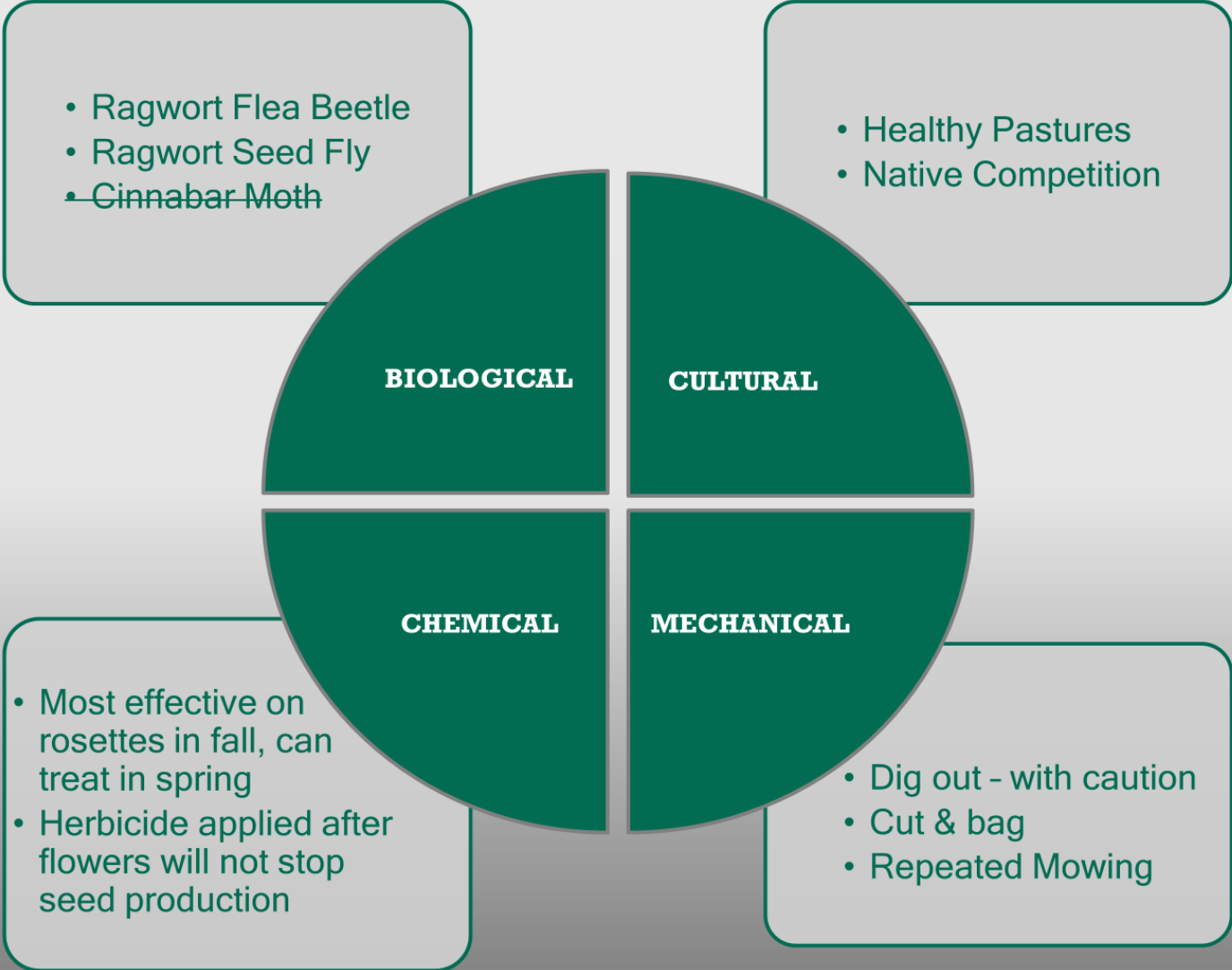
TANSY RAGWORT - *JACOBAEA VULGARIS* B

- Stems have a purple color.
- Rosette has a ruffled appearance.
- Best to treat as a rosette.



TANSY RAGWORT – *HOW DO I CONTROL IT?* **B**

Tansy Ragwort



TANSY RAGWORT – *HOW DO I CONTROL IT?*

- Always wear gloves.
- Re-seed and/or plant areas with non-invasive plants to provide competition.
- Biological Control-Cinnabar Moth no longer sold because it also feeds on native and ornamental plants! Tansy Ragwort Flea Beetle and Ragwort Seedhead Fly can destroy Tansy Ragwort.



<https://en.m.wikipedia.org/wiki/Botanophila>



Ragwort
Seedhead Fly



Tansy Ragwort Flea Beetle

Annie Smith



Cinnabar
Moth

TANSY RAGWORT – *HOW DO I CONTROL IT?*

Manual Control

- Always wear gloves.
- Pull up by roots, put them in a plastic bag, then trash can. **DO NOT COMPOST.**
- Best done when plant is in rosette stage and isn't blooming.
- Mowing can keep it from flowering, but does not kill plant.

Herbicide Control

- Effective when applied to rosettes in spring and new growth after fall rains.
- Pull up by roots, put them in a plastic bag, then trash can. **DO NOT COMPOST.**
- Remove and bag plants that have already flowered as herbicide applied at that time will not stop seed production.
- Don't let animals graze for 2 weeks.

Recommendations:

- <http://hortsense.cahnrs.wsu.edu/Search/MainMenuWithFactSheet.aspx?CategoryId=6&ProblemId=204>
- In **landscape areas** use products containing glyphosate or dichlobenil
- In **turf areas**, use products containing 2.4-D + MCPP + dicamba
- **Bare ground**, use glyphosate

**Always follow directions
on label!**

WEED RESOURCES

[Weed Identification Guide](#)

[WASHINGTON STATE Noxious Weed Control Board](#) Identify, control, and dispose of noxious weeds, see lists of Class A, B, C plants, as well as monitoring and quarantine lists. Want alternatives to garden bullies in your yard? See the Garden-wise booklet. So much more!

[Cowlitz County Noxious Weed Control Board](#)

[Herbicide Information](#)

[Hortsense](#) also offers chemical management options.

[Cowlitz County Noxious Weed list for 2020](#)



WHAT'S BUGGING YOUR GARDEN?

- WSU's list of common offenders—and what to do about them!
- <http://hortsense.cahnrs.wsu.edu/Search/MainMenuWithFactSheet.aspx?CategoryId=5>

| | |
|---|--|
| Asparagus * Guide | Lettuce |
| Bean | Onions, Garlic |
| Beet, Chard | Pea |
| Broccoli, Cole crops | Pepper, Eggplant |
| Cantaloupe, Melons | Potato |
| Carrot | Radish * Problem solving |
| Corn | Spinach |
| Cucumber, Pumpkin, Squash | Tomato |
| | Turnip, Rutabaga |



Cabbage Worm
<https://ag.umass.edu/vegetable/fact-sheets/caterpillars-in-brassica-crops>

Always choose the **LEAST TOXIC OPTIONS!**

SIMPLE, HOLISTIC, COMMON SENSE METHOD OF MANGING GARDEN PESTS & DISEASES



Spider Mites
<https://extension.umn.edu/yard-and-garden-insects/spider-mites>



APHIDS
<https://extension.umn.edu/yard-and-garden-insects/aphids#garden-aphids-316410>



26-11
 Western Spotted Cucumber Beetle
 PNW Handbooks



Leaf miner damage--
 spinach, chard
<https://anevidencebasedgardener.wordpress.com/2011/06/16/leafminers-attack/>

CHEWER: FLEA BEETLE

Western Spotted Cucumber Beetle



Flea Beetles



Western Spotted Cucumber Beetle



Western spotted cucumber beetle



© Ken Gray Insect Image Collection



CUTWORMS (NOCTURNAL) LOOPERS (DAY TIME)



Caption: Variegated cutworm larvae
Photo by: A.L. Antonelli



Caption: Celery looper pupa
Photo by: A.L. Antonelli



Caption: Looper on rhododendron
Photo by: S. J. Colman



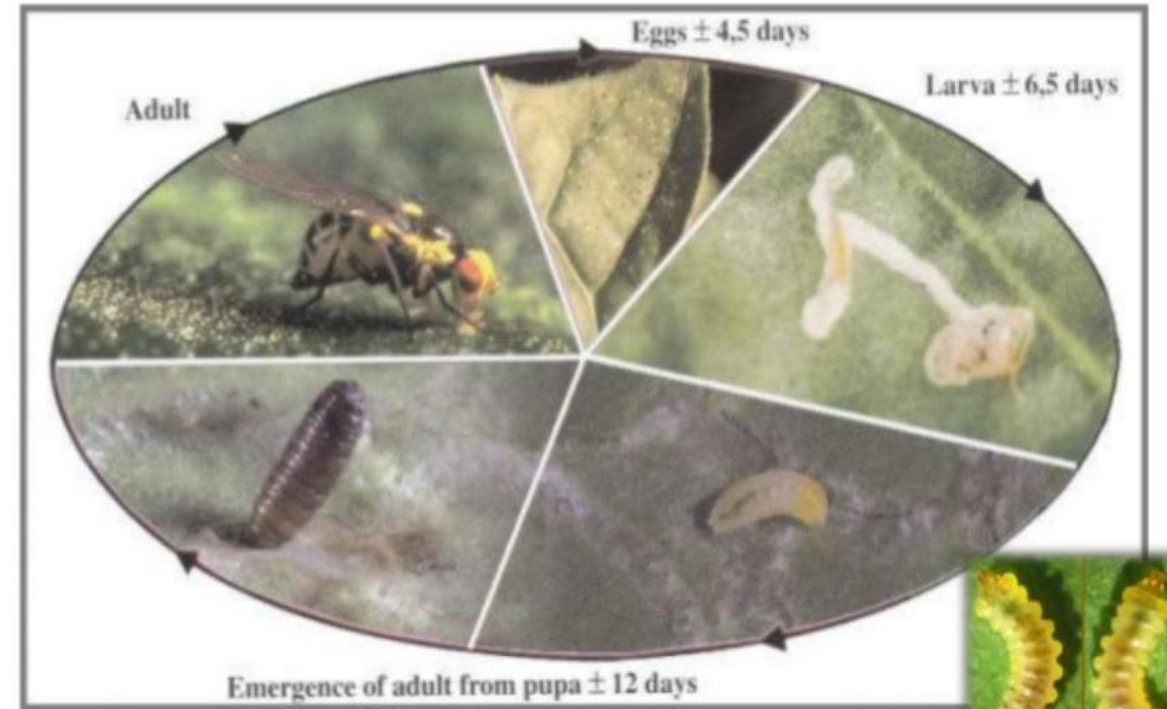
Beet armyworm
Spodoptera exigua Hubner
Immature female adult
© Ken Gray Insect Image Collection

Damage is frequently seen in seedling vegetables and flowers as plants cut off at or just below the soil line. There are also climbing cutworms which chew leaves. [Cutworms and Loopers](#)

INVISIBLE CHEWERS: LEAF MINERS— BEETS, SPINACH, CHARD



- Control weeds.
- Rotate crops.
- Pinch leaves.
- Pick out infested leaves.
- Screen plants with a floating row cover (April-May).
- Do not put row covers over soil previously infested with this pest.



Spinach and
beet miners

PIERCING SUCKING: BROWN MARMORATED STINK BUG

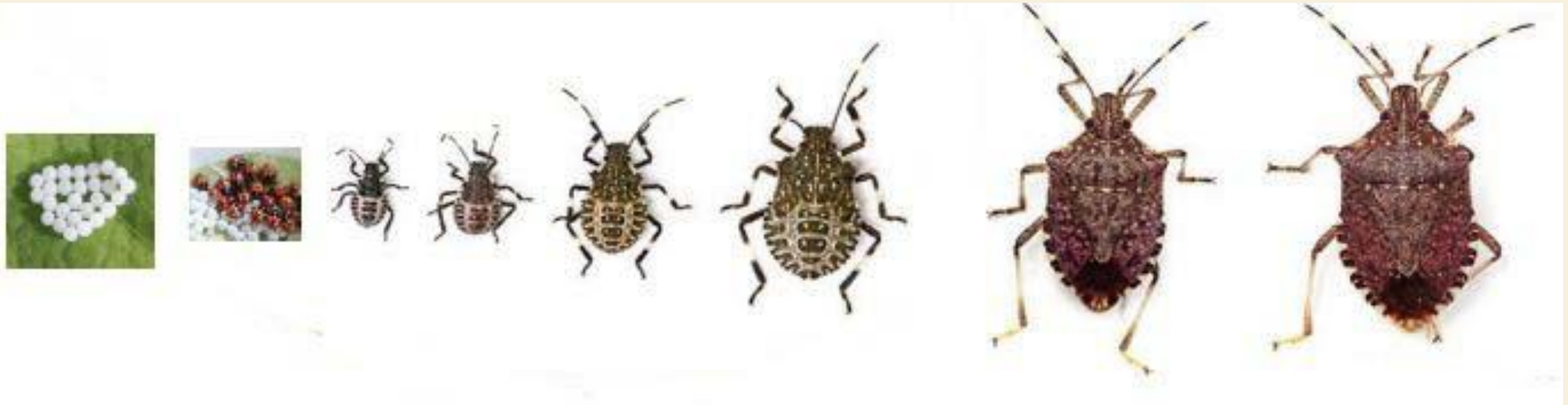


“Shield bug” damage to tomatoes and apples—

[Brown Marmorated Stink Bug](#)



RECOGNIZE IMMATURE STINK BUGS



Allentown, Pennsylvania 1996*Vancouver, WA 2010*Kalama, WA 2014
and the rest is history!

<https://extension.umn.edu/nuisance-insects/brown-marmorated-stink-bug> Photo W. Hershberger

PLANT DAMAGE BY PIERCING SUCKING MOUTHPARTS



Aphids and whiteflies sucking the juices from new growth causing stunted growth, leaf yellowing.



SUCKERS: APHIDS



UC Statewide IPM Program
© 2007 Regents, University of California

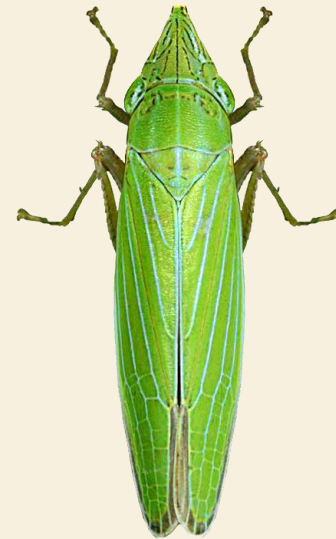


Wingless adults and nymphs of the potato aphid.

[Aphids](#)



PLANT DAMAGE BY PIERCING SUCKING MOUTHPARTS



Leafhoppers—Lighter colored areas on leaf where plant tissue has been extracted

PLANT DAMAGE BY PIERCING SUCKING MOUTHPARTS



Thrips- distorted leaves, bronzy appearance from leaf feeding



Spider mites—webs and silvery/white appearance from leaf feeding



WESTERN TENT CATERPILLAR

Hortsense

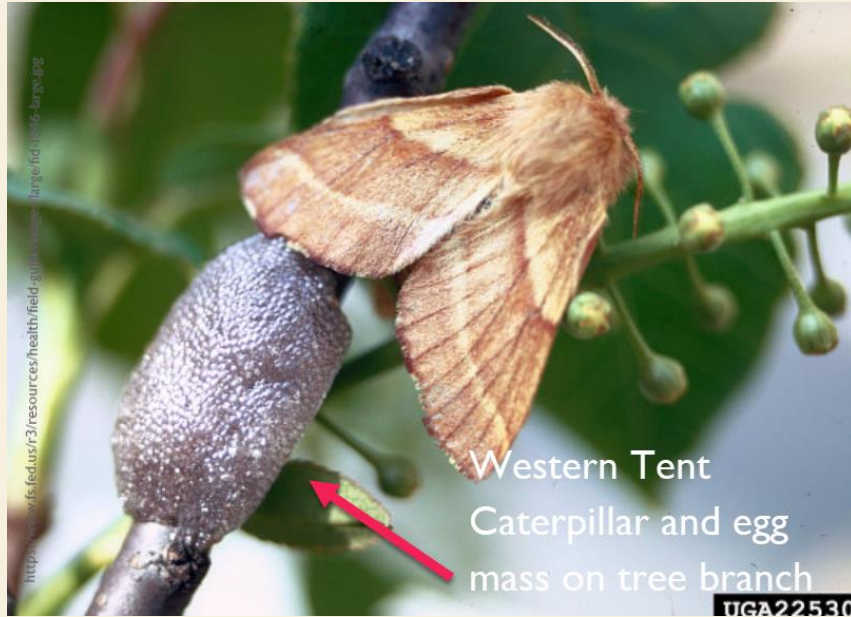


Figure 3. Hatching larvae of western tent caterpillar. Photo: Whitney Cranshaw, Colorado State University, Bugwood.org.

- In spring and early summer, characteristic tents are made on the tips of branches.
- They can partially or completely defoliate trees, causing some loss of vigor.
- Strip or prune out and destroy nests and caterpillars as soon as noticed, in early morning or evening, when caterpillars are gathered in the nests.
- Pick out and destroy the egg case in winter.



Figure 4. Mature larvae of western tent caterpillar. Photo: William M. Ciesla, Forest Health Management International, Bugwood.org.

INTEGRATED PEST MANAGEMENT (IPM)- BEST WAY TO PROTECT YOUR GARDEN

- Use a variety of common-sense methods to control problems in the garden, not just using pesticides!
- Monitoring the pest's activity and adjusting methods over time.
- Tolerating harmless pests.
- Setting a threshold to decide when it's time to act

WAYS TO PROTECT YOUR GARDEN

- Have a healthy garden
 - Good airflow, fertilize, and water properly.
 - Keep a very close watch for problems.
- Control access to your plants
 - Row cover
 - Crop rotation
 - Mulch
 - Weed control
- Repellant
 - Diatomaceous earth (crawling insects)
 - Pheromone lures (insect specific)



WAYS TO PROTECT YOUR GARDEN—AFTER VISUALLY IDENTIFYING INSECT PEST

Use the least toxic methods first

- Best control: Your thumb and index finger, despite the “YUK factor”!
- Strong spray of water.
- Biological controls.
- Pesticides—least toxic (spot treat!! The affected plant and shield others).



LAST RESORT—PESTICIDE. READ THE LABEL!

- Again—**ID the insect--contact the Plant and Insect Clinic!**
- Find the product that solves the problem. **The insect will be listed on the label** if it's effective for that problem.
- Buy the right amount—label tells how much you'll need, and some won't remain effective if stored.
- **FOLLOW DIRECTIONS-** when and how to apply, how long before picking fruits/veggies.
- **More is not better**—you can harm plants, lawn, water supply!
- Dispose properly.

VERTEBRATE PESTS

In the Pacific Northwest there are numerous vertebrate pests that a gardener has to be aware of and plan to deter:

Birds, chipmunks, deer, elk, nutria, opossums, mice, moles, raccoons, rabbits, skunks, voles.

Great links to assist in controlling vertebrate pests:

- <https://wdfw.wa.gov/species-habitats/living/species-facts>
- <https://extension.wsu.edu/snohomish/garden/gardening-resources/vertebrate-management-links/>
- <http://pubs.cahnrs.wsu.edu/publications/pubs/fs094e/>
- <http://hortsense.cahnrs.wsu.edu/Search/MainMenuWithFactSheet.aspx?CategoryId=16&ProblemId=6052>



Tony Sirgedas



<http://pubs.cahnrs.wsu.edu/publications/pubs/fs141e/>



U.S. Geological Survey



Jim Cummins



<https://wdfw.wa.gov/species-habitats/living/species-facts/rabbits#>



<https://wdfw.wa.gov/species-habitats/living/species-facts/pocket-gophers>

MONITORING THE GARDEN

After planting monitor your plants closely:

Watering
needs

Fertilizing
needs

Supporting

Nighttime
temps

Diseases

Pruning

Plant health

Insects

Leaf

Leaf

Growth

Mulching

discoloring

distortion

Weeding

Weather

Vertebrate pest
damage

Keeping a Garden Log is the best way to track your success and problems!

<https://extension.umd.edu/hgic/topics/caring-your-garden>

<https://extension.oregonstate.edu/gardening/techniques/june-garden-calendar>

<https://s3.wp.wsu.edu/uploads/sites/2071/2014/04/Home-Vegetable-Gardening-in-WA-EM057E.pdf>

<https://extension.wsu.edu/snohomish/garden/gardening-resources/>



IRRIGATION

- July and August are usually the most crucial times to ensure plants are watered. Tomatoes alone need 1 inch of water per week.
- Types of irrigation:

Surface (furrows or flooding).

Drip/Trickle

Sprinkler

Manual

- **Great Sites on Irrigation!**

<http://pubs.cahnrs.wsu.edu/publications/pubs/fs030e/>

<https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/em8782.pdf>

<https://water.usgs.gov/edu/irmethods.html>

<https://cwel.usu.edu/irrigation-extension>

<https://nrcca.cals.cornell.edu/soil/CA3/CA0324.php>

<https://extension2.missouri.edu/programs/irrigation/irrigation-system-pros-and-cons>



IRRIGATION

Great Sites on Plant Needs!

<https://today.oregonstate.edu/news/don%E2%80%99t-neglect-water-garden-summer>

https://s3.wp.wsu.edu/uploads/sites/2088/2017/04/Watering-a-Vegetable-Garden_RS008-2010v2.pdf

MULCHING

- After irrigation is figured out, the next task is to cover the bare areas with a mulch (keeping it away from plant stems).
- Mulching deters weeds by blocking the sun, stabilizes soil temperature and saves water by minimizing watering and water evaporation.

Great Sites on Mulching!

<https://s3.wp.wsu.edu/uploads/sites/2076/2017/07/C075-Guide-to-Mulches-15.pdf>

<https://extension.oregonstate.edu/news/mulch-key-no-till-gardens>

<https://ir.library.oregonstate.edu/downloads/6969z0995>

<https://s3.wp.wsu.edu/uploads/sites/2071/2014/04/Home-Vegetable-Gardening-in-WA-EM057E.pdf>



COMPOSTING

| Green (Nitrogen) 1 part Some Examples: | Brown (Carbon) 2 – 3 parts Some Examples: |
|---|--|
| Grass clippings | Shredded paper |
| Tea/coffee grounds | Straw |
| Manures | Wood chips |
| Green leaves | Dried grass and leaves |

- Warmer weather is the best time to start and maintain your compost bins/piles.
- Successful composting key points to remember are turning the pile, proper moisture content, temperature, aeration, smaller particles the better and good balance of green and browns.
- Compost is used for amending soil, mixing with potting soil, improves soil structure retains moisture in soil, making compost tea, top dress lawns and the list can go on and on.

<http://pubs.cahnrs.wsu.edu/publications/pubs/eb1784e/>

<https://extension.wsu.edu/chelan-douglas/gardening/generalgardening/composting/>

<https://extension.oregonstate.edu/sites/default/files/documents/12281/gardeningwcompost.pdf>

<https://extension.psu.edu/home-composting-a-guide-for-home-gardeners>



VEGETABLE QUESTIONS

- Common Tomato Problems—lots of photos and problems solving help.
http://mtvernon.wsu.edu/path_team/tomato.htm
- Most common problem Blossom End Rot.
- Cause: Plant isn't getting enough calcium.
- Usual reason in our area: Inconsistent soil moisture. We generally have enough calcium in our soil, but the roots can't take it up unless the soil is moist. If it's too dry or too wet, the roots don't function properly.
- Prevention: Soil test will tell you if you need to add lime or dolomitic lime in fall or late winter.
- Epsom salts won't help—it's magnesium sulfate. It's a garden myth!
- Egg shells in the planting hole don't help either!



<http://gardening.wsu.edu/blossom-end-rot-of-tomato-and-pepper/>

Blossom End Rot



VEGETABLE QUESTIONS

- When is garlic ready to harvest?
 - When the leaves on the lower 1/3 of the plant turn yellow. Remove gently from the soil—don't bruise the bulb. Place the tops and store entire garlic plant in a cool, well ventilated place to cure for about 3-4 weeks.
- Why are my potatoes knobby and deformed?
 - As with most vegetables, consistent soil moisture is critical to a well-developed plant. Fluctuations in soil moisture will cause knobby growth.
- Are Epsom salts the miracle garden cure? NO! Epsom salt is also known as magnesium sulfate. Our soils are not deficient in magnesium. Using Epsom salts can cause chemical imbalances in the soil that can interfere with nutrient uptake by roots. It also can leach out of the soil and pollute our water. More info: <https://s3.wp.wsu.edu/uploads/sites/403/2015/03/epsom-salts.pdf>
- Best bet? Get a soil test to see what you need
 - [Simply Soil Testing http://simplysoiltesting.com](http://simplysoiltesting.com)
 - [Western Lab](#)

SUMMER CROPS ARE PLANTED. WHAT NEXT?:

- If you have the time, space and the energy now is the time to start prepping for a winter garden.
- There are a wide variety of vegetables that can be planted during the summer and will survive the cool falls and mild winter. Check out the sites below for great winter gardening crops.

Advantages of growing a winter garden:

- Extends the growing season.
- Stockpile fresh grown vegetables all year long.
- Fewer insect pests.
- Washington weather cool summers and mild winters.
- The taste of vegetables after a frost.

Disadvantages of growing a winter garden:

- The crop is limited to cool weather crops.
- Wet falls and winters (need well drained soil).
- Short days and overcast light.



<https://extension.wsu.edu/snohomish/fall-and-winter-vegetable-gardens-for-western-washington/>

<https://s3.wp.wsu.edu/uploads/sites/2073/2014/03/072012.pdf>

<https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/pnw548.pdf>

SUMMER CROPS ARE PLANTED. WHAT NEXT?:

Plant these in July for a fall harvest:

- Plant **bush beans** until late July and you'll have a harvest before the first frost. Pole beans take longer, so plant by July 1 to harvest in the fall.
- Direct seed **broccoli, Brussels sprouts, cabbage, bok choy, kale, kohlrabi, rutabaga, turnips, Swiss chard, carrots, and head lettuces** such as Romaine in the first weeks of July and/or transplant seedlings by August 1 for a fall harvest. In protected spots you can continue to harvest through mid-winter.
- Plant **onion seeds** as greens for salads in mid-July. They'll also winter over for spring use.
- Seed **parsley** in early July, and you'll have a lovely plant next spring!
- **Radishes** can be planted all summer until mid-September. Winter radishes, such as oriental and Black Spanish varieties, should be planted in July and can be harvested all winter.
- **Plant leaf lettuce, mustard greens, and spinach seeds mid-August—preferable** in the semi-shade of a taller plant so they don't bolt in the warm weather.



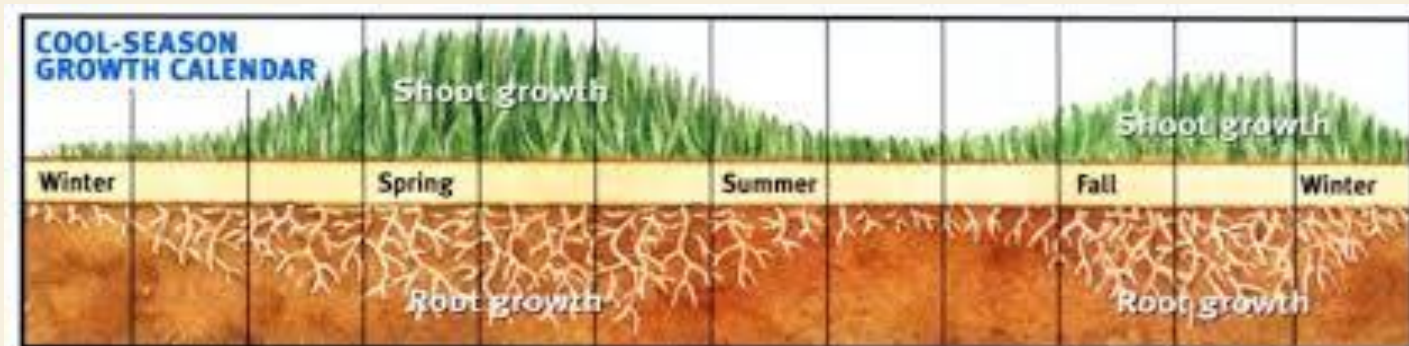
LAWNS

Lawn care is a classic love/hate scenario. We love it in the spring and fall and hate it in the hot dry summers.

Lawns will seasonally ebb and flow in how they look and perform because of our climate and species selection.

We can help them last and persist through tough times by:

- Properly fertilizing at the right times
- Encouraging growth when it is most needed
- Managing weeds
- Reseeding at choice times to rejuvenate the lawn



LAWNS

Mowing frequency should match rate of growth. Do not remove more than 1/3 of the leaf blade in a single mowing and keep your mower blades sharp.

Aerating helps rejuvenate lawns and loosen soil to promote root growth, not to mention removing thatch annually will increase soil oxygen, water penetration and encourages grass root growth.

Biggest problem with lawns is moss due to heavily shaded areas, moles (covered under vertebrate pests), crane fly and army cutworm covered in the links below.

<https://pubs.extension.wsu.edu/home-lawns>

<https://extension.oregonstate.edu/sites/default/files/documents/12281/lawncare.pdf>

<https://extension.wsu.edu/benton-franklin/gardening/lawns/>



JULY ADDITIONAL RESOURCES

- Many of the topics covered, especially pruning and pest monitoring, in the last couple months are also relevant in the current month:
 - [Looking Ahead: January](#)
 - [Looking Ahead: February](#)
 - [Looking Ahead: March](#)
 - [Looking Ahead: April](#)
 - [Looking Ahead May](#)
 - [Looking Ahead June](#)

Always choose the **LEAST TOXIC OPTIONS!**

- [SIMPLE, HOLISTIC, COMMON SENSE METHOD OF MANGING GARDEN PESTS & DISEASES](#)
- [Home Vegetable Gardening in Washington WSU EM057E](#)
- <https://pubs.extension.wsu.edu/home-vegetable-gardening-in-washington-home-garden-series> (click on DOWNLOAD NOW)

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.”
- **And of course, you can get in touch with us at the Plant and Insect Clinic!**
 - Call: 360-577-3014 Ext. 8
 - Email: cowlitzmastergardener@gmail.com
 - Submit photos and problem on our website: <https://www.cowlitzcomg.com/plant-and-insect-clinic>
 - PM us on our Facebook page: Cowlitz Master Gardeners



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 Clinics:**
- CAHNRS Plant Pest Diagnostic Clinic, Pullman
- WSU Puyallup Plant & Insect Diagnostic Laboratory

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