Green Gardening Calendar

When to take action to minimize insect, disease, and weed problems on your property

Introduction

When using green methods, including biological controls, to address garden, lawn, and orchard pests, timing is very important. The life cycles of the pests dictate when control is most effective, and what type of control works best at a particular time of year. This calendar includes key actions to take for some of the most important pests in the Puget Sound area, so you can have a beautiful, bountiful, and safe garden, lawn, and orchard.

About Us

Garden Green provides education on nontoxic alternatives to toxic pesticides, for home gardeners, farmers, retailers, parks departments, municipalities, nonprofit organizations, and corporations. Located on Vashon Island, on Puget Sound, we specialize in the green gardening needs of Western Washington.

Our Work Includes

- Development of green garden product purchasing guides
- Educating retailers about green garden products and the risks of toxic products and encouraging them to stock more green products and less of the toxic products
- Giving talks to the public, schools, community groups, and businesses
- Creation of Green Ways that Work! for retailers and gardeners, covering all major gardening categories
- Creating Fact Sheets on key garden pests of Western Washington, and how to address them without the use of toxic chemicals
- Writing articles for publication on harm caused by toxic pesticides, and organic alternatives.
- Secondary and primary research of organic products and methods

Support for Garden Green was provided by the Puget Sound Stewardship and Mitigation Fund, a grantmaking fund created by the Puget Soundkeeper Alliance and administered by the Rose Foundation for Communities and the Environment.

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October 18, 2018

Table of Contents

Spring

March, April, May

Vegetable and Flower Gardens

Slug Control

Lots of slug eggs (look like tapioca pearls) hatch in March, April, and May
Slugs feed best when it is damp and the temp is between 50-60 degrees F. These are the evenings to go on slug patrol, and put out your slug traps: boards raised 1 inch, overturned melon rinds, beer or sugar/yeast traps.

Disease and Weed Control

Prune out old canes in berry plantings; fortify the soil bed annually with an organic fertilizer blend or compost; spread deciduous wood chips or leaves (bagged back in the fall) as bed mulch. Pull weeds when they first start growing, while soil is moist and roots are short, before they go to seed.

Plant Selection

Buy plants that resist disease and ones that are native to this area. Native plants are less susceptible to disease, and can handle our wet winters and dry summers with less stress. Native plants are also better for local wildlife including birds, butterflies and beneficial insects.

Bird Control

Hang bird netting in place over blueberries and raspberries. Repair existing netting.

Tent Caterpillars

Watch for tent caterpillar nests. If it looks like they may become a problem, prune the nests in the early morning or evening when the weather is cool. Immerse in a bucket of soapy water. If they are attacking your plants, spray Bacillus thuringiensis, (B.t.). But spray only on those plants being eaten by the tent caterpillars, as B.t will also kill butterfly caterpillars.

Lawns

Organic Lawn Fertilizer

Fertilize if needed in May with organic, slow release fertilizer. Get a soil test if you suspect deficiencies. Note that you need 55°F soil temperature before organic lawn fertilizer really kicks in. So be patient.

For Lawns in Poor Condition

Aerate, overseed, and top-dress with 1/2 inch of organic compost. If shade is the problem, consider switching to a mix of shade-tolerant grass and groundcovers, or go completely to shade-loving groundcovers.

Mowing

Start mowing, about 2.5 to 3 inches high for most lawns, and leave the clippings for free fertilizer.

Eco-Turf Seed Planting

Eco-turf seed mixes come in many varieties. Many combine drought-tolerant low growing perennials such as miniature clover, yarrow, and Bellis perennis daisy with grass, so the lawn needs less mowing, less or no fertilizing, and less water. Pests are less of an issue, because you are no longer growing a monoculture of grass.

Spring planting of eco-turf seed mixes begins when soil (not air) temperatures have returned to 50 degrees or warmer. For Puget Sound, that usually means the middle of April. Here is one source for the seed mixes: http://protimelawnseed.com/

European Crane Fly Control

In spring, apply beneficial nematodes to the soil, once the soil temp has reached 55 degrees F. or greater. Turf must be kept irrigated to support the nematodes. Aeration and dethatching in the spring (before applying nematodes or as a substitute) will also help decrease the crane fly population.

Fruit Trees

Holistic Fruit Tree Spray

Sustainable and organic, Michael Phillips' recommendations in his book The Holistic Orchard have been successfully applied in Puget Sound. Learn more about this approach at www.groworganicapples.com. Below are summaries of The Holistic Orchard spring schedule:

Bud-break

- Chip tree prunings and leave in the orchard for the benefit of soil fungi. Any obviously-cankered wood (and thus a source of disease inoculum) should be removed from the site.
- Finish any compost spreading not completed in late fall. Spread deciduous wood chip mulch in haphazard fashion.
- Plant new trees as early as possible, if you didn't plant in the fall.
- Boron needs are met with a sprinkle of Borax every few years. Most other micronutrient shortcomings can be corrected by good compost habits and using seaweed in tank mixes when spraying.
- Remove any spiral trunk guards used on young trees.

Week of Quarter-inch Green

1st holistic fruit tree spring spray (liquid fish, pure neem oil, effective microbes) at double rate aimed at ground, trunk, and branch structure. Stone fruit growers can initiate the holistic sprays as much as two weeks earlier than apple timing. You can learn more about the holistic fruit tree spray and its ingredients here: https://gardengreen.webs.com/organic-orchards-2

Week of Buds Turning Pink

2nd holistic spring spray aimed at unfurling buds, trunk, and branch structure. A good amount of run-off should reach the ground as well.

Bloom

- Cut down wild fruit trees spotted in bloom within a hundred yards of orchard to prevent pest migration to your trees. The exceptions here are those trap trees managed (i.e., pruned at this time) as an "alternative home" for insects put off by repellent strategies.
- Hang pheromone wing traps for monitoring moth presence (pheromones are species specific) and timing of first generation egg hatch, so you can know exactly when to begin specific control measures.

 *Spring, Continued*

Week of Petal Fall

- 3rd holistic spring spray aimed at leaf canopy and developing fruitlets.
- Begin mowing of green understory (preferably with a sickle bar and/or scythe) and pile resulting mulch thickly under trees around the dripline.

First Cover (7-10 days after petal fall)

4th holistic spring spray (liquid fish, pure neem oil, effective microbes) aimed at leaf canopy and developing fruitlets. The fish will help meristem development for return bloom, neem stimulates immune function and hinders moths, microbes are biological reinforcement for the summer ahead. Add horsetail and nettle teas as well to this brew.

After First Cover

Continue to spray the Basic Holistic Organic Spray Mixture every two weeks through May.

Codling Moth in the Holistic Orchard

Spray for first generation codling moth if codling moth is a problem in your orchard. Options include *Bt*, spinosad, and granulosis virus; any of which can be tank mixed with fish oil as a UV inhibitor and molasses as a feeding attractant. Growers may rely on parasite control and cardboard banding if high moth pressure has been abated previously.

The most accurate method to determine timing is degree day tracking, Learn more about codling moth and degree day tracking here: http://treefruit.wsu.edu/crop-protection/opm/codling-moth/

If you don't want to use degree day tracking, you can monitor fruit in the trees to detect the beginning of egg hatch. Starting three to four weeks after bloom, check fruit at least twice a week looking for the first "stings," or tiny mounds of reddish-brown frass about 1/16 inch in diameter. If you scrape the frass away you will see the tiny entry hole where the newly hatched larvae has just entered the fruit. Be sure to examine the fruit where it touches another fruit, as this is a common place to find an entry hole. Spray the tree as soon as you see the first sting; however, but first remove any fruit with stings from the tree, as the spray won't kill any larva that already have entered the fruit.
Learn more about codling moth here:
http://ipm.ucanr.edu/PMG/PESTNOTES/pn7412.html

Summer

June, July, August

Vegetable and Flower Gardens

Weed Control

Weeds grow beautifully in our summers. It is important to get them out before they have set seed, if possible. If the weeds have bloomed, target weed control for just after the flowers have wilted, using your favorite nontoxic method.

Mulch flower and vegetable beds with compost or grass clippings to conserve water and control weeds.

Remember that some weeds are required to be controlled in King County.

Insect Pests, General

It is critical to make sure you know the exact insect that is causing the problem. You may need to go out at night with a flashlight to catch them in the act. Collect at least one specimen to identify. You can bring it in to the Master Gardeners, along with a sample of the damage. Once you know what it is, then you can research how best to deal with it. Recommended resources include Master Gardeners, the Garden Hotline, Grow Smart, Grow Safe, and Garden Green's *Green Gardening Ways That Work!* https://gardengreen.webs.com/common-garden-problems

Use fabric row covers to keep many kinds of insect pests off sensitive vegetables. For details on how best to use row covers for specific crops, see this: https://extension.umd.edu/hgic/floating-row-cover

Root Weevil on Rhododendron

If you have ragged edges on your rhododendron leaves, summer is a good time to apply beneficial nematodes (e.g. *Biosafe*) to the soil under the bushes. Also make sure there is a good 3 inches of compost mulch over the roots, and water appropriately.

Slug Control

The best time to spread your homemade compost is in July and August. This is because slugs like to lay most of their eggs in fall, in your compost pile. So put your homemade compost in the garden during the heat of the summer, before there are slug eggs in it.

Preventing Fungal Diseases Like Powdery Mildew, Blackspot, and Late Blight on Tomatoes

Once these diseases have taken hold, they are nearly impossible to remove. Prevention is the best alternative. Watering and good air circulation are key. Water early in the morning, and do not get the leaves wet. Drip irrigation will save water and keep the foliage dry. If this doesn't solve the problem, consider moving the plants to a sunnier, drier location, and/or pruning overhead trees and shrubs.

If you do wish to spray something, consider these products: Bacillus subtilis (Serenade) and Bacillus amyloliquefaciens strain D747, (Southern Ag Garden Friendly Biological Fungicide) started as soon as damage is seen.

Lawns

Lawn Weeds

Any lawn looks good once it's mowed. Relax. It's summer. If you really want to remove some, however, consider one of the long-handled weed pullers that work well for dandelions and other tap-rooted lawn weeds. You can stand up and do the weeding. Pull them before they go to seed.

Do not use Weed and Feed products containing 2,4-D, as this chemical is extremely toxic to salmon and other life. It is so toxic that by law, one cannot apply it more than twice a year.

Watering to Prevent Lawn Disease

Improper watering is a major cause of damaged lawns. Light, frequent sprinklings encourage shallow rooting of turfgrasses. Shallow rooted turf cannot withstand sudden changes in temperature or soil moisture. Overwatering can cause soggy conditions and may (1) leach plant nutrients, especially nitrogen; (2) encourage weeds such as speedwell, buttercup, and annual bluegrass; and (3) cause oxygen starvation of the grass roots.

Use a small soil tube, spading fork, or shovel to determine soil moisture conditions before watering. Irrigate when the top 2 inches become dry and crumbly and water to at least 12 inches deep if the soil is that deep.


Summer, Continued

The best time to water for most efficiency and to limit disease is early morning, i.e., 4 a.m. For areas that can't be watered in early morning hours, irrigation should begin as late at night as possible, i.e., 11 p.m., to limit the time leaf surfaces would remain wet.

Watering once a week should be fine for lawn soil textures of sandy loam or heavier. Light, sandy soils may require watering twice a week in summer. Irrigate according to plant type, soil texture and depth.

Fruit Trees

Holistic Orchard Spray

Continue to spray the basic holistic orchard spray throughout the season (to just before harvest). Add herbal teas of horsetail, comfrey, and nettles in summer. Omit the hydrolyzed fish after June.

Spray for summer moth control according to the timing of the species attacking your fruit. A rotation of spinosad and Bacillus thuringiensis (Bt) just as eggs hatch is typical. Pure neem oil may well get this job done in its own right if holistic spray options for disease are being continued in the summer months.

Apple Maggot Control

Surround® WP kaolin clay forms a physical barrier that protects from many pests when sprayed on fruits. The white barrier not only repels pests, it causes irritation, confusion, and is an obstacle for feeding and egg-laying. Begin applying Surround® WP kaolin clay by late June, or as early as petal fall, and reapply every 7 to 14 days, or more frequently if it rains, to maintain a good visible film on the fruit. This works for both apple maggot and codling moth. You will need to spray throughout the season for apple maggot.

Nylon footies also provide a good physical barrier, especially for apple maggot. Put them on the small developing apples and thin the apples at the same time.

From early August to harvest, pick up and destroy fallen apples at weekly intervals. Or let the deer eat them.

Visit your trunks

Install or handweed a peastone circle around the trunk, check for borer, adjust mesh vole guards, rub loose bark off, place a repellent mudpack over active sapsucker holes.

Soil Tests
Take ongoing soil tests every few years to check on nutrient status and thus the need to obtain specific soil amendments for fall application.

Treat anthracnose on young fruit trees
Treat the young trees. It is not a problem for large old trees. Don't spray with copper. Instead, carve out the anthracnose and paint with a mix of copper solution and latex.

Fall

September, October, November

Vegetable and Flower Gardens

Slug Control
Slug control is most effective in fall. In late summer or early fall, rake the first few inches of the garden soil to expose eggs to air and predators, before they hatch. Put slug traps out in late September to early October, as the slugs are very active then.

Weed Control
Now is the best time to control perennial weeds. If left, some can continue to grow over the winter, or at least will have a good head start by spring. In early fall, pull emerging weeds while the soil is moist and before they have developed deep roots.

Dig blackberries once fall weather is cooler. You already have heavier clothes on to keep warm, so you are better from the thorns, and the ground is soft for digging. A sawtooth shovel will pop out the roots quickly, and make this a relatively easy task. Ideally, you will have something to plant in their place, as nature abhors a vacuum.

Fall, Continued

Mulch garden beds with leaves or compost to reduce winter weeds and feed the soil. Or plant winter cover crops in open beds.

Lawns

Good Health Maintenance

September is the best time to aerate, de-thatch, overseed, and topdress with ½ inch of organic compost, and add agricultural lime (if soil tests indicate). This annual practice will help the grass grow, and crowd out weeds, and fight off disease like Fusarium patch.

If you don't add compost, and just want to fertilize, the best time to is September, when grass plants are building root reserves for the next year. Use "natural organic" or "slow release" fertilizer. Fertilizing in the fall will help crowd out weeds.

Eco-Turf Seed Mix Planting

An eco-turf seed mix of grass and short, drought tolerant perennials is a good choice for less water use, less mowing, and less fertilizing. When planting eco-turf seed in fall, seed should be on the ground well in advance of the first hard frost in your area (28 degrees for more than one hour); For Puget Sound, the window of opportunity is between mid Sept and the first week in October.

Fruit Trees

Holistic Orchard Approach

Holistic Orchard Spray

Continue to spray the **basic** holistic orchard spray (no hydrolyzed fish) up until harvest.

Harvest

Harvest off the ground to be sure it is ripe. In England, they harvest the tree when 1/3 of the apples are on the ground

Fall, Continued

Post Harvest Spray

A holistic fall spray (liquid fish, pure neem oil, effective microbes and/or compost tea) made when 50% of the leaves have fallen off the tree is absolutely recommended. Target the ground, trunk, and branch structure. This is important for leaf decomposition as well as competitive colonization from bacterial and fungal disease within bark crevices. The nitrogen in fish should also help alternative bearing trees shore up bark nitrogen reserves for spring bud growth.

Replace Disease-Prone Trees

Do some trees have the same disease problems every year, taking up your time, money, and not producing well? Replace them with resistant varieties. September and October are the best months to plant.

Disease and Insect Control

Practice orchard sanitation: Clean up windfall fruit around your tree, especially if it has signs of pests or diseases.

Peach Leaf Curl

Keeping trees sheltered from rain during winter gives good control. WSU Mount Vernon has successfully grown peaches under plastic shelters to control curl, as have local fruit club members. The shelters need to go up before the fall rains begin.

Rodent Control

Weed around the base of your fruit trees to remove hiding spots for rodents that may otherwise chew on the bark unseen over winter.
Install tree guards on young trees.
Check that mesh protection from voles remains in place on all bearing trees with tender bark.

Soil Health

Applying soil amendments at this time works best as the soil remains relatively warm and feeder roots are in uptake mode.

Spread lime (if light applications of "renewal lime" were indicated earlier on a soil test) on fallen leaves, mow aggressively, then spread well-aged compost.

Winter

December, January, February

Vegetable and Flower Gardens

Prune deciduous trees and shrubs for their health
Prune out old canes in berry plantings
Fortify the soil with an organic fertilizer blend or compost

Lawns

Take a break from your lawn….

Fruit Trees

Check for deer incursions at least weekly.

Stomp around the base of tree trunks to pack down vole tunnels.

Prune all bearing trees beginning President's Day. You need to establish an open framework of scaffold branches that allows maximum penetration of sunlight and drying breezes, to reduce disease.

Remove all mummified fruit (still on the trees) to reduce rot spore inoculum.

Order organic orchard supplies for the coming season. Be sure to include seaweed extract to add to every spray tank throughout the growing season.

Resources

Identify Your Disease or Pest

1. Washington State University
Puyallup Research & Extension Center
https://puyallup.wsu.edu/plantclinic/

Contact:
Jenny Glass
Diagnostic Plant Pathologist
Washington State University
Puyallup Research & Extension Center
2606 West Pioneer
Puyallup, WA 98371-4998
Phone: 253-445-4582
jennyglass@wsu.edu

2. The Washington State University Pullman Plant Pest Diagnostic Clinic
https://plantpath.wsu.edu/diagnostics/
Contact
Rachel Bomberger, M.S.
Plant Diagnostician
(509) 335-3292
rachel.bomberger@wsu.edu

3. Bring a sample to your local Master Gardener Clinic
Plant Clinic Schedule for King County
http://www.mgfkc.org/wp-content/uploads/2018/05/2018-Plant-Clinic-Schedule.pdf

Contacts for Pest Problems, and Other Questions

They accept emailed photos of problems and will research the most effective, least-toxic solutions for landscape professionals and homeowners.

The Garden Hotline
Phone: (206) 633-0224
e-mail: help@gardenhotline.org
http://gardenhotline.org/

UW Miller Library Plant Answer Line
Phone: (206) 897-5268
e-mail: hortlib@uw.edu
http://depts.washington.edu/hortlib/collections/pal.shtml

Other Resources

Garden Green
https://gardengreen.webs.com/

The Holistic Orchard
www.groworganicapples.com

Orchard Pest Management: A Resource Book for the Pacific Northwest
http://treefruit.wsu.edu/crop-protection/opm/

Eco-Turf Presentation
https://www.youtube.com/watch?v=ZabmDKcoyac&list=PLp_PB0e1J2i13LaM-t6D-xst3-1tYDQ9s&index=4&t=786s

Integrated Pest Management Fact Sheets on Many Pests
http://www.seattle.gov/util/ForBusinesses/Landscapes/Integrated_Pest_Management/index.htm

King County Noxious Weed Control
https://www.kingcounty.gov/services/environment/animals-and-plants/noxious-weeds.aspx

Northwest Center for Alternatives to Pesticides
Fact Sheets for specific pest issues
http://www.pesticide.org/resources_for_garden