

# TOP 10 GARDEN PESTS

**THE** **salisbury**   
**WIM** GREENHOUSE

**SLUGS, ANTS,  
WASPS AND  
MORE...**

**50**   
**YEARS**  
**& growing**

**AND HOW TO CONTROL THEM ORGANICALLY**

# Top 10 Garden Pests

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# Top 10 Garden Pests for 2016



10. Fruit Tree Leaf Roller



9. Sod Webworm



8. Dew Worms



7. Ash Leaf Cone Roller



## 6. Tent Caterpillars

## 5. Scarlet Lily Beetle



## 4. Slugs

## 3. Wasps



## 2. Ants

## 1. Aphids





Fruit Tree Leaf Roller

10.

In the apple orchards of BC and other Canadian regions, the fruit tree leaf roller makes the jump from cosmetic annoyance to crop-threatening pest.

Although it can afflict ash, caragana, elm, maple and poplar species, it likes apple and other fruit trees the best.

## Life Cycle

In spring, the larvae munch on emerging buds and leaves, weakening the tree from the start of the growing season.

Unfortunately, they also enjoy the very small apples that are often forming as they feed, leaving the mature fruit scarred and commercially useless.

Like the ash leaf roller, in June they migrate

via silken thread from the leaves they eat to the leaves in which they pupate, pulling one or several leaves around them for their sleepy metamorphosis.

The emergent mottled brown and silver moths will lay 50–100 eggs in the crannies of branches to overwinter.

## Control

If you're a commercial grower and the leaf roller is threatening your harvest, consult a professional to help you deal with the problem.







Sod Webworm

9.

Does your lawn have brown patches that look like dog spots, only you don't have a dog? Sod webworm is a common affliction in mature, exposed lawns (it doesn't like shade).

Unlike most yard pests, webworm is an American native and wasn't introduced from the "Old World." The adult brown, mottled moths, recognizable by their unique snout, do no damage, but the eggs they lay can wreak havoc on turf.

## Identification

Got thatch? Webworms prefer mature, thinned-out lawns with plenty of cozy thatch to curl up in and dig their tunnels through.

Watch for brown spots from late June on. Look for silken-lined tunnels in the thatch, typically occurring in the centre of brown spots. Other than webbing, their tiny green excrement pellets are a giveaway. You won't see the worms themselves, which are a light tan colour with brown spots, as they're nocturnal, unless you drive them out.

## Damage

The larvae will chew your grass blades off just above thatch level and pull them into their silken caves for edible bedding.

The crown of the grass blade is typically below thatch level, so while they don't kill the blade, they will give it a nasty buzz-cut. However, if left untreated, the accumulating chomping stress may kill the lawn.

The damage will worsen during hot, dry summers. The scalped grass will still be alive, but chewed off whenever it tries to grow.







## Control

Improving your lawn's overall health will go a long way in controlling webworm.

Give it a spring and fall aeration followed by a good raking to pick up as much thatch as possible (elbow grease required).

After thatch detail, consider top-dressing a spotty lawn with fresh seed. Mix some seed into top soil, sprinkle it across thin patches and water well with a fine spray. Healthy, thick lawns are less appealing to webworms.

Fertilize your lawn at least twice a year and, if the weather turns hot and dry, turn the hose on. The best way to water is weekly but deeply so that the water gets past the thatch and into

the roots.

Webworm larvae make juicy snacks for a variety of predators, from ants, spiders and roving beetles to nematodes (which you can purchase at some large garden centres or online). A healthy backyard ecosystem will go a long way to control their numbers.

If you have only a few tell-tale brown patches, you can attempt to drive them out. Douse a browned area with a solution of 30 mL dishsoap to 4 L of hot water. Wait a few minutes, and they'll wriggle to the surface.

Simply rake them up from there and be done with it.





Dew Worms

8.



Although earthworms are excellent to have in the yard for their ability to aerate the soil, dew worms (or night-crawlers) are far too much of a good thing. Active at night and early morning, when the lawn is wet (hence the name), they can churn a healthy lawn into a chaotic jumble of mounds and deep tunnels.

## Identification

If you've never seen a dew worm, imagine the cute little red wrigglers in your garden, only reaching nightmarish proportions. Dew worms are worms the size of snakes, with their slimy, gummy bodies ranging from 10 to 30 cm long.

When you walk across your lawn in bare feet, does the ground under the grass feel like a miniature Western Front, complete with shell holes and tossed mounds of earth? If so, you've probably got dew worms.

Dew worms thrive in old lawns, especially those with decades of accumulated thatch. Besides age, dew worms love shaded, sheltered, well-watered lawns.

## Damage

The mounds in your lawn, which can be irritating to both walk on and mow over, are castings pushed up from the worms' burrowing. Although the worms won't kill your lawn, severe infestations will make it almost impossible to walk and play on.

## Control

Underneath the casting mounds, dew worms' extensive tunnels can dip several metres below the surface.

My recommendation is to focus on controlling their numbers, and the damage they do, by keeping them underground.

Aerate your lawn in spring and fall, and rake it out well to reduce the thatch and make the surface less appealing to worms.

There are many companies offering the service, or you can simply rent an aerator.

Don't water your lawn in the evening if a cool night is expected, and only water when needed. In a normal rainfall year, a healthy lawn actually needs little or no supplemental watering.

As with all soft-bellied creatures, dew worms hate crawling over abrasive surfaces (which is why they love wet grass at night). Sprinkle a generous layer of sharp sand over the affected lawn.





Ash Leaf Cone Roller

7.

## Leaf Rollers

Leaf roller damage in Canada can be anything from harmless (though aesthetically unappealing) to devastating.

In Canada, besides the spruce budworm, we're primarily afflicted by two species, which affect different trees but have similar life cycles and effects. The ash leaf cone roller (*Caloptilia fraxinella*) afflicts the Prairies, Ontario and Quebec, while the fruit tree leaf roller (*Archips argyrospila*) ranges across southern Canada and is most prevalent in British Columbia.

## Ash Leaf Cone Roller

Ash leaf rollers are native to the eastern U.S. and have long been common throughout Ontario and Quebec. In 1999, they moved to Edmonton and have since touched all the Prairie Provinces.

## Identification

If you're sitting under your big, beautiful ash tree and getting a sunburn, you may want to look closely at the leaves. If they've been wrapped into tidy little samosa-shaped packages, you've got leaf rollers.

## Life Cycle

The 1 cm wide grey moth is one of the first things gardeners will notice in spring. The resultant caterpillars mine leaves first then, in

June, move to another leaf to weave it together with fine silk thread and pupate.

## Damage

They afflict all types of ash, with the notable exception of mountain ash, which isn't related.

Damage is only aesthetic and, while the reduction of photosynthesis can weaken the tree, it probably won't kill it.

## Control

There is a stingless parasitic wasp that has taken a liking to laying its eggs in the caterpillars and using their insides for baby food. As the leaf

roller population grows, the wasp population will grow, too, and will keep it in line.





Tent Caterpillars

6.



Anyone over a certain age remembers the “the tent caterpillar years,” and most of us still have stories of how, when we were young, they’d sound like rain falling from trees and there would be so many on the road that cars would lose traction. Some years we may not see any, but the years we see a lot, we remember.

## Identification

Caterpillars that “tent” retreat into a silk tent during cool spring nights so their body temperature doesn’t drop dangerously low.

Across the Prairies, the forest tent caterpillar (*Malacosoma disstria*) is the most ravenous. Adults are about 5 cm long with blue stripes on their sides and white, keyhole-shaped marks on their back.

## Life Cycle

After hatching in spring, the caterpillars are mostly finished their pillaging by midsummer, when they retreat into cocoons to emerge as furry, brown moths. The moths will then lay the egg sacks that begin the cycle anew.

Outbreaks occur every 6 to 16 years, depending on conditions, (e.g., a hard frost while the eggs are hatching will really slow them down), and can last several years.

## Damage

Preferring trembling aspen, they usually keep to the forest, but on outbreak years, they’ll squiggle their way onto city boulevards and into backyard gardens, devouring birch, ash, maple, fruit trees and cotoneaster.

While they don’t kill trees directly, they weaken a tree so that opportunistic and potentially dangerous pests and diseases can move in.



## Control

During the day, when they're dispersed and hungry, controlling tent caterpillars can seem impossible. A strong jet of water from a garden hose is an amusing way to send them flying, but the best way to really control their numbers is to target their egg sacks.

Female moths lay their eggs in brown, oval-shaped rings on aspen and other favourite trees, where they're clearly visible from leaf drop in fall through to their spring hatch. Scrape off whatever egg masses you can reach with a dull blade.

Rather than throw the egg masses away, leave

them in a place where they won't be covered in snow, but where emerging caterpillars won't have quick access to food. The egg masses are often home to beneficial parasitic wasps, so while the caterpillars will starve, the wasps will emerge to help control the populations that emerge from the egg sacks that were too high to reach.

The next best opportunity for control is to destroy their cocoons.

The cocoons are grape-sized, white, silken clumps nestled on house siding, on trees and pretty much anywhere there's a small alcove.





Scarlet Lily Beetle

5.



Whether it's their ease of growth or stunning flowers or just that we're surprised that such a gorgeous plant can survive here, lilies are many Canadians' favourite flower, and they're under threat by an unwelcome intruder.

The scarlet lily beetle, alias red lily beetle or lily leaf beetle, is a European native that hitched a ride to Canada on lily bulbs in the mid 1940s. Over the decades, it's settled westward as far as Alberta.

## Identification

Vigilant gardeners will first notice brown, sticky frass clumping on the leaves' undersides. Those same leaves will be entirely chewed up shortly after.

The adult beetles are an unmistakable bright red with black undersides.

They can be confused with spotless ladybugs, but they are more narrow and just plain meaner-looking than the beneficial insects.

## Life Cycle

Lily beetles spend winter quite comfortably cuddled into your perennial bed soil. After waking up in spring, they don't take long to start reproducing, with females laying up to 450 eggs per season in batches of a dozen.

The yellowish orange eggs hide under lily leaves, usually tucked against the midrib.

The larvae are voracious and spend a few weeks chomping lilies while covered in a pile of their own excrement (if it's to camouflage as bird droppings, it's very convincing). Once they've eaten their fill of your lilies, they drop to the ground and pupate in a cocoon of dirt and saliva. Enchanting creatures.

## Damage

Feasting on all species of lilies and fritillarias (though not daylilies), lily beetles are quickly chewing their way into Canadian gardening infamy. They're virtuosos at decimating lily collections that have been amassed over decades in record time, devouring leaves, stems, flowers and all.

## Control

Although there are plenty of parasitic wasps in Europe to feed on them, lily beetles have no natural enemies in North America. As such, they spread rapidly and will move quickly from ornamental plants to wild lilies, where they can do massive damage.

Before you plant your spring lily bulbs, inspect them for anything suspicious.

The most effective control is also the most laborious; inspect your lilies regularly, and if you find any lily beetles, pick them off manually. If you can't stomach crushing them, drop them in a bucket of soapy water.

Sprinkling diatomaceous earth on them will

dry them up, but you'll need to hit the leaves' undersides to get to the pests.

If you're persistent (to the tune of every 5 to 7 days), neem oil will kill young larvae.

When threatened, lily beetles will often play dead.

As you approach, expect it drop to the ground, put its legs in the air and wait for you to go away.

Squish it anyway. They will also emit a high-pitched squeak as you get close, which can be fairly unnerving.







Slugs

4.



If Canada had a “Most Disgusting” award, slugs would win it every year. These gross gastropods run rampant during wet summers, but fortunately, they aren’t hard to get rid of.

## Identification

During wet summers, slugs set up camp in the perpetually damp, decaying organic matter that forms a slimy mulch in your flower beds.

Overnight, wide-spread holes will appear on your leaves, usually accompanied by dried, glistening slime trails and sometimes clumps of tiny black droppings.

If you suspect you have slugs, dig through the organic matter and compost at the base of the affected plants.

You can also sneak up on them first thing in the morning, before the dew evaporates.

To be sure that slugs are the culprit, check for caterpillars because their damage is similar.

By the time you look for slugs, they are usually safely tucked into their rotting daybeds.

## Life Cycle

Slugs are big creatures with a gluttonous appetite.

They’re hermaphrodites, so they basically reproduce at will, laying clutches of eggs that resemble rotten caviar.

Slugs live in the wettest, shadiest and rottenest

piles of leaves, weeds and muck that collect in the dark corners of your perennial and flower beds. They surround and protect themselves in the most cluttered spots they can find, and that’s where they spend their winters.

## Damage

A slug infestation can turn a bountiful lettuce crop or your prize hosta collection into a smattering of tattered stumps in a matter of days. Slugs can bring long-term harm, as plants without leaves will have a hard time taking in the nutrients they need to survive our menacing winters.

Every fall, clear out leaves, sticks and assorted junk from your flower beds.

Slugs will also hibernate under non-organics, like hoses and forgotten tools, so clean those up too.

Remove old, decaying mulch that may need to be replaced.

Carefully till and fluff the first few inches of soil; slugs often crawl into it to sleep.

I've found that beer works best. Submerge a margarine lid so the lip of the lid is flush with the soil.

Fill it with cheap beer, leaving the good stuff for yourself. They will crawl into it and drown.

To get them all, it will need to be replaced daily; they like stale beer as much as we do.

You can also go out at night and kill them manually. They are easy to spot and kill with a

flashlight and a sprinkle of salt.

Some people swear by copper, saying it shocks them as they smear across.

You can buy special copper wire or bands, or just sprinkle pennies around your plants.

You can also lay down a perimeter of diatomaceous earth around the plants. It's comprised of very small, very sharp silica crystals that act like razor wire on gelatinous slug bellies. Wear a mask when you apply it.

Other home remedies include dried eggshells (they cut slugs), wood ashes (too alkaline for slugs) and used coffee grounds (slugs don't like caffeine). Reviews however range from mixed to awful.

If you have frogs, ground beetles, salamanders or (best of all) garter snakes in your yard, encourage them to stay because they happily eat your problem away.





Wasps

3.



Few insects are as universally unwelcome as wasps.

Parasitic wasps are harmless to humans but barbarous to the insects they inject their eggs into. At the greenhouse, many of the best predatory insects we use for our biological pest control are microscopic wasps.

Only a small fraction of them (namely the social wasps in the Vespid family) will sting humans. These are the nasty, picnic-crashing wasps we all know and dread.

## Wasp 101

When it comes to wasps, the most troublesome types are yellow jackets, hornets and paper wasps. They look much different than honey bees and bumblebees, being much thinner and sleeker, and are in fact not even related to them. Yellow jackets love sugar the most, so they're most likely to crash your pop and pie-fuelled picnic.

Their nests are typically underground, so lawnmowers in shorts beware.

Yellow jacket is actually the common name of the entire genus of nasty Vespid wasps that we're most familiar with.

Hornets construct the classically terrifying, football-shaped nests that hang in trees and

from eaves troughs.

Paper wasps are the sleekest of all and often resemble yellow-streaked flying missiles.

They build smaller nests than their cousins and often favor spots under eaves or in other sheltered locations.

Wasps are actually somewhat beneficial in the garden. They're meat eaters and devour copious amounts of pest insects.

They also pollinate flowers, albeit not nearly as well as larger bees with their hairy, pollen-catching legs. If you find a nest that's out of the way and not harming anyone, consider leaving it be. If it's close to the house, however, get rid of it.



## Control 1: Prevention

Being carnivores, wasps gobble up protein wherever they can find it. In early to midsummer, especially, as they build up strength for the months ahead, they'll be attracted to food scraps, bits of meat, pet food and anything else left out.

By August and into September, wasps will be more attracted to sweets than meats. They love quickly digestible, liquid sugar sources most, so keep your pop and juice covered or just choose water.

Also get in the habit of cleaning up fallen fruit from your trees as soon as possible.

Wasps have powerful sniffers, so cut back on the perfumes and fancy aftershaves when you're on a picnic.

Most perfumes use floral scents, and try to avoid wearing floral prints and bright colours. Besides not smelling like a flower, you probably don't want to look like one, either.

## Control 2: Eradication

If you're allergic to stings, use extreme caution no matter what solution you choose.

Hanging traps are very effective at keeping wasp numbers down, and there are several options available that are pretty enough to double as garden decorations. Fill the trap with protein (tuna works best) and not sweet nectar.

The latter will attract bees, as well, and we need to keep as many of them in our yards as possible.

If the nest is exposed and you have good reflexes, consider drowning it. As aggressive as they are by day, wasps retreat to their nests at night. Don a long-sleeved shirt and gloves and

head out in the dark, large cloth bag in hand.

Wrap the bag around the nest, pinching tight at the top, and break off the nest. Submerge the bag in a ready bucket of water and put some rocks over it.

Dish soap and hot water is a surprisingly effective, chemical-free wasp killer. Put 60 ml dish soap in a hose end sprayer or injector with hot water. Kit up and head out at night with the sprayer on a hose (the higher pressure the better).

Soak the nest until it's covered in soapy water, and if possible, spray right into the entrance hole.





Ants

2.

Before we talk about killing our ants, let's take a moment to be thankful for living in one of the least ant infested countries in the world. I've seen leaf-cutter ants strip shrubs bare before my eyes and almond-sized hunter-killer ants that will make a grown man's arm go numb for days. I've watched a swarm of army ants take 20 minutes to march past me and seen Cambodian villages built entirely on stilts sitting in water just to escape the swarms.

Ant societies have complex class structures, keep slaves and herd other insects like cattle in order to serve the collective.

If you combine the weight of every ant in the world, it would be heavier than the combined weight of humanity. They're indigenous to every landmass except Antarctica and have been around since dinosaurs wondered how to get rid of them.

## Ant 101

Of the estimated 22,000 species of ants worldwide, Canada has a few hundred of them. The little black ants in your yard are probably the common field ant.

Their list of aliases includes wood ant, thatch ant and mound ant. These ants are generally harmless and may even be beneficial.

Their tunneling aerates the soil, and they often prey on nastier critters.

If they're living in a little travelled area and not offending you, consider living and letting live. If the ants are small and peach-coloured with a black rump, they're potentially invasive pharaoh ants, and live-and-let-live goes out the window. Red ants have a painful bite and should also be taken care of right away, as should carpenter ants, which are large, almost black and have a triangular head.

Ants love loose, sandy soil, which makes old lawns with depleted soils (typically rarely fertilized) favourite haunts.

If your lawn is struggling, it's going to be less likely to grow aggressively enough to repel ants. They will swarm into yards littered with tasty cherries, apples or other fruit.

If you want or need to evict them, you're not alone. Ant hills are unsightly and can spread quickly. Ants can also increase nearby populations of aphids, which they farm—and actually herd from plant to plant—for their tasty honeydew secretions.

If the nest is near your home, eradicate it and check for cracks in your foundation that foragers might wander into.



## Control 1: Water

The earlier you catch them, the better. Field ants build conspicuous mounds in brightly lit locations.

The more you kick, mow and soak them down, the more likely they will be to abandon the spot in frustration.

Perhaps the most effective control method is to soak them out. Ants hate excessive water, which makes them more prevalent during dry spells and in un-irrigated yards.

The business end of a hose is surprisingly

effective, even against hard-to-reach, under-the-sidewalk and in-driveway-crack colonies. Soaking the hills while you water the flowers collapses their tunnels; keeping them mud pits makes new tunneling impossible.

If the hose doesn't work, weaponize the water. Bring a large pot to a rolling boil. With a spade, dig deep into the hill and turn it up, ideally exposing the queen and nursery chambers. Scald the works with boiling water; they hate that.

## Control 2: Home Remedies Galore

Here are just a few of the home remedies I've come across.

A lot of people rave about how effective Borax, an old-fashioned cleaning agent, is for controlling ants. Typically, it's mixed with icing sugar or jam to act as the proverbial poison apple. Borax is naturally occurring and hasn't been found to be either carcinogenic or accumulating in the body.

However, if you use it, wear gloves (it's a skin irritant) and a mask, and use it in moderation. Sprinkling diatomaceous earth around the

colony is an effective way to make them move. The sharp silica crystals are like razor wire to ants. Wear a mask while applying it. You can buy it at most large garden centres.

As for other things you can sprinkle on and around the infested area in order to clear the ants: cornmeal and icing sugar, baking powder and icing sugar, used coffee grounds, minty essential oils, cream of wheat, Equal (the sugar substitute), vinegar, cinnamon, cucumbers, mint leaves, table salt and chalk (the rumor is that ants can't walk across chalk).



Aphids

1.



Here in Canada, we're pretty lucky when it comes to insects—we don't have termites that eat houses or army ants that eat everything—but we do have aphids. Also known as plant lice, the lowly aphid ranks up there with mosquitoes as most loathed local insect.

## Identification

In most ways, aphids are very easy to spot. They are pear shaped and always appear in clusters, grouping in dense masses on the tips of new plant growth or on the undersides of leaves. They love heavily fertilized plants because there are lots of yummy new leaves.

## Life Cycle

Aphids reproduce like crazy, both sexually and asexually.

In spring, overwintered eggs hatch into females that are already pregnant with thousands of young.

Until fall, aphids are all female, and a single female can hatch dozens of generations in one season.

The nymphs mature in a week and start their own “families.”

In fall, the females start hatching both females and males. Some of them then sprout wings and fly into the familiar black swarms that we all hate in late August and September. They overwinter by attaching their eggs to plants.

## Damage

Aphids are sap suckers and very destructive. You may notice yellow discolorations or wilted or curled leaves. They secrete a sticky, tell-tale “honeydew.” The secretion can make it easier for mould to set in. Aphid honeydew also often attracts ants, which “farm” the aphids to collect the honeydew.

## Control

They have almost no physical defenses, and almost everything likes to eat them. The best way to control them is to encourage predators. Releasing ladybugs is a great way to control aphid populations. If ladybugs don't work, try applying some neem oil.

Spraying the undersides of the leaves with a strong jet of water will usually knock the bugs off. You'll need to repeat spraying a few times to stop their life cycles. In late fall, spray your plants down with a strong spray of water to knock the eggs off so they don't overwinter and hatch into a new menace the next spring.