

Commonly asked questions during clinics 2013

This is a compilation of questions commonly asked at Lower Mainland garden clinics during 2013. Volunteer Master Gardeners from the Vancouver Chapter of the Master Gardener Association of British Columbia (MGABC) compiled the list. The answers and references provided in this document are drawn primarily from a list of core references used in MGABC Basic Training Program.

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1. What plants are good for a shady area? For a sunny area? For a dry area? For a wet area? For a sandy area? For a dry shady area? For containers?

Many garden reference books suitable for our area (Pacific Northwest) will contain recommendations and lists of plants suitable for the above-mentioned growing conditions. Below are some useful resources:

- **Great Plant Picks website:** <http://www.greatplantpicks.org/>
 - Excellent resource for questions of this type. Database is searchable and can be limited to plant type and growing conditions; the site also provides lists of plants for specific sites.
 - **For lists for specific conditions, go directly to:**
 - **Great Plant Picks Lists:**
<http://www.greatplantpicks.org/plantlists/search/>
- **Royal Horticultural Society Plant Selector** <http://apps.rhs.org.uk/plantselector/>
 - This site provides a searchable database of plants suitable for various growing conditions.
 - Searches can be restricted to specific light conditions, soil types, moisture levels, and other desired characteristics.
 - Database records generally provide very thorough description of the plants and specific cultivar recommendations (e.g., RHS Award of Garden Merit).
- **Master Gardener's Association of British Columbia. [Various years] Basic Program Course: BC Supplement.**
 - The following sections contain some specific recommendations:
 - Herbaceous ornamentals
 - Shrubs and Trees (extensive checklists)
 - Site Specific Planting
 - For requests about specific plant groups, see specific sections of the BC Supplement for recommendations, e.g., rhododendrons, fruits and berries, vegetables.
- **West Coast Seeds. 2013. Gardening Guide [seed catalogue].**
 - Seed catalogue highlights vegetable, herb, and flowers suitable for various conditions.
 - Very useful for finding cultivars and varieties suitable for container gardening.

- **Lists of BC Native Plants for West Coast gardens**
 - Greater Vancouver Regional District. 2006. Make the neighbourhood a better place: A resident's guide to natural yard care for the Lower Mainland [booklet]. GVRD (Vancouver): pp. 14 – 15.
- **Lists of perennial landscape plants, organized by location types**
 - DiSabato-Aust, Tracy. 2006. The Well-Tended Perennial Garden (1st edition). Portland: Timber Press, pp. 353, [Lists: Perennials that tolerate wet soil, perennials that tolerate dry soil once established]
- **Lone Pine Series Gardening Guides** (use ones specific for British Columbia)
 - Guides contain well-organized quick reference lists of plants for specific situations.
- **Works by Roy Lancaster, e.g. Perfect Plant, Perfect Place (2010, from DK Publishing).**
 - Lancaster has published a number of works with various titles such as “What Plant Where”, “What Perennial Where”, and the like. DK Publishing’s “Perfect Plant, Perfect Place” is a compilation of previous works.

2. What is wrong with this plant?

To answer questions of this type, use steps from the Integrated Pest Management (IPM) process:

- Identify the plant.
- Is the damage physical, chemical or biological?
- Identify and distinguish among the possible causes.
 - Look for the pest
 - Check for characteristic damage
 - Consider the host plant
 - Check growing conditions, e.g.,
 - Weather (including weather in recent months or years)
 - Soil conditions (e.g., drainage, pH, fertility, irrigation)
 - Possible sources of physical injury
- Monitor the problem.
- Decide whether treatment is needed.
- Use the least toxic and nontoxic treatment from the MG approved list.
- For the gardener: evaluate the success of the actions taken.

References

British Columbia Ministry of Agriculture and Lands. 2009. *Home & Garden Pest Management Guide for British Columbia*. Victoria: Province of British Columbia, pp. 17-19.

Gilkeson, Linda. 2013. *West Coast Gardening: Natural Insect, Weed & Disease Control, 2nd edition*. Salt Spring Island: Linda Gilkeson, pp. 1-5, 12-14. [Online Photos](#)

Gredler, Gail. 1999. "Chapter 20: Integrated Pest Management", *Sustainable Gardening: The Oregon-Washington Master Gardening Handbook*. Oregon State University (Corvallis): pp. 439-441.

3. My Impatiens leaves are turning yellow and falling off. What is wrong with them?

2013 was the year that the killer downy mildew pathogen (*Plasmopara obducens*) killed many of these popular annuals in BC.

The pathogen spreads through windblown spores, and first appears as a white layer on the undersides of leaves. Leaves yellow, curl, and then drop off. Within a few weeks the plant stems are bare and the plant collapses and dies.

Impatiens Downy Mildew is *not* caused by the same pathogen species that cause downy mildew of other species. According to information released by Michigan State University Floriculture, *Plasmopara obducens* affects only *Impatiens walleriana*, the familiar garden impatiens. Downy mildews of other plants are detailed in the Home & Garden Pest Guide and Linda Gilkeson's *West Coast Gardening: Natural Insect, Weed & Disease Control*.

Alternatives include the Divine™ series of New Guinea impatiens, which are mildew resistant as well as sun tolerant.

References

Michigan State University Extension. 2013. Impatiens downy mildew: A curse and opportunity for your garden. Blog post by Rebecca Finneran, posted April 29, 2013.

http://msue.anr.msu.edu/news/impatiens_downy_mildew_a_curse_and_opportunity_for_your_garden

Referenced by MGABC website at <http://www.mgabc.org/content/whats-new-mgs-gardeners-important-links>, link current as of March 23, 2013.

Michigan State University Floriculture. 2013. Alternatives to Impatiens. Accessible at <http://flor.hrt.msu.edu/IDM/index.htm>; version accessed for this guide last edited January 2, 2013.

Note: this latter publication provides the more detailed description of the pathogen and garden alternatives.

4. What type of lawn grass can I plant in a shady area?

In moderate shade:

- Fine fescues, e.g., creeping red, chewings, or hard fescue
- Tall fescue

Dense shade:

- Fine fescues combined with roughstalk bluegrass

Very dense shade (greater than 50 percent shade)

- consider alternative groundcovers tolerant of dense shade

Note that very shaded areas of a lawn may need reseeding every spring.

References

Antonelli, Arthur L. 1999. "Chapter 12: Lawns", *Sustainable Gardening: The Oregon-Washington Master Gardening Handbook*. Oregon State University (Corvallis): pp. 271-274.

5. What can I do about the Chafer Beetle?

Prevention for Conventional Lawns

Prevent infestations by maintaining grass health and vigour with deep regular watering and high mowing. Fill in thin areas with grass seed in February and March. The beetle larvae, which cause most of the damage, generally stop feeding in May. If you reseed damaged areas in April and May your lawn should be able to recover for the summer. Stressed turf in high traffic areas is best replaced with paving stones or alternative ground covers.

Much of the visible damage caused by infestations of European Chafer Beetle are due to the activities of birds, skunks, and raccoons, which dig up lawns while seeking out the tasty grubs.

Treatment

If the infestations are serious, apply a specialized nematode treatment containing the insect parasitic nematode *Heterorhabditis bacteriophora*. In the Lower Mainland, this treatment can be used during the 3rd week in July. Apply the nematodes in the evening, using 750,000 nematodes per square metre (70,000 per square foot). The nematodes travel through the soil in the soil water. To wash the nematodes into the soil, water the lawn for 3 hours prior to application, then soak the soil after application for 3 more hours.

Alternatives

Chafer beetles do the most damage to the roots of turf grasses, although they can also affect other garden plants and shrubs. Consider the following alternatives, which tend to suffer little or no damage from chafer beetles:

- biodiverse groundcover mixes (other plant species mixed with grasses)
- non-turfgrass groundcovers
- vegetables or mixed gardens in place of a lawn
- clover lawns (immune to chafer feeding)
- hard landscaping, such as paving stones for high traffic areas

References

British Columbia Ministry of Agriculture and Lands. 2009. *Home & Garden Pest Management Guide for British Columbia*. Victoria: Province of British Columbia, pp. 11, 261-262.

Gilkeson, Linda. 2013. *West Coast Gardening: Natural Insect, Weed & Disease Control, 2nd edition*. Salt Spring Island: Linda Gilkeson, p. 82.

6. Can I prune a leggy Rhododendron?

Yes.

A single massive cutback to 1 or 3 feet can result in a renewed compact plant in a few years. A less drastic approach would be to do this over a two or three year period. A common recommendation is to do the pruning over three successive years, cutting back one third of the plant at a time.

References

Master Gardener's Association of British Columbia. 2013. Rhododendron. *Basic Program Course: BC Supplement*. Vancouver, BC: MGABC.

7. How deep do I plant a Rhododendron?

Rhododendrons are shallow rooted, with a compact, fibrous root system that spreads primarily through the top 8 to 10 inches (20 to 25 cm) of soil. Ideally, these acid-loving shrubs should be planted in medium sandy loam that is rich in humus and other organic matter. They do not want their roots covered in heavy clay.

Plant according to the same guidelines as other woody ornamental shrubs. In general, shrubs should be planted in a hole that is twice as large, but not deeper, than the root

system. If the plant is container grown, the hole should be wider than the spread out root system. Plant the rhododendron to the same depth as it was growing in the nursery.

Once the rhododendron is planted, you can mulch with two to four inches (5 – 10 cm) of mulch such as moistened peat, bark mulch, leaf mould, conifer needles, or low pH compost (not mushroom manure). Take care not to pile the mulch against the trunk of the plant.

Mulches help conserve moisture and keep the roots cool. Recommended bark mulches include pine, fir, or hemlock bark mulch. The best leaf moulds consist of well-rotted beech or oak leaves.

Replace the mulch annually, ideally in the fall.

References

Master Gardener's Association of British Columbia. 2013. Rhododendron. *Basic Program Course: BC Supplement*. Vancouver, BC: MGABC.

Maleike, Ray, 1999. Woody Landscape Plants. Chapter 9 in *Sustainable Gardening: The Oregon-Washington Master Gardening Handbook*, Corvallis: Oregon State University, pp. 185-187.

8. When can I plant Garlic and how deep?

Plant your garlic cloves in mid-October before the first hard frost.

Separate the cloves, and then sow individual cloves 10 – 15 cm (4 – 6") apart in rich, well drained soil in a sunny area 10–15cm (4–6") . The tips of the clove should be 5cm (2") deep.

References

West Coast Seeds. 2014. *Gardening Guide* [seed catalogue], pp. 111. *Pages will vary depending upon the publication year of the catalogue.*

9. What are the spots on my pear tree?

Questions to Consider

What do the spots look like? Where are the spots? Are they holes rather than spots? Are they bumps? What do the edges look like? Do the spots have a texture? Are they wet or dry? What colour are they? Are the spots sunken, dead areas? Are there any insects, mites, or worms visible? Are fungal fruiting bodies visible? What else is growing in your area? What has the weather been like? When did you notice the spots? Do you remember if anything happened before the spots appeared?

Symptom Profiles

- **Bright orange or yellow spots on the pear leaves.** Tiny dots appear in late May, and gradually increase in size until August. Black dots appear in the centre as the dots enlarge. Fruiting bodies appear in late August. Severe cases may affect fruit; galls may appear on twigs.
 - **Probable cause: Pear Trellis Rust Rust** (*Gymnosporangium fuscum*)
 - The pear tree is growing within 30 m to 6 km of a juniper tree, which is a co-host for this fungal disease. Infected junipers develop orange jelly-like growths on their branches. These growths release basidiospores; these are carried by the wind and infect new leaves on pear trees. The spores may travel as far as 6 km, although the more commonly cited radius of infection is 30 metres.
 - References:
 - BC Home & Garden Pest Management Guide, p. 153
 - Gilkenson, 2013. Natural Insect, Weed & Pest Control, pl. 153.
- **Small green and reddish blisters on leaves, 3-6 mm long on the newest shoots. Blisters later turn brown or black. May be accompanied by tough, reddish brown spots (russet spots) on fruit.**
 - **Possible cause: Pearleaf Blister Mite** (*Phylloptus pyri*)
 - **References**
 - BC Home & Garden Pest Management Guide, p. 145
 - Gilkenson, 2013. Natural Insect, Weed & Pest Control, p. 100

- **Small oval brown or tan bumps on the surface of branches and twigs or along leaf veins. Sticky honeydew may be present.**
 - **Possible cause: scale insects** (Lecanium, Oystershell, San Jose Scale, and European Fruit Scale are described in the BC Home & Garden Pest Management Guide as pests of fruit and nut trees.
 - References
 - BC Home & Garden Pest Management Guide, p. 144

- **Small dark brown spots and sunken dead areas on bark.** Twigs and branches may be affected; dead areas may become quite large and even girdle branches. Some dead areas will show concentric rings with dead tissue at the edges, while others areas have cracked dead bark with dead areas underneath. **Tiny white fruiting bodies may be visible on the lesions in winter; alternatively, pinhead-sized round red speckles (fruiting bodies) are visible in winter or spring.**
 - **Possible cause: European canker** (*Nectria galligena*)
 - Susceptible pears include Asian Pears, Comice, and Spartlett pears.
 - Primarily a problem in cool humid regions; not a problem in dry regions such as the interior
 - Young cankers develop tiny white fruiting bodies in winter; older cankers will develop reddish fruiting bodies.
 - More obvious symptoms are branches with withering leaves and shrivelling fruit, with lesions occurring somewhere along the affected branch.
 - References
 - BC Home & Garden Pest Management Guide, p. 151
 - Gilkenson, 2013. Natural Insect, Weed & Pest Control, pp. 157-158

- **Olive green leaf spots with feathery margins; spots eventually turn sooty brown or black. Leaves may eventually turn black. The fruit is affected by circular, brown or black lesions that eventually become corky.** Misshapen and cracked fruit may result. Pear trees may also show tiny 1 mm spots on twigs.
 - **Possible cause: Pear Scab** (*Venturia pirina*)
 - Affects European pears. Susceptible pear cultivars include ‘Anjou’, ‘Bartlett’, ‘Flemish Beauty’
 - Asian pears are less susceptible
 - Pear cultivars ‘Comice’, ‘Conference’, and ‘Sierra’ are reportedly less susceptible, as well as ‘Harrow Delight’, ‘Orcas’, ‘Crganche’, ‘Perry’, Barnett’, and ‘Brandy’.

- Does not infect apples; apples have their own variety of scab.
- References
 - BC Home & Garden Pest Management Guide, p. 153-154
 - Gilkenson, 2013. Natural Insect, Weed & Pest Control, p. 133.

Other possibilities to consider include injury or blemishes caused by heat, light, mechanical insult, or chemicals. A good description and history are essential for useful diagnoses.

Additional References

British Columbia Ministry of Agriculture and Lands. 2009. Pests of Fruit and Nut Trees – specific crops: apples, pears. In *Home & Garden Pest Management Guide for British Columbia*. Victoria: Province of British Columbia, pp. 147 – 155.

10. When can I prune a cedar hedge?

The evergreen conifer hedges we typically call “cedar hedges” usually consist trees from the genus *Thuja* (trees from this group are also commonly known as Arborvitae).

They are best pruned while they are growing most actively, which in our area should be near the end of July to early August. The *A-Z Encyclopedia of Garden Plants* (2nd Canadian Edition) recommends trimming *Thuja* hedges in spring and late summer; Grant and Grant’s *Trees and Shrubs for Coastal British Columbia* recommends the months of July and August for the pruning of large limbs on conifers.

When pruning, be sure not to cut back the branches to old wood: always leave some green growth on branches as new growth will not emerge from old wood.

References

Unspecified author. (2004). *Thuja*. In C. Brickell (Ed. in chief) and T. Cole (Ed.), *A-Z Encyclopedia of Garden Plants*, (2nd Canadian Ed.). Toronto: Dorling Kindersley, pp. pp. 1008 – 1009.

Grant, John A., and Grant, Carol L. (1990). *Trees and Shrubs for Coastal British Columbia Gardens*, 2nd Ed., revised by M.E. Black, B.O. Mulligan, J.A. Witt, and J.G. Witt. Vancouver: Whitecap Books, p. 345.

11. How do I prune my Raspberry?

First, determine whether your raspberry plant bears its major crop in the summer or in the fall.

Raspberry varieties or cultivars can be characterized as summer bearing (producing in the summer) or autumn bearing (producing in the fall, although raspberries may also be produced over the summer).

Summer bearing raspberries produce fruit on canes that emerged during the previous season. When the canes first emerge, they grow leaves but do not fruit. The canes bear fruit the following summer, after which the canes die.

Fall or autumn-bearing raspberries can produce fruit on canes that emerge during the same growing season. If these new canes are not cut down at the end of the summer, the canes can produce fruit on the lower portions of the canes during the following summer (June/July). After this second crop, the canes die.

Summer bearing raspberries

- If you see new canes during the growing season, do not top them.
- In late fall or winter, cut down all the canes that bore fruit during the summer. The canes will look whitish and are dead. Cut the dead canes to soil level.
- Leave the new canes alone: these will bear fruit the next summer.
- Remove diseased, damaged, weak, broken, or insect-infested canes over January to March, while plants are dormant.

Autumn bearing raspberries

Simple Method (fall crop only)

- After the all the fruit is harvested and no more fruit is expected, cut all the canes to the ground. This can be done in late March.

More Complicated Method (summer and fall crop)

- Harvest summer crop.
- Remove the old canes that bore the summer crop (they will have produced raspberries on the lower parts of the canes). Cut these canes to the ground.
- Allow this season's canes to bear fruit this fall; do not cut to the ground until after next summer's harvest.
- From January to March (while plants are dormant),
 - Cut diseased, damaged, weak, broken, or insect-infested canes to the ground
 - Remove tips of the canes that fruited during the fall

In both cases, contain raspberries within the growing area by removing new canes that grow outside the designated row or hill.

References

Strik, Bernadine, 1999. Berry Crops. Chapter 11 in *Sustainable Gardening: The Oregon-Washington Master Gardening Handbook*, Corvallis: Oregon State University, pp. 229-233.

Master Gardener's Association of British Columbia. 2013. Raspberries for the Home Garden. *Basic Program Course: BC Supplement*. Vancouver, BC: MGABC.

12. What is eating my Kale?

What are you seeing?

Signs: Ragged, angular holes in leaves, small at first and perhaps even progressing to leaves that disappear within a matter of hours. Dark green pellets of excrement (frass) can be seen on the leaves.

Possible cause: Imported Cabbageworm, larvae of the Cabbage Butterfly (*Pieris rapae*) OR cabbage loopers, larvae of the Cabbage Looper moth (illustrations on page 95 of the BC Home & Garden Pest Management Guide)

- Imported Cabbageworm

- The imported cabbageworm is the larval form of the commonly seen Cabbage Butterfly, a smallish butterfly with white wings usually marked with distinct grey spots. From spring through summer, adults lay eggs on the leaves of the plants from the cabbage.
- The velvety, pale green caterpillars are up to 2.5 cm long with a faint yellow stripe down the back. They can be very small at first.
- Eggs are the size of pinpoints and are bright yellow cones. They are usually laid singly on the undersides of leaves.
- The green larvae chew the leaf in an angular pattern and can decimate it in a matter of hours.
- Cabbage looper
 - Cabbage looper moths are dusty brown and have an oval white mark on the wings
 - Looper caterpillars are smooth and green with white stripes. They move like the classic inchworm, raising their backs in an arc as they inch forward.
- Control
 - Pick off and destroy larvae. Look underneath the leaves, as they are typically found on the undersides of leaves.
 - Prevent infestations by covering your kale plantings with floating row covers to prevent the butterflies from laying their eggs on the plantings.
 - Encourage a healthy population of beneficial insects and insect-eating birds in your garden. Plant nectar sources and provide water sources for beneficial insects.
 - *Bacillus thuringiensis kurstaki* (Btk) sprays are effective against this organism. However, use Btk as a last resort, as Btk affects other butterflies and moths as well.
- References
 - BC Home & Garden Pest Management Guide, p. 179-180
 - Gilkeson, 2013. Natural Insect, Weed & Pest Control, p. 19-20.

Signs: Numerous little round holes in the leaves. Leaves look like they have tiny shot holes in them.

Possible cause: cabbage flea beetles (*Phyllotreta* species)

- Adult flea beetles are tiny jumping insects. They are 1-2 mm long and dark brown or black; it is the feeding of the adult flea beetles that damages the leaves.
- The larvae of the flea beetles are tiny and wormlike; they feed on the fine roots of plants and are usually not visible.
- Large plants with waxy leaves are generally not severely affected by flea beetles, although young kale plants can be more severely damaged by heavy infestations.
- Control
 - Protect your kale crops with floating row covers; cover transplants as soon as they are set out
 - Grow young plants under protection with floating row covers; transplant to garden when they are large enough to withstand attack
 - Rotate crops
 - Eliminate possible sources of infestation by removing *Brassica* family weeds (e.g., mustards and winter cress) from the garden and neighbouring areas, OR
 - Seed or transplant a *Brassica* trap crop row amongst your kale
 - Ontario gardeners have been using Indian mustard, *Brassica juncea* var. *crispifolia*
 - BC Home & Garden Pest Management guide suggests Bok Choy/Pac Choi if the above is not available
 - Linda Gilkeson suggests 'Southern Green Mustard' or Pac Choi and also suggests seeding the trap crops several weeks ahead of the crop plants to provide a more attractive alternative food source
 - Grow your kale in mixed beds with other vegetables, herbs, and flowers
 - Cover the soil between plants with a living mulch of clover. Adult flea beetles will find it difficult to find host plants with such mulches, as they lay their eggs around the roots of host plants
 - If flea beetles are becoming worse year after year, break the reproduction cycle by removing all Brassicas (crops AND weeds) from the garden by early April. Wait until at least late June before planting cole crops. Cover the new plantings with insect netting or floating row covers.
 - Chemical controls (last resort):
 - Pyrethrins, sprayed at the first sign of shot-hole damage
 - Spinosad (ensure that the product is labelled for kale or whatever crop you're applying it to)
- References
 - BC Home & Garden Pest Management Guide, p. 180.
 - Gilkeson, 2013. Natural Insect, Weed & Pest Control, p. 71-72.

Other pests of cole crops can also attack kale, but the above pests are the most likely ones to cause visible physical damage to this leafy crop. Other pests that eat cole crops such as kale include:

- cabbage aphids (causes leaf distortion and growth stunting)
- cabbage maggot (tunnels through root systems, causing invisible damage that only becomes apparent when well-watered plants collapse in hot weather, or when roots are lifted and examined)
- red turnip beetle (a pest that occurs in Central BC and the Peace River area; adult beetles are bright red with black spots and black lines as distinctive markings)

General References

British Columbia Ministry of Agriculture and Lands. 2009. *Home & Garden Pest Management Guide for British Columbia*. Victoria: Province of British Columbia, pp. 178-180.

Gilkeson, Linda. 2013. *West Coast Gardening: Natural Insect, Weed & Disease Control, 2nd edition*. Salt Spring Island: Linda Gilkeson, p. 50, 69-70, 71-72.

13. Why didn't my hydrangea bloom this year?

Possible Cause: Old, overgrown shrub with few new spring shoots, OR the new spring shoots were pruned away.

Have you been pruning it? How have you been pruning it? When did you do it?

Hydrangeas bloom on buds that form on the current season's growth. To promote flowering, hydrangeas should be pruned in late winter to encourage vigorous growth of new spring shoots. Some of the stalks should be cut completely to the ground in order to rejuvenate the shrub over time. A good practice with older shrubs is to remove one third of the oldest, tallest branches at or slightly above ground level. This should be done before growth starts in the spring.

A late spring pruning, on the other hand, could result in the removal of bud bearing new shoots. This, too, could also cause lack of flowering.

References

[Staff author.] 1999. Pruning. Adapted form *The Virginia Master Gardener Handbook*, Ray McNeilan (Ed.), Chapter 4 in *Sustainable Gardening: The Oregon-Washington Master Gardening Handbook*, Corvallis: Oregon State University, pp. 97.

14. How do I get rid of goutweed?

Goutweed (*Aegopodium podagraria*), also known as ground elder, bishop's weed, snow in the mountain, and herb gerard, is an invasive, spreading perennial plant from the carrot family that grows well in shady sites. Each piece of root, if left in the soil, can generate a new plant.

Aggressively remove as much of the plant as you can. Be sure to remove new leaves – and roots if possible – each time the weed begins to grow. Ideally, try to avoid leaving many root fragments in the soil, as each piece of root is capable of generating a new plant.

This process takes much persistence and is a fair bit of work at first, but eventually it will be quite manageable.

Additional Methods

These methods could be used instead of, or perhaps more effectively, in addition to, physical removal of goutweed.

- Solarization
 - Cover the weedy area with thick black plastic to exclude light and retain heat. This method heats the soil to levels that should be high enough to kill plant tissues and germinating weed seeds. It can also be used to reduce pathogen levels.
 - Till or disturb the soil prior to solarisation, and ensure that the soil is reasonably moist (to encourage weed seeds to try to grow beneath the plastic)
 - Seal the edges to the soil.
 - Leave in place for at least 4-6 weeks, ideally during the hottest part of the summer (mid-June to mid-August).
- Sheet Composting
 - Use heavy, light-excluding compostable barriers to kill goutweed by starving the plants of light
 - Typical barriers include sheets of cardboard or layers of damp newspaper.
 - Other mulches and compostable materials can be layered on top to the barrier layer.
 - Leave the sheets in place for several months (or indefinitely) until all the goutweed has been killed.

Disposal

Do NOT dump goutweed waste in other areas, such as other parts of your garden, other yards, or public property. Home composting may also be risky, as there is a chance that your home compost will not get hot enough to destroy the living plant tissue.

Large scale municipal compost systems are generally much more suitable for disposing of invasive plants, provided that the temperatures and digestion processes used in a large-scale and well-monitored composting system are high enough to destroy weed tissue. The GVRD's municipal composting system accepts weeds.

References

Bubl, Chip. 1999. Weed Management. Chapter 8 in *Sustainable Gardening: The Oregon-Washington Master Gardening Handbook*, Corvallis: Oregon State University, pp. 393, 396-398.

British Columbia Ministry of Agriculture and Lands. 2009. *Home & Garden Pest Management Guide for British Columbia*. Victoria: Province of British Columbia, pp. 29, 303-311.

Gilkeson, Linda. 2013. *West Coast Gardening: Natural Insect, Weed & Disease Control, 2nd edition*. Salt Spring Island: Linda Gilkeson, pp. 184-185, 189-190.

Greater Vancouver Regional District. 2014. Green bin program: prepare food scraps and yard waste for collection. Web page accessed at <https://vancouver.ca/home-property-development/what-food-scraps-and-yard-waste-go-in-green-bins.aspx>; last updated Jan. 6, 2014 as of March 25, 2014.

15. How do I get rid of blackberries?

Himalayan and evergreen blackberries are difficult to control. Birds spread the seeds, and the long canes droop and root where they touch the ground. Blackberries also spread by means of an extensive creeping root system.

As blackberries are perennial, cutting down the canes alone is not enough. You must persistently remove as much root as possible. Be sure to cut out the crown of the plant; this part will be just below ground level. If you just cut the cane once or twice it will regrow.

References

Bubl, Chip. 1999. Weed Management. Chapter 8 in *Sustainable Gardening: The Oregon-Washington Master Gardening Handbook*, Corvallis: Oregon State University, pp. 393-394.

British Columbia Ministry of Agriculture and Lands. 2009. Integrated weed management. Chapter 19 in *Home & Garden Pest Management Guide for British Columbia*. Victoria: Province of British Columbia, pp. 309.

Gilkeson, Linda. 2013. *West Coast Gardening: Natural Insect, Weed & Disease Control, 2nd edition*. Salt Spring Island: Linda Gilkeson, pp. 189-190.

16. What can I grow under a cedar tree?

Cedars are greedy for moisture and nutrients. When planting beneath cedar trees, cut through the cedar roots to make the planting holes. Amend the soil and top dress with compost.

Choose shade and acid tolerant plants that also tolerate dry sites. Some examples include:

- Daylilies
- *Geranium macrorrhizum*
- *Epimedium* sp.
- *Bergenia*
- *Vancouveria hexandra*

Additional possibilities can be discovered using the Great Plant Picks database at <http://www.greatplantpicks.org/>. Search for plants that tolerate shade (deep shade especially) and drought.

References

Master Gardener's Association of British Columbia. 2013. Herbaceous ornamentals. *Basic Program Course: BC Supplement*. Vancouver, BC: MGABC.

17. Should I use bone meal when I am planting new purchases?

No.

Bone meal is primarily made up of calcium and phosphorus, and quantities of both minerals are usually adequate in non-agricultural urban soils. While both minerals are needed for

plant growth, excessive amounts of these nutrients, particularly phosphorus, can interfere with plant growth.

Low levels of phosphorus in the soil stimulate plant root tips to secrete organic acids, which then attract mycorrhizal fungi. These fungi penetrate the roots and help the plant take up water and nutrients. Mycorrhizal fungi also help the plant to take up phosphorus from the soil.

Excess phosphorus inhibits the growth of these fungi. This, in turn, forces the plant to create an extensive root system to extract the nutrients and water it would have otherwise received via its association with mycorrhizal fungi. While a more extensive root system sounds like a good thing, the plant is directing energy into roots that it could be directing toward other sorts of growth and production.

References

Chalker-Scott, Linda. [date?]. The Myth of Beneficial Bone Meal. Article published by the Puyallup Research and Extension Center, Washington State University. Available online at http://puyallup.wsu.edu/~linda%20chalker-scott/Horticultural%20Myths_files/Myths/Bonemeal.pdf; last accessed March 24, 2014.

18. What can I plant for beneficial insects (this includes bees) besides sweet alyssum?

Many beneficial insects eat pollen and nectar as an important part of their diet. Since many predator and parasitoid insects are quite tiny, they can only reach the nectar and pollen of very small flowers. Thus, plants with many tiny blooms are much more suitable sources of pollen and nectar for beneficial insects than plants with large, showy ornamental flowers. Many showy ornamentals (e.g., some lilies) are also bred to have little or no pollen.

Plants in the following families tend to be attractive to beneficial insects:

- *Apiaceae* (a.k.a., *Umbelliferae*, or carrot family)
 - E.g., parsley, lovage, dill, coriander, carrots left to flower and go to seed
 - *Astrantia*
- *Brassicaceae* (mustard/cabbage family)

- Iberis, kale, mustards
- *Asteraceae* (a.k.a., Compositae, or aster family)
 - daisies, yarrow, goldenrod (*Solidago*), calendula
- *Lamiaceae* (mint family)
 - Thyme, mints, rosemary, lavender, oregano, sage
 - In general, all woody perennial herbs attract beneficial insects when in bloom.

Alliums such as leeks and onions, including ornamental onions are also attractive to beneficial insects. Legumes such as clover and alfalfa are similarly attractive.

In addition to pollen and nectar sources, provide a ready supply of water for beneficial insects, particularly during the driest parts of summer. Nectar provides some water, but because the diet of predatory insects does not include the sap of your beloved plants, they will benefit from other sources of water in their environments. Shallow dishes of fresh water, perhaps with a few pebbles added to provide landing spots, will help beneficial insects make the most of the nectaries you provide.

References

Gredler, Gail. 1999. Integrated Pest Management. Chapter 20 in *Sustainable Gardening: The Oregon-Washington Master Gardening Handbook*, Corvallis: Oregon State University, pp. 449 – 451.

British Columbia Ministry of Agriculture and Lands. 2009. *Home & Garden Pest Management Guide for British Columbia*. Victoria: Province of British Columbia, p. 35.

Gilkeson, Linda. 2013. *West Coast Gardening: Natural Insect, Weed & Disease Control, 2nd edition*. Salt Spring Island: Linda Gilkeson, pp. 105-108.

West Coast Seeds. 2014. *Gardening Guide* [seed catalogue], pp. 89, back cover.

Pages will vary depending upon the publication year of the catalogue. Throughout the catalogue, entries for seeds of plants particularly attractive to beneficial insects are indicated with a special symbol. Page 89 of the 2014 catalogue lists wildflower blends meant to be attractive to beneficial insects.

19. How do I deal with creeping buttercup (*Ranunculus repens*) in my lawn?

Creeping buttercup spreads by runners and is very invasive in wet, soggy soil.

So: is the lawn fairly wet? Improving the drainage will likely help the lawn compete with the buttercup. Allow the lawn to go dormant during the summer; this will also dry out the soil.

Hand weed. Follow up each runner and remove the attached plants. Take care to avoid disturbing too much soil and exposing dormant weed seeds to light. Reseed bare patches.

All is not lost for buttercups and dandelions as they attract beneficial insects as well.

References

British Columbia Ministry of Agriculture and Lands. 2009. Integrated weed management. Chapter 19 in *Home & Garden Pest Management Guide for British Columbia*. Victoria: Province of British Columbia, pp. 303-306.

Gilkeson, Linda. 2013. *West Coast Gardening: Natural Insect, Weed & Disease Control, 2nd edition*. Salt Spring Island: Linda Gilkeson, pp. 184.

20. My maple has leaf curl, what causes this?

Maples need good drainage and generally do not require a lot of water. Some varieties prefer to grow in shaded or partially shaded areas.

A number of factors could result in curled, shrivelled leaves (assuming that this is not part of the natural appearance of this particular maple cultivar):

- Insufficient watering
 - Leaves curl due to wilting as a result of inadequate water in the tissues
- Inadequate drainage
 - Conversely, the root systems of the maple may suffer as a result of inadequate drainage.
 - Excessive water reduces oxygen supply to roots, so the plant respiration stops or slows
 - Various types of rot can occur

- *Phytophthora* root rot
 - Lack of drainage can encourage the development of *Phytophthora* rot
 - Leaves wilt because the plant roots have decayed, and cannot supply the tree with adequate water. The tree may also show poor colour, poor growth, and symptoms of nutrient deficiency. It may even die.
 - Check for poor drainage: has the soil been wet for extended periods? Affected root systems may no longer have feeder roots and show blackening or browning of larger roots. With advanced infections, if the roots are pinched, the root cortex will slip off easily.
- Bacterial blight
 - Leaves, shoots, and stems of infected maples wilt and may turn black in spring and early summer. Cool, wet weather in spring and fall can encourage infection.
- Verticillium wilt (*Verticillium dahlia*)
 - Caused by a soil-borne fungus which invades roots and clogs the vascular system of the plant.
 - Infected trees will often show wilting and death of one or a few branches at a time.
 - Cross sections of infected tissue or bark usually show black streaks just under the bark, in the vascular cambium.
- Sun scorch
 - Maples adapted to shady areas may be scorched by excessive sunlight and heat.
 - In dry conditions, the leaves may become dry and crisp; wet conditions may encourage secondary infections.
 - Typical pattern: brown, dry areas on margins of leaves; otherwise, the tree seems to be healthy overall.
- Herbicide or other chemical damage
 - Have there been any herbicide applications in the area?
- Insect pests
 - Aphids and other sucking insects can cause leaves to distort and curl as a result of the damage they cause by sucking the sap of young tissues.
 - Check plants and nearby surfaces for sticky honeydew; if present, sucking insects such as aphids are the likely source of the honeydew.

References

British Columbia Ministry of Agriculture and Lands. 2009. *Home & Garden Pest Management Guide for British Columbia*. Victoria: Province of British Columbia, pp. 208, 209, 235 - 236.

Gilkeson, Linda. 2013. *West Coast Gardening: Natural Insect, Weed & Disease Control, 2nd edition*. Salt Spring Island: Linda Gilkeson, pp. 164.

Maleike, Ray., 1999. Woody Landscape Plants. Chapter 9 in *Sustainable Gardening: The Oregon-Washington Master Gardening Handbook*, Corvallis: Oregon State University, pp. 193 – 203.

Pscheidt,, Jay W. 1999. Plant disease. Chapter 15 in *Sustainable Gardening: The Oregon-Washington Master Gardening Handbook*, Corvallis: Oregon State University, pp. 325 – 339.

Green, James L. 1999. Diagnosing plant problems. Chapter 16 in *Sustainable Gardening: The Oregon-Washington Master Gardening Handbook*, Corvallis: Oregon State University, pp. 341 – 348.

21. Can you make soil?

You can make compost (organic matter) but soil is actually sand, silt and clay (weathered minerals). Unless you wish to tumble rocks for a while, it not so easy to replace.

References

Cogger, Craig. 1999. "Chapter 2: Soils and Fertilizers", *Sustainable Gardening: The Oregon-Washington Master Gardening Handbook*. Oregon State University (Corvallis): pp. 35 - 40.

22. My maple tree has small white woolly like spots on the back of the leaves. What are they?

A grayish-white powdery coating on leaves may be powdery mildew, but is not normally associated with a woolly texture.

The description and location that the spots may indicate an insect that hides on the underside of leaves. Possibilities include:

- *Pulvinaria floccifera*, also known as cottony camellia scale.
 - The insect produces cottony egg masses that are easy to see.
- *Icerya purchasi*, also known as cottony cushion scale

A sample of the woolly spots would help pin down the actual cause so that an appropriate control method, if needed, can be used.

If the problem is cottony cushion scale or cottony camellia scale, you have at least a couple of options:

- In general, if the number of affected leaves is small, one could simply pick off the affected leaves and dispose of them.
- If the infestation is more severe, prune off the worst branches and then treat the affected parts of the plant with insecticidal soap to kill immature scale. The soap spray should cover all surfaces, and repeated at intervals to catch new generations. The exact interval depends on the life cycle of the pest. Gilkeson (2013) recommends monthly applications for one species of scale.

References

British Columbia Ministry of Agriculture and Lands. 2009. *Home & Garden Pest Management Guide for British Columbia*. Victoria: Province of British Columbia, pp. 216, 235 – 236.

Gilkeson, Linda. 2013. *West Coast Gardening: Natural Insect, Weed & Disease Control, 2nd edition*. Salt Spring Island: Linda Gilkeson, pp. 57 – 58.

23. How can I control Apple Scab?

Apple Scab (*Venturia inaequalis*) is a very common disease of apple trees grown in areas that have high rainfall during the growing season like we have in Vancouver and the Fraser Valley. This is why the commercial production of apples is concentrated in dry areas like the Okanagan Valley and central Washington.

Low level infections are cosmetic; high level infections can result in defoliation and fruit drop. This disease overwinters in last year's leaves developing during the winter ready to release spores just as the first leaves appear on the trees. The fungal spores (ascospores) are stimulated to "shoot" into the air when last year's leaves are soaked by water from rain or irrigation. The fungal structure that contains the spores looks like a small peashooter that swells and explodes when wet. These spores are very small: they can travel great distances in a breeze (hundreds of meters) before landing on your tree.

Once a spore lands on a leaf or fruit, they require 'free water' from rainfall or irrigation and a high enough temperature for a long enough time to infect. If the leaves dry out before the spore germinates and infects, the disease is stopped in its tracks. At 5 °C, infection takes 26 hours of continuous wetness; at 10 °C it takes 14 hours; at 15 °C it takes 10 hours; and at 20 °C it takes just 9 hours. Once the infection is established a secondary spore is produced that easily infects other leaves and fruit on the same tree every time it rains during the spring and summer.

Removing and destroying all the infected leaves under your trees during the fall will reduce the number of spores produced right under your tree, and this may reduce the amount of Apple Scab you get in a dry year. In a wet year (most years here), this will make little difference as the spores produced by the leaves under trees in gardens and parks within a few hundred meters of your trees will provide lots of spores.

If you grow your apple trees under a rain cover and do not irrigate the leaves and fruit of your trees, your tree will not be infected by apple scab. Rain covers can be a wide overhang of a house or a specially made protective structure.

The only other practical organic way to prevent or reduce apple scab is to plant somewhat resistant varieties (or change the variety of existing trees by grafting). Good apple varieties for this area with resistance to Apple Scab include: Pristine (early Aug), Prima (late Aug), Blushing Susan (late Sep), Bramleys (late Sep/early Oct), Liberty (mid Sep), Sundance (mid Oct), Florina (mid Oct) and Goldrush (late Oct). Many other varieties (e.g., Boskoop, King, Lord Lambourne, Melrose, Northern Spy, Russett, Spartan) have reasonable Apple Scab 'tolerance' and will have low infection levels in a dry year.

There is a similar disease of pears, Pear Scab. Pear Scab does not infect apples and Apple Scab does not infect pears.

References

British Columbia Ministry of Agriculture and Lands. 2009. *Home & Garden Pest Management Guide for British Columbia*. Victoria: Province of British Columbia, pp. 153 – 154.

Gilkeson, Linda. 2013. *West Coast Gardening: Natural Insect, Weed & Disease Control, 2nd edition*. Salt Spring Island: Linda Gilkeson, p. 131.