



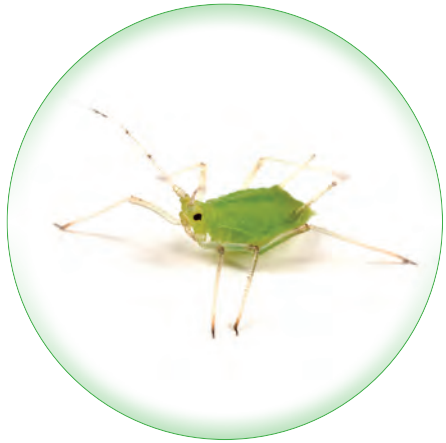
NATURE WORKS

Healthy Choices to Control Lawn and Garden Pests

Comox Valley
REGIONAL DISTRICT

Healthy Choices to Control Lawn and Garden Pests

APHIDS



What Do They Look Like?

- Apids are tiny, soft-bodied, pear-shaped insects, 2-3 mm long
- They are slow moving and come in many different colours — typically green, also grey or black
- If you look closely, you may see two small tubes sitcking out from their backs. These tubes are unique to aphids

Where Do I Find Them?

- Look for aphids on the underside of leaves of a variety of vegetable crops, ornamental plants, and trees, including fruit trees
- Aphids like to cluster together, so look for colonies
- Nasturtiums, birch trees and some roses are favourites of aphids

Aphid Life Cycle

- Aphids grow and multiply quickly when they have the right conditions
- They are generally most active in spring and summer, and tend to die off in hot weather
- Eggs remain dormant over winter and hatch in spring and summer and the cycle begins again
- One aphid can produce an entire colony!

What Does The Damage Look Like?

- Aphids use their needle-like mouth parts to suck the juices out of plants; they do not chew leaves
- When many aphids feed on the same plant, the leaves of the plant will often curl up, and fruits and flowers may look stunted or deformed
- Aphids produce honeydew, a sticky, sugary substance that is left behind on leaves
- Honeydew attracts mold that turns black and sooty but does not usually damage the plant

Are Aphids Really A Problem?

- Most aphid infestations cause only minimal or superficial damage to plants and trees (deformed leaves, buds, flowers or fruit, and blackened or sooty honeydew deposits)
- Unless aphid-infested plants or trees are seriously weakened, it is not necessary to control aphids
- Aphids will die off naturally in very hot weather or when natural enemies (ladybugs, aphid midges, certain kinds of flies) appear
- Aphids rarely cause long-term damage to plants or trees

What Can I Do? Non-Pesticide Treatments

If aphid infestations are weakening plants or trees:

- Spray aphids off the undersides of leaves with a strong stream of water from a spray bottle or garden hose, during spring and summer when they are likely to be a problem. You will have to repeat this as the aphids do not die from the spraying
- To avoid the growth of fungus on plants, spray water in the morning so leaves dry out during the day

- Spray aphids off plants with soapy water including commercial products developed for this, if the infestation is persistent in spring/summer
- Plant nasturtiums as a “trap crop” near other plants or trees that aphids find attractive; pull out the nasturtiums once they are infested and dispose of in household garbage
- Hand pick infested weeds and dispose of aphid- infested plants in household garbage
- Prune infested branches or leaves and dispose of in household garbage
- Prune back plants or trees from doorways, windows, and driveways so that the honeydew does not stick to these areas

Bugs That Eat Other Bugs - Insect Predators!

- Local garden centres stock insects that are natural predators of aphids and do not harm plants in your garden. One type of “aphid eater” is the aphid midge, a tiny fly. Talk to garden centre staff or lawn care professionals before purchasing these predator bugs
- You can attract aphid midges and other predator bugs to your garden by planting yarrow, parsley, cilantro and sweet alyssum

How Can I Prevent It Next Year?

- Follow the healthy garden tips on this page to make sure your plants are robust and can fight off aphids
- Before the next growing season, prune branches of trees or plants where aphids were found previously
- Some plants are more attractive to aphids than others, especially those with green, tender leaves. If you buy these types of plants, place them away from doorways, driveways or decks so that honeydew will not be a problem
- Avoid over-fertilizing. New growth makes plants attractive to aphids; use organic fertilizers that release nutrients slowly over time
- Plant yarrow, parsley, cilantro or sweet alyssum in spring to attract aphid predators
- Check plants for aphids before you buy them! New plants should be quarantined from other plants until you can be sure they are free from aphids

Tips For A Healthy Garden

- Ensure soil is healthy, well conditioned with organic compost and has adequate drainage (remember that plants get most of their nutrients from the soil)
- Plan your garden so plants are put in areas where they naturally thrive (dry or wet, sun or shade)
- Plant in raised beds (good for the plants, good for the back)
- Use native plants that are already acclimatized, require low maintenance and have an in-bred resistance to local pests and diseases
- Water deeply but infrequently to maintain a strong root structure
- Protect and attract native beneficial species (give them a place to live and a source of water and they’ll do the rest)
- Practise annual crop rotation for each type of vegetable (keeps patterns of disease or insect invasion in check)
- Fertilize regularly in spring and fall with organic compost

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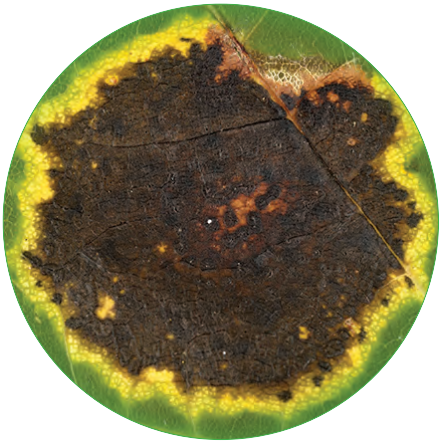
Healthy Choices to Control Lawn and Garden Pests

BLACK SPOT



What Do They Look Like?

- Black spot is a common infectious disease of roses
- It appears on the upper surface of leaves and stems of roses as small to large circular black spots with fringed margins
- Leaves turn yellow and fall prematurely; occasionally petals may become distorted or have red dots

Where Do I Find It?

- Black spot affects many varieties of roses, although some shrub roses and rugosa roses (native to the Victoria area) are more resistant
- Many hybrid tea roses are known to be more susceptible to black spot

Black Spot Life Cycle

- Black spot is a fungal disease that lies dormant during winter on fallen rose leaves, leaf buds and in stems
- It germinates and infects leaves when temperature and moisture increase in spring
- Spores are produced throughout the growing season, causing repeat infections in warm, wet weather
- It is easily spread by air currents, water splashes, wind-driven rain, insects and garden tools

Is Black Spot Really A Problem?

- Repeated loss of leaves weakens roses and causes plants to produce fewer blooms; it also makes roses more susceptible to other stresses
- Under ideal conditions (moist, humid, and warm), the disease can infect roses within one day and can begin to cause leaf damage within 4 to 5 days of the initial infection
- It is most often a problem in summers with extended rainy periods
- Black spot is not likely to cause long-term damage to the more resistant native rose species

What Can I Do? Non-Pesticide Treatments

- Water early in the day to allow plants to dry, and avoid wetting leaves during watering
- Prune all infected leaves and branches immediately, even if this means removing all foliage. Make sure you remove this material completely from your garden and dispose in household garbage
- In spring, remove any leaf debris near roses that may be left over from winter, as it could have black spot fungus; dispose in household garbage

How Can I Prevent It Next Year?

- In the fall, prune infected plants within 10-15 cm of where two or more stems join
- Completely remove prunings and leaf debris around plants, and dispose in household garbage
- Plant spot-resistant varieties in open, sunny areas, and avoid planting roses in areas with existing dense vegetation as air flow may be poor - consult your local garden centre or garden professional for recommended spot-resistant rose varieties
- Avoid overhead watering of your rose plants; water at the bases instead
- Spray lime-sulphur in spring before buds break to kill spores (available from garden centres)
- Mulch roses in spring to prevent re-infection from over-wintering spores
- To avoid the growth of fungus on plants, spray water in the morning so leaves dry out during the day

Tips For A Healthy Garden

- Ensure soil is healthy, well conditioned with organic compost and has adequate drainage (remember that plants get most of their nutrients from the soil)
- Plan your garden so plants are put in areas where they naturally thrive (dry or wet, sun or shade)
- Plant in raised beds (good for the plants, good for the back)
- Use native plants that are already acclimatized, require low maintenance and have an in-bred resistance to local pests and diseases
- Water deeply but infrequently to maintain a strong root structure
- Protect and attract native beneficial species (give them a place to live and a source of water and they'll do the rest)
- Practise annual crop rotation for each type of vegetable (keeps patterns of disease or insect invasion in check)
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BROADLEAF WEEDS
(DANDELIONS, CLOVER, BUTTERCUP, PLANTATION)

What Do They Look Like?

Dandelion (see illustration on right)

- Long, deeply-toothed, lance-shaped leaves, with a long tap root
- Bright yellow flowers, which turn into white puffy seed heads that spread in the wind

Clover

- Many different types. All have characteristic three oval-shaped leaflets, finely toothed, with prominent veins
- May have yellow, white or pink flowers
- Holds nitrogen in its roots. That's why clover appears green in areas where other plants turn yellow

Buttercup

- Leaves have three lobes, deeply toothed
- Distinct yellow flowers, with five shiny petals
- Has a creeping growth habit

Plantain

- Smooth, oval leaf blades, 5 – 15 cm long
- Leaf veins are prominent and converge at the leaf stem with 5 – 7 "ribs" that parallel the leaf edges
- Long dark cylinder-like flower head on a straight, stiff stem
- Usually form dense clumps of individual plants

Where Do I Find It?

- Common in lawns and gardens
- These plants are favourites of bees and other pollinators

Broadleaf Weed Life Cycle

- Broadleaf weeds are perennials, which means they live for more than one year; the tops may die back but the roots persist
- These weeds produce large number of seeds capable of dispersing over great distances

Are Aphids Really A Problem?

- While damage is basically aesthetic, large numbers of weeds indicate problems such as low fertility, compacted soil, poor drainage, and excessively dry or waterlogged conditions
- Many weeds are useful, providing food and shelter for beneficial insects and bees
- Weeds prevent soil erosion, stabilize banks, aerate heavy soils and help to break up hard-pan layers
- When to control broadleaf weeds is a personal choice that differs from individual to individual. If you know that at a certain point you will want to control the weeds, it's better to start sooner than later

What Can I Do? Non-Pesticide Treatments

- Manually remove weeds with as much of the root as possible. Remove weeds in the spring when the soil is moist and before seeds are formed; garden centres carry a number of handy tools for this job
- If weeds are in a garden area, use a hoe and then apply an organic mulch or compost to prevent seeds from establishing
- Proper lawn care is the most effective method of controlling weeds:

  Lawn mowing: Mow high and use sharp blades (maintain ideal grass height of 6 - 8 cm that shades the soil, prevents water evaporation and allows the grass to better compete with the weeds). Longer grass generally means a healthier, more pest-resistant lawn. Mow often enough so that no more than 1/3 of the grass blades is removed each time you cut

  Nutrients: Use a mulching or hand mower to leave your grass clippings on your lawn (called "grasscycling"). Grass clippings can supply 25 per cent of your lawn's fertilizer needs every time you mow. Make sure your lawn has an adequate balance of nutrients. Low pH or a lack of essential nutrients such as nitrogen, phosphorus and potassium can weaken turf. Apply organic mulches or compost to add nutrients. To maintain soil pH between 6.0 and 7.0, add lime to raise pH, and peat moss or sulphur to lower it

  Watering: Water deeply and infrequently to encourage deep roots. Water early in the day and ensure that water reaches the root zone.

  Overwatering may encourage some weeds such as buttercups

  Aeration: Aerate compacted or heavy clay soils every year or two. Mechanical aerators are useful for large areas and a garden fork can be used for small areas

  Thatch control: Thatch is the dead grass that builds up on the surface of your lawn. A 1-cm layer of thatch can be beneficial but thicker thatch should be removed

How Can I Prevent It Next Year?

- See What Can I Do?
- Ensure you have the best grass and soil for the area and climate (adequate drainage and sufficient organic matter content are just as important for lawns as gardens)
- Plant a variety of grasses that can tolerate a range of growing conditions for both sun and shade
- Aerate and top dress with finely screened compost and sand in the spring or fall (for proper drainage and root development)
- Sparse or patchy lawns may be over seeded with turfgrass mixtures during winter or early spring
- Consider alternatives to grass, such as other ground covers, paving stones, gravel paths and bark mulch

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CODLING MOTH

What Do They Look Like?

- Adult moths are speckled, greyish-brown in colour, with a distinctive bronze band on the bottom third of their wings
- Adults are about the size of a housefly, 2.5 cm long
- Caterpillars are pinkish-white with brown heads,
- 1.5 cm long

Where Do I Find Them?

- Caterpillars are found near the core of fruits such as apples, crabapples and pears
- Adult moths are usually found on the surface of fruit and leaves

Codling Moth Life Cycle

- Adult females lay eggs on the surface of fruit or on leaves when trees are in bloom (usually May-June)
- Caterpillars emerge one to three weeks later, and immediately tunnel into fruit where they feed and develop
- After feeding on the fruit, they emerge and crawl down the tree trunk to spin cocoons, emerging as adult moths two to three weeks later
- There are two to three generations a year
- Some caterpillars overwinter in the cocoon stage and emerge when trees bloom

What Does The Damage Look Like?

- Caterpillars tunnel holes in fruit such as apples, crabapples, pears, peaches and plums
- They make a small entry hole near the bottom of the fruit and leave behind crumbly brown droppings called frass

Are Codling Moths Really A Problem?

- Codling moths can cause significant fruit loss
- Damaged fruit cannot be stored but the undamaged parts can be eaten

What Can I Do? Non-Pesticide Treatments

- Wrap corrugated cardboard bands or burlap sections (10 to 20 cm wide) around the base of tree trunks, starting in mid-July, to intercept the first generation of caterpillars as they hatch
- Check cardboard or burlap every day and destroy any caterpillars or cocoons found; this will reduce the next generation of moths. Do this from May to October
- Pick up any infested fruit and dispose in household garbage

How Can I Prevent It Next Year?

- In early spring (April-May), check fruit trees and scrape loose bark to remove any over-wintering cocoons
- Check developing fruit for entry holes from the time the first petals fall
- Pick up all dropped fruit and dispose in household garbage to prevent caterpillars from leaving and overwintering in the soil
- Set up a winter bird feeder to attract birds to your yard, as they will eat overwintering cocoons

Tips For A Healthy Garden

- Ensure soil is healthy, well conditioned with organic compost and has adequate drainage (remember that plants get most of their nutrients from the soil)
- Plan your garden so plants are put in areas where they naturally thrive (dry or wet, sun or shade)
- Plant in raised beds (good for the plants, good for the back)
- Use native plants that are already acclimatized, require low maintenance and have an in-bred resistance to local pests and diseases
- Water deeply but infrequently to maintain a strong root structure
- Protect and attract native beneficial species (give them a place to live and a source of water and they'll do the rest)
- Practise annual crop rotation for each type of vegetable (keeps patterns of disease or insect invasion in check)
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CUTWORMS

What Do They Look Like?

- Cutworms come in a variety of species and colours
- They may be dull gray, brown or black with stripes or spots
- They are greasy-looking, fat, hairless caterpillars, up to 5 cm long. They tend to curl up when disturbed

Where Do I Find Them?

- Cutworms live in the soil and on host plants such as tomatoes, peppers, cabbage, peas, beans, squash, corn, lettuce, cabbage, rhubarb and other common vegetable and plant species
- Cutworms hide in the soil near the base of plant stems during the day
- You can easily find cutworms at night by searching with a flashlight near plant stems and the top layer of soil

Cutworm Life Cycle

- Cutworms are the larvae of various moth species
- Eggs are laid in soil under weeds and debris or on tips of grass during late summer
- Larvae hatch in spring and cause the greatest damage between early May and late June, before becoming adult moths

What Does The Damage Look Like?

- Cutworms chew through the stems of plants at or just below the soil surface
- Many plants in a row may be “cut off” during the night and will appear “freshly mowed”
- Some cutworm species climb and chew on the leaves of plants

Are Cutworms Really A Problem?

- These pests cut off plants above, at, or below soil surface. Planting extra seeds or seedlings can offset cutworm damage
- Some cutworms feed on leaves, buds, seedlings or fruits; others feed on the underground portions of plants. Leaf damage is usually not a serious problem

What Can I Do? Non-Pesticide Treatments

- Handpick cutworms from plants and squash them or drown them in a bucket of soapy water
- Make stiff plastic, cardboard or metal “collars” or “shields” to place around plants. Leave a gap of approximately 1 cm around stem and make sure the collar extends 2.5 cm below to 5 cm above the soil surface. Try using plastic drink or milk bottles, toilet paper rolls or soft drink cans
- Pour molasses or other sticky substances around plant bases. Individuals become trapped and die. Left over molasses is washed away by rain

- Sprinkle crushed eggshells around plant bases. When cutworms crawl on the shells, they dehydrate and die
- Special microscopic worms called nematodes may be purchased at garden centres. They kill cutworms by acting as parasites. Talk to a garden professional before purchasing or using this control method

How Can I Prevent It Next Year?

- Mow grass twice a week in the spring to remove cutworm eggs. Optimal grass length is between 6 and 8 cm. Longer grass generally means a healthier, more pest-resistant lawn
- Turn soil several weeks before planting to allow birds to feed on cutworms. Plant as late in the season as possible and sow extra seeds
- Discourage moths from laying eggs in August and September by removing plant debris and weeds from your garden. Apply mulches in fall after adult moths have stopped laying eggs

Tips For A Healthy Garden

- Ensure soil is healthy, well conditioned with organic compost and has adequate drainage (remember that plants get most of their nutrients from the soil)
- Plan your garden so plants are put in areas where they naturally thrive (dry or wet, sun or shade)
- Plant in raised beds (good for the plants, good for the back)
- Use native plants that are already acclimatized, require low maintenance and have an in-bred resistance to local pests and diseases
- Water deeply but infrequently to maintain a strong root structure
- Protect and attract native beneficial species (give them a place to live and a source of water and they'll do the rest)
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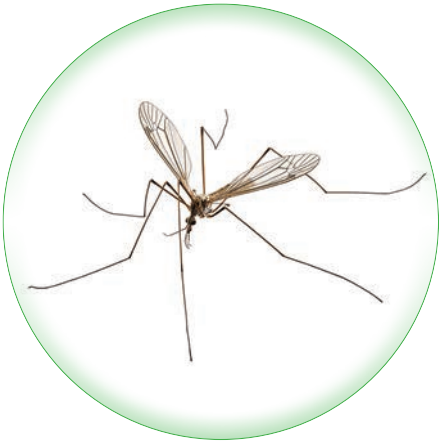
LEATHERJACKETS

What Do They Look Like?

- Leatherjackets are the larval form of the European crane fly (the adult is illustrated on the right)
- Leatherjackets are shiny, light grey to brown, worm- like maggots with irregular spots, up to 4 cm in length
- They have a tough outer skin, which is the reason for their name
- Adults resemble giant brown mosquitoes with long legs. Their bodies are up to 2.5 cm in length
- Adult crane flies are completely harmless



Where Do I Find Them?

- Leatherjackets live underground just below the soil surface
- They feed on decaying vegetation, fungi and the roots of lawn grasses
- They are most active during April and May

Leatherjacket Life Cycle

- Crane flies have one generation a year
- Adult crane flies lay eggs during late summer in grass or soil. They prefer wet or tall grass
- Larvae begin feeding on grass roots in the fall. They overwinter in the soil
- In spring, the larvae resume feeding until June, when they become adults

What Does The Damage Look Like?

- Leatherjackets attack grass roots, creating sparse, brown patches in lawns. In a heavy infestation, the brown patches become bare
- Additional damage may be caused by birds and other animals digging out the larvae

Are Leatherjackets Really A Problem?

- Leatherjackets are rarely a problem in healthy lawns
- High numbers of larvae could cause damage to a healthy lawn, but their natural predators, such as birds, will generally keep leatherjackets in check
- Unhealthy lawns — those with poor drainage and a lot of thatch — are at greater risk of damage from smaller infestations since grass plants are already stressed

What Can I Do? Non-Pesticide Treatments

First determine if you have a leatherjacket problem:

- In areas of your lawn where you suspect leatherjackets, dig up and fold back several small sections of turf to expose the roots of the grass and count the larvae you see
- Instead of digging, you can use a “soap drench” of non-phosphate, biodegradable soap in water to thoroughly soak a small section of your lawn and count the

leatherjackets that emerge within 5 - 10 minutes (you may need to repeat this several times

- in different areas of your lawn to get a better sense of the problem)
- If there are more than 20 larvae in a square foot of soil, consider control options

The best time to control leatherjackets is in the spring:

- Use a mechanical lawn aerator or power rake to improve air circulation and boost lawn health. This will also kill some of the leatherjackets
- Remove leatherjackets manually using a net, rake or by handpicking them. Then drown the larvae in soapy water
- Practise good lawn care. Mow to keep grass height at between 6 and 8 cm. Longer grass generally means a healthier, more pest-resistant lawn
- Make sure your lawn has an adequate balance of nutrients. Low pH or a lack of essential nutrients such as nitrogen, phosphorus and potassium can weaken turf. Apply organic mulches or compost to add nutrients
- Special microscopic worms called nematodes may be purchased at garden centres. They kill leatherjackets by acting as parasites. Talk to a garden professional before using this control method

How Can I Prevent It Next Year?

- Aerate or power rake your lawn regularly and encourage birds to frequent your yard by providing bird seed and by planting native shrubs and trees
- Allow the top layer of soil to dry out in late summer to kill crane fly eggs
- Maintain a healthy lawn by watering deeply but infrequently
- Add compost as a mulch in spring and fall to feed your lawn

A Good Start Towards A Healthy Lawn

- Ensure you have the best grass and soil for the area and climate (drainage and organic matter content is just as important for lawns as gardens)
- Use a variety of grasses that can tolerate a range of growing conditions
- Aerate and top dress with finely screened compost and sand in the spring or fall (for proper drainage and root development)
- Ensure the pH of your soil is between 6 0 and 7 0 (add agricultural lime to raise pH, peat moss or sulphur to lower it)
- Water deeply but not too often (like a slow, soaking rain), in the early morning
- Rake up and remove thatch build-up (dead grass on the surface of the soil)
- Mow high and use sharp blades (maintain grass height of 6 to 8 cm to shade the soil, prevent water evaporation and allow the grass to better compete with the weeds)
- Mow frequently (no more than 1/3 of grass blades should be removed each cut)
- Use a mulching or hand mower to leave grass clippings on lawn (“Grasscycle”) Grass clippings can supply 25 per cent of your lawn’s fertilizer needs every time you mow
- Re-seed lawn, in spots where it’s necessary, in the fall

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ROOT WEEVIL (STAWBERRY ROOT WEEVIL, BLACK VINE WEEVIL)

What Do They Look Like?

- Weevils are small, oval shaped, hard shelled beetles with small heads
- Strawberry root weevils are shiny, almost black, 6 mm long
- Black vine weevils are brownish-grey or black with yellow patches on their backs, 8 mm long
- Larvae are 1 cm long, whitish, maggot-like grubs with brown heads

Where Do I Find Them?

- Both types of root weevil larvae are found burrowed in the roots of their favourite host plants
- These host plants include strawberry and other berry plants, rhododendron, azalea, rose, viburnum and conifers such as spruce and pine
- Adult weevils are found chewing on the leaves of plants at night, and hiding under the soil during the day

Root Weevil Life Cycle

- Larvae overwinter in soil, feeding on roots until mid-May, when they form cocoons
- Adults emerge from cocoons in June and feed on leaves for about 4 weeks, then lay eggs in soil or the leaves of host plants throughout the summer
- The new larvae burrow into the soil and feed on plant roots before burrowing deeper for the winter
- Some adults will overwinter in roots or under brush and leaf litter

What Does The Damage Look Like?

- Adult root weevils chew leaf edges in a semi-circular notched pattern. Look for these notches on the leaves of host plants
- Larvae feeding on roots can stunt plant growth or kill plants indirectly by allowing disease organisms to attack

Are Leatherjackets Really A Problem?

- Unless root weevils are quite numerous, they are usually not a problem
- Most plants can handle some damage from root weevils
- Bites out of roots are more serious than chewed up leaves

What Can I Do? Non-Pesticide Treatments

- Check new leaves for notches. If no notches appear, do nothing
- Hand pick or knock adult weevils off plants at night when they are most active
- Collect them on a light-coloured ground sheet and dump them into a container of soapy water
- Trap adult weevils by attracting them to hiding places

during the day. Use short pieces of board laid flat under plants, or cardboard sheets wrapped around stakes driven into the ground beside plants

- Once weevils are trapped, dump them into a bucket of soapy water
- Catch adults on single stemmed plants or trees by wrapping the stem or trunk with tree gauze and attaching sticky tape available from garden stores. The weevils will stick to the tape and can be disposed of easily

How Can I Prevent It Next Year?

- Avoid mulching over the root crowns of plants. Weevil larvae love to hide in mulch during winter
- Purchase plants that are "weevil resistant," such as certain varieties of rhododendrons. Talk to a garden professional or local garden centre for advice

Tips For A Healthy Garden

- Ensure soil is healthy well conditioned with organic compost and has adequate drainage (remember that plants get most of their nutrients from the soil)
- Plan your garden so plants are put in areas where they naturally thrive (dry or wet sun or shade)
- Plant in raised beds (good for the plants good for the back!)
- Use native plants that are already acclimatized require low maintenance and have an in-bred resistance to local pests and diseases
- Water deeply but infrequently to maintain a strong root structure
- Protect and attract native beneficial species (give them a place to live and a source of water and they'll do the rest)
- Practise annual crop rotation for each type of vegetable (keeps patterns of disease or insect invasion in check)
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SLUGS

What Do They Look Like?

There are at least two kinds of larger, non-native slugs found in gardens in the Capital Regional District:

Black slug (also called chocolate or licorice slug)

- This slug may grow up to 18 cm long, and can be black, brown, red-brown, green-brown or yellow- orange in colour, with red, orange, yellow or black foot fringe
- When disturbed, it may sway from side to side and contract into a bell-shaped form

Scarlet-backed taildropper

- This medium-sized slug may grow up to 6 cm long, and has black bands on its mantle (behind the head), tail and body, with orangish pigment

There is only one type of large slug native to our area:

Banana slug

- As its name suggests, this slug may be varying shades of yellow or yellow with black speckles. It may grow up to 15 cm long. Banana slugs prefer moist woodland habitats and are less common in city gardens
- Banana slugs are native to BC and tend to do little damage compared to the non-native slugs. If you find one, gently move it out of your garden

Where Do I Find Them?

- Slugs feed on rotting plant materials as well as on young plants. They especially love young vegetables, lilies and spring bulbs
- They feed at night and during wet, cloudy days
- Slugs can be found under low-lying plants, trees, shrubs, decaying leaves and boards in dark, moist places

- Slugs love soils rich in calcium and high in organic matter — the same soils that are perfect for growing vegetables!
- Most slugs leave a slimy, silvery trail of mucous behind them

Slug Life Cycle

- Slugs are mollusks, the same animal group as snails, clams and mussels
- They generally mate between July and October and lay their eggs in moist places, such as under stones, boards or decaying plant material
- The pearly white eggs are found in clumps of 40 to 100
- Baby slugs, sometimes no bigger than a pencil eraser, can eat 30 to 40 times their weight in one day!
- Slugs live from 1 to 2 years

What Does The Damage Look Like?

- Slugs chew holes in plant leaves and eat young shoots and seedlings

Are Slugs Really A Problem?

- Slugs can multiply quickly and are sometimes difficult to get rid of once they have established themselves in a garden
- Holes chewed in leaves cause damage to young plants and seedlings
- Plant extra seeds or seedlings to offset damage caused by slugs

What Can I Do? Non-Pesticide Treatments

- Reduce slug habitat by removing unwanted bricks, boards and garden clippings from around your yard
- Ivy is a favourite hiding place for slugs. Clip back ivy and other vegetation to improve air flow and sunlight to make your garden drier, warmer and less attractive to slugs
- Collect slugs by hand when they are actively feeding at dawn or dusk and destroy them. A damp plastic bag spread out in your garden may make a handy slug-picking site!
- Slugs love beer. Make your own slug traps by filling old yogurt containers with beer or a water and yeast mixture, and sticking them in the ground. The edges of the containers should stick up above the ground at least 1 cm to prevent trapping other beneficial creatures
- Barriers are effective in preventing slugs from getting at certain areas of your garden or specific plants or trees. Copper or zinc strips are available at garden centres or hardware stores, and make excellent barriers. Place the strips around flowerbeds, shrubs or trees. Other, less expensive barriers include sawdust, crushed eggshells, ground oyster shells, soap, cinders, lime or diatomaceous earth
- Birds, snakes, frogs and certain types of beetles eat slugs. Protect and attract these creatures to your yard for natural slug control!

How Can I Prevent It Next Year?

- Reduce slug habitat by removing unwanted bricks, boards and garden clippings from around your yard
- Check under pot rims and under plant containers for slugs before bringing them into your garden
- In the fall, look for and destroy the pearly egg masses of slugs under mulch, decaying wood, rocks or in the soil

Tips For A Healthy Garden

- Ensure soil is healthy, well conditioned with organic compost and has adequate drainage (remember that plants get most of their nutrients from the soil)
- Plan your garden so plants are put in areas where they naturally thrive (dry or wet, sun or shade)
- Plant in raised beds (good for the plants, good for the back!)
- Use native plants that are already acclimatized, require low maintenance and have an in-bred resistance to local pests and diseases
- Water deeply but infrequently to maintain a strong root structure
- Protect and attract native beneficial species (give them a place to live and a source of water and they'll do the rest)
- Practise annual crop rotation for each type of vegetable (keeps patterns of disease or insect invasion in check)
- Fertilize regularly in spring and fall with organic compost

Comox Valley
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Healthy Choices to Control Lawn and Garden Pests

SPIDER MITES

What Do They Look Like?

- Tiny, eight-legged, 0.3 to 0.5 mm (1/50 inch) long with fine hairs on body
- May be red, yellow or pale green in colour
- Most spider mites spin delicate webs

Where Do I Find Them?

- Look for spider mites on the undersides of the leaves of a variety of fruit and nut trees, vegetable and berry crops, and ornamental plants

Spider Mite Life Cycle

- Spider mites are active in both winter and summer, but reproduce quickly during hot, dry weather
- A single generation may take only seven days to go through its life cycle
- Adult females lay eggs on host plants, which hatch into larvae
- Spider mites feed on plants as larvae, through two nymph or immature stages, and as adults
- Adult females are larger than males and have rounded abdomens
- Eggs are laid in the fall and will remain dormant during winter
- Spider mites survive the winter by hiding in garden waste and in the cracks of tree trunks

What Does The Damage Look Like?

- Adults, nymphs and larvae feed on the juices of plants; they do not chew leaves
- Plant leaves turn yellow and speckled. With severe infestations, the edges of yellowed leaves become brown and brittle. Some plants may become deformed. In rare cases, plants may die

Are Spider Mites Really A Problem?

- Most spider mite infestations cause only minimal or superficial damage to plants and trees
- Early detection of spider mites is important:
- Check for spider mites by taking a piece of white paper or cardboard and striking some plant leaves against it
- Test this out on several different plants in your yard
- The mites can be seen walking slowly on the paper

What Can I Do? Non-Pesticide Treatments

- Spider mites will die off naturally in very hot weather or when their natural enemies (ladybugs, certain kinds of flies) appear
- Spider mites usually do not cause long-term damage to plants or trees

- Spray spider mites off the undersides of leaves with a strong stream of water from a spray bottle or garden hose, during spring and summer. You will have to repeat this as the mites do not die from the spraying
- To avoid fungus on plants, spray water in the early morning so the leaves dry out during the day
- Spray mites off plants with soapy water if the infestation is persistent in spring/summer
- Hand-pick infested weeds and dispose in household garbage
- Prune infested branches or leaves and dispose in household garbage

How Can I Prevent It Next Year?

- Follow the healthy garden tips below to make sure your plants are robust and can fight off aphids
- Check plants for spider mites before you buy them! New plants should be quarantined from other plants until you can be sure they are free of mites

Tips For A Healthy Garden

- Ensure soil is healthy well-conditioned with organic compost and has adequate drainage (remember that plants get most of their nutrients from the soil)
- Plan your garden so plants are put in areas where they naturally thrive (dry or wet sun or shade)
- Plant in raised beds (good for the plants good for the back!)
- Use native plants that are already acclimatized require low maintenance and have an in-bred resistance to local pests and diseases
- Water deeply but infrequently to maintain a strong root structure
- Protect and attract native beneficial species (give them a place to live and a source of water and they'll do the rest)
- Practise annual crop rotation for each type of vegetable (keeps patterns of disease or insect invasion in check)
- Fertilize regularly in spring and fall with organic compost

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Healthy Choices to Control Lawn and Garden Pests

YELLOW JACKETS

What Do They Look Like?

- Shiny, yellow and black-striped wasps, about 2 cm long
- They have 4 wings, unlike the beneficial wasp look-a-like, the syrphid fly or flower fly, which has only
- 2 wings
- Wasps are beneficial predators of aphids, flies, caterpillars and other pests

Where Do I Find Them?

- Yellow jackets love to feed on the juices of ripe fruits and on flower nectar. They are often found in backyards with fruit trees, flowering plants and compost piles
- They are common picnic pests as they are attracted to sugary drinks, fruit and meat

Yellow Jacket Life Cycle

- In the spring, yellow jacket queens build their papery nests in the ground, in holes in walls or under branches or eavestroughs
- Yellow jackets expand their nests all summer as their numbers increase
- In September, all wasps die off, except for the queen
- The queen overwinters in leaf litter or under bark mulch but the old nest is not re-used the following year

What Does The Damage Look Like?

- Stings are painful and can be a concern for people with allergies to insect venom
- Yellow jackets can sometimes damage buildings by chewing through wood walls

Are Yellow Jackets Really A Problem?

- Yellow jackets are beneficial insects. Control them only if they become a significant nuisance or if you are allergic to their stings

What Can I Do? Non-Pesticide Treatments

- Remove wasp attractants, such as over-ripe or rotting fruit
- Prune back flowering plants near doorways and sidewalks to avoid brushing against feeding wasps
- Pick fruit early in the morning or at night when wasps are less active
- Feed pets indoors and keep garbage can lids tightly closed
- Keep picnic foods and drinks covered. Drink from straws
- Re-useable baited wasp traps are sold at garden centres; Bait traps with meat scraps before August; use honey, jam or fruit later in the summer
- Only remove nests from areas that are frequently used by people. It is not necessary to get rid of nests located away from “high traffic” areas
- If you can tolerate a nest until the end of the season, the yellow jackets won’t be back as they don’t re-use their nests

- If you must remove a nest, do it early in the summer when nests are small, and in the evening when wasps are less active
- Removing a nest:
- Before taking action, consult with a garden care professional
- Wear protective clothing, such as a hat, safety glasses, long-sleeved shirt, pants and gloves. Make sure you are covered from head to toe!
- Use a long pole or broom to knock the wasp nest to the ground. Try to knock it away from doorways or other frequently used parts of your home or garden
- Once the nest is on the ground, wait until the wasp activity dies down, then dispose of the nest in household garbage
- You may wish to consider hiring a professional if a nest is large or in a difficult to reach location. Make sure the company does not use chemical pesticides to remove wasps!

How Can I Prevent It Next Year?

- Yellow jackets do not use the same nest twice.
- As mentioned above, if you can tolerate the nest for one season, chances are the wasps will not be back next year
- Remove wasp attractants from around your yard and garden (see above)

Tips For A Healthy Garden

- Ensure soil is healthy well conditioned with organic compost and has adequate drainage (remember that plants get most of their nutrients from the soil)
- Plan your garden so plants are put in areas where they naturally thrive (dry or wet sun or shade)
- Plant in raised beds (good for the plants good for the back!)
- Use native plants that are already acclimatized require low maintenance and have an in-bred resistance to local pests and diseases
- Water deeply but infrequently to maintain a strong root structure
- Protect and attract native beneficial species (give them a place to live and a source of water and they'll do the rest)
- Practise annual crop rotation for each type of vegetable (keeps patterns of disease or insect invasion in check)
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