

Every vegetable gardener faces pest issues from time to time, and learning how to manage the little leaf-munching menaces without using synthetic chemical pesticides is an essential step in growing a healthy, productive garden. To help gardeners with this task, we've put together this easy-to-use guide to vegetable garden pests.

To make our guide to vegetable garden pests both userfriendly and straightforward, we've included essential details about 15 of the most common – and destructive – veggie garden pests and lots of info on how to protect your garden from the damage they cause. Use the photos and descriptions to help you identify the culprit, then implement the useful prevention techniques. If these preventative tips don't solve your problem, move on to employing the listed physical control methods. As a last resort, we've also included our favorite organic product controls for each garden pest. Apply them with caution and only after carefully reading the label. Use this guide to vegetable garden pests to grow a high-yielding, gorgeous, organic vegetable garden.

#### Aphids (many species)



Aphids can be found gathered in small groups on many vegetable plants, including cabbage and lettuce.

**Identification:** Aphids are tiny, pear-shaped insects. They can be green, yellow, brown, red, gray, or black. There are both winged and non-winged aphids, depending on their species and life-stage.

**Plants affected:** Aphids feed on many species of potential host vegetable plants, including tomatoes, lettuce, kale, and cabbage. Their prolific nature makes them sure-finds on every guide to vegetable garden pests.

**Description of damage:** Aphids suck plant juices, causing distorted, deformed growth. They typically feed in large groups on new plant growth or leaf undersides.

**Preventative measures:** Promote beneficial predatory insects by including a lot of flowering plants with small flowers in the garden. Learn more about using beneficial insects as pest control here.

**Physical controls:** You can remove aphids from plants by spraying them off with a sharp stream of water from the hose. Hand-squishing aphids is easy, or cover plants with floating row cover to protect them from insects.

**Organic product controls:** Use horticultural oil, insecticidal soap, or neembased insecticides to get rid of challenging aphid infestations.

## Asparagus beetle (Crioceris asparagi)



Asparagus beetle adults are very distinctive.

**Identification:** Adult asparagus beetles are 1/4" long. They're black with creamy yellow spots and a red mark right behind their head. The larvae are army-green, grub-like creatures with a black head.

**Plants affected:** Asparagus beetles only feed on asparagus plants.

**Description of damage:** Both larvae and adults chew asparagus spears and ferns. Severe infestations can cause complete browning of the foliage and a reduction in the vigor of the next year's crop.

**Preventative measures:** Adult asparagus beetles overwinter in garden debris, so cut down ferns and clean up fallen leaves in the asparagus patch in the autumn.

**Physical controls:** Protect emerging spears with floating row cover and keep it in place throughout the harvesting season. Look for small, dark eggs on spears and hand squish them. Knock the larvae off the plants daily with a soft broom – once on the ground, spiders and other beneficial insects will find and consume them.

**Organic product controls:** Neem– or spinosad-based products are effective controls recommended here in our guide to vegetable garden pests.

## Cabbage worms (Artogeia rapae)



Imported cabbage worm caterpillars are very destructive pests of the vegetable garden.

**Identification:** Imported cabbage worm caterpillars are 1" long and light green with a faint yellow stripe down the back. Adults are white to yellowish-white butterflies with up to four black spots on the wings.

**Plants affected:** All members of the cabbage family, including cabbage, broccoli, kale, cauliflower, radish, turnip, kohlrabi, and Brussels sprouts can fall victim to cabbage worms.

**Description of damage:** Cabbage worm caterpillars chew holes in leaves and flower clusters. They can cause complete defoliation if infestation is severe.

**Preventative measures:** Hang birdhouses in garden as birds enjoy eating cabbage worms.

**Physical controls:** Cover susceptible plants with floating row cover from the time of planting until harvest as host plants do not need to be pollinated to be productive. Hand-picking the caterpillars is also effective.

**Organic product controls:** Bacillus thuringiensis (Bt)-based insecticides work great, as does spinosad, and hot pepper wax.

#### Carrot rust fly (Psila rosae)



Carrot rust fly maggots leave distinctive tunneling behind as they feed.

**Identification:** Adult carrot rust flies are very small, shiny black flies with an orange head and legs. The larvae are tiny, beige-colored maggots. Though this pest is not found in every guide to vegetable garden pests, it's becoming more problematic for many gardeners and deserves to be featured.

**Plants affected**: Adult flies lay eggs near many vegetable crops, including carrots, celeriac, parsley, celery, parsnips, and others.

**Description of damage:** Carrot rust fly larvae feed on crop roots, leaving tunnels and scarring behind. As the season progresses, the damage grows more prominent. Roots riddled with tunnels and scars are the result.

**Preventative measures:** Adult carrot rust flies are poor fliers so rotate crops every season. Try to pick a site downwind from last year's crop location. Also, wait to plant carrots until late May or early June as that's off the mating cycle of this pest.

**Physical controls:** Keep carrots and other susceptible crops covered with floating row cover from the time of planting until harvesting day. Female flies find their host plants through smell, so inter-planting carrots and other crops with onions, garlic, and chives may help limit carrot rust fly egg laying.

**Organic product controls:** Beneficial nematodes released into the soil near the carrot crop help control the larvae. Species of nematodes in the genus Steinernema are most effective. Apply in the spring according to the package instructions.

# Colorado potato beetle (Lepinotarsa decemlineata)



Colorado potato beetle larvae feed on the leaves of potatoes, tomatoes, and other garden crops.

**Identification:** Adult Colorado potato beetles are 1/3" long, rounded, with black and tan striped wing covers. The larvae are 1/2" chubby, reddish-purple with rows of black dots on the side.

**Plants affected:** All members of the tomato family are potential hosts, including potatoes, eggplants, peppers, tomatillos, and tomatoes.

**Description of damage:** Both adult and larvae Colorado potato beetles skeletonize foliage all the way down to the leaf veins. They're often found toward the top of the plant.

**Preventative measures:** Adult beetles overwinter in garden debris, so clean up the garden and rotate crops every year.

**Physical controls:** Cover plants with floating row cover and leave in place until harvest. You can also hand-pick both the adults and the larvae. **Organic product controls:** Spinsoad-based organic sprays are very effective, as are neem-based insecticides.

## Cucumber beetles (Acalymma vittata; Diabrotica undecimpunctata howardi)



Striped cucumber beetles have black stripes while the spotted species have black dots instead.

**Identification:** Adult cucumber beetles measure 1/4" long at maturity. They are bright yellow with spots or stripes, depending on the species. Their larvae live underground and are seldom seen.

**Plants affected:** All members of the cucumber family are hosts, including melons, cucumbers, pumpkins, gourds, and squash. Cucumber beetles are also sometimes found on corn, beets, beans, and other vegetables.

**Description of damage:** Adult beetles make small, ragged holes in the leaves and flowers, and transmit bacterial wilt.

**Preventative measures:** Only plant bacterial wilt-resistant cultivars, or plant cucumber beetle-resistant varieties such as 'Saladin', 'Little Leaf 19', and 'Gemini' cucumbers, muskmelons, butternut-type squashes, and squashes in the species group Cucurbita moschata as they are less favored by the beetles.

**Physical controls:** As with many other insects listed in this guide to vegetable garden pests, cucumber beetles can be kept off of plants by covering them with floating row cover, but in this case, you'll need to remove the cover when the plants come into flower to allow for pollination. Mulch susceptible crops with loose materials like straw or hay to prevent egg laying.

**Organic product controls:** Spinosad-based organic pesticides are effective against the beetles, but planting resistant varieties will always be your best line of defense.

## Cutworms (many species)



Cutworms chomp off plant stems at ground-level.

**Identification:** Adult cutworms are brown or gray night-flying moths. Their larval caterpillars are up to 2" long and curl into a tight C-shape when disturbed. The caterpillars are found in the top few inches of soil, and they can be green, yellow, brown, or gray, depending on the species.

**Plants affected:** Any young seedling is susceptible, but favorites include tomatoes, broccoli, kale, cabbage, and others.

**Description of damage:** Cutworms sever seedlings at ground level or girdle them by chewing the outer stem tissue. The presence of wilted or severed seedlings is a clear sign of cutworms.

**Preventative measures:** Crop rotation is important as is protecting the stems of young seedlings at their base with a collar made from a toilet paper tube or aluminum foil nestled 1/2" into the ground.Tilling the garden in autumn to expose pupae to predation and cold temperatures is also helpful.

**Physical controls:** Bait cutworms with cornmeal or wheat bran paced in sunken bowls near susceptible plants; the caterpillars are attracted to the granules, but cannot digest them and die.

**Organic product controls:** Beneficial nematodes (species Steinernema carpocapsae or Heterorhabdtis bacteriophora) mixed with water and applied to the soil are very helpful for controlling cutworms.

#### Flea beetles (many species)



Flea beetles may be tiny, but they can cause big trouble for eggplants, radish, and other vegetable crops.

**Identification:** Extremely small, black or brown beetles, flea beetles are 1/10'' long. They move very quickly and hop like a flea.

**Plants affected:** Many different plants are hosts to flea beetles, but favorites include radish, potatoes, tomatoes, brassicas, corn, and eggplants. **Description of damage:** Flea beetles make small, round holes in plant foliage. Their larvae live underground and can consume plant roots, too. **Preventative measures:** Practice crop rotation.

**Physical controls:** Place yellow sticky cards above plant tops to lure and trap adult flea beetles. Do not use floating row cover as it can trap newly emerged flea beetles underneath it.

**Organic product controls:** Beneficial nematodes can help control larvae when added to soil. For adult beetles, use garlic oil, hot pepper wax, neem, spinosad, or kaolin clay-based products.

## Leafminers (many species)



Leafminers leave behind marred foliage. These have attacked beet foliage.

**Identification:** Adult leafminers are nondescript flies that do not feed on plants. Their tiny, brown or green larvae feed inside plant tissues. **Plants affected:** Different species of leafminers feed on different plants, but

for this guide to vegetable garden pests, common host plants include spinach, chard, beets, nasturtiums, and blueberries.

**Description of damage:** Leafminer larvae tunnel between layers of leaf tissue, creating tell-tale squiggly tunnels and lines on leaves.

**Preventative measures:** Cut off leaves where tunnels are present throughout the growing season and toss them in the garbage to prevent another generation. Damage is seldom severe enough to cause harm to the plant.

**Physical controls:** Place floating row cover over susceptible vegetable crops to prevent adults from accessing the plants. Include lots of flowering herbs in the garden to attract beneficial insects to help control the leafminers (more on this later).

**Organic product controls:** Leafminers are difficult to control with products because the larvae are between leaf tissue layers. Neem– and spinosad-based products have some effect.

#### Mexican bean beetles (Epilachna varivestis)



When it comes to vegetable garden pests, one of the most common is the Mexican bean beetle. Here is a larva.

**Identification:** Adult Mexican bean beetles are copper-colored, ladybug-like beetles with 16 black spots (see lower right image in this post's featured photo). Their larvae are light yellow with soft, bristly spines.

**Plants affected:** All beans, including green, snap, pole, runner, lima, and soy, can host these beetles and their larvae.

**Description of damage:** Adults and larvae consume leaf tissue down to the veins. Occasionally, they also feed on flowers and bean. The larvae are often found on leaf undersides.

**Preventative measures:** Plant lots of flowering herbs as they attract a beneficial, predatory wasp that feeds on the beetle larvae.

**Physical controls:** Cover bean plants with floating row cover from the time of germination until flowering.

**Organic product controls:** Hot pepper wax and spinosad are both useful for the control of Mexican bean beetles.

### Slugs and snails (many species)



Slugs are among the most despised vegetable garden pests.

**Identification:** Slugs and snails are not insects, but land-dwelling mollusks. Snails have a shell, slugs do not. They can be gray, black, orange, brown, tan, or mottled, and often leave a slime trail behind.

**Plants affected:** No guide to vegetable garden pests is complete without slugs and snails because almost any young seedling is a favorite of these pests. Slugs and snails feed on numerous species of plants and vegetables.

**Description of damage:** Snails and slugs leave irregular holes in leaf margins or centers. They feed at night or on rainy days, so often the culprit isn't present during the day.

**Preventative measures:** Water in the morning only as slugs and snail prefer feeding on wet foliage. Encourage birds, snakes, frogs, and toads in the garden because all of these critters eat slugs and snails. Copper strips placed around plants prevent feeding due to a chemical reaction with the slime produced by slugs and snails.

**Physical controls:** Handpick slugs and drop them into a jar of soapy water. Beer trapsalso work, but the beer should be emptied and refilled daily.

**Organic product controls:** Use only slug baits with the active ingredient of iron phosphate; do not use baits made from metaldehyde or methocarb as both are poisonous to pets and other wildlife.

For more on how to control slugs, check out our guide to organic slug control methods.

#### Squash bugs (Anasa tristis)



These mating squash bugs will soon lay bronze-colored eggs that will hatch into more leafsucking squash bugs.

**Identification:** No guide to vegetable garden pests is complete without a mention of what's probably the toughest veggie pest to control: squash bugs. Adult squash bugs are 5/8", dark brown with flattened, oval-shaped bodies. The nymphs are gray and without wings. They often feed in groups. Squash bug eggs are bronze and laid in groups.

**Plants affected:** All members of the cucumber family fall victim to squash bugs, including cucumbers, zucchini, squash, melons, and pumpkins. **Description of damage:** Adults and nymphs suck plant juices with their needle-like mouthpart. Damaged leaves are mottled with yellow and they eventually turn yellow and die. Plants may turn crispy with a severe

infestation.

**Preventative measures:** Plant resistant varieties, rotate crops, and use trellises to keep the growing vines off the ground.

**Physical controls:** Use floating row covers from the time of planting until flowering begins. Remove egg clusters on a daily basis with a piece of tape; be sure to check leaf undersides as that's where most egg-laying occurs. **Organic product controls:** Products don't work well on adults, but nymphs can be targeted with insecticidal soap or neem.

## Squash vine borers (Melittia satyriniformis)



Squash vine borer adults are seldom seen, but this female is ready to lay eggs on the plants.

**Identification:** Adult squash vine borers are red and black moths that look like large wasps. Their larvae are chubby, white caterpillars found inside the base of squash vines.

**Plants affected:** All members of the cucumber family are susceptible, including both summer and winter squash, pumpkins, melons, and gourds. Cucumbers are not often affected.

**Description of damage:** The presence of borers is often noted as a rapid wilting of the plant. Look for hole in the stem tissue near ground level for confirmation.

**Preventative measures:** Wrap a strip of aluminum foil around the base of the plant soon after the first true leaves appear to protect the base of the plant from egg-laying females (more on this technique here).

**Physical controls:** Cover plants with floating row cover soon after planting and leave in place until flowering begins. If borer hole is found before plant dies, slice open the stem, dig out the borer, and cover the cut with a mound of soil.

**Organic product controls:** Inject Bacillus thuringiensis (Bt) into the borer hole with a needle-less syringe. You can also spray insecticidal soap on base of stem weekly to smother any eggs.

## Tomato/tobacco hornworms (Manduca quinquemaculata; Manduca sexta)



These tobacco hornworms, and their close cousins the tomato hornworms, are destructive pests in the veggie patch.

**Identification:** Adult hornworms are large, nocturnal moths with brown/gray wings. Hornworm caterpillars are green with white stripes or Vs on the side of their body and a soft horn or spike protruding from their posterior.

**Plants affected:** Members of the tomato family, including tomatoes, potatoes, peppers, eggplants, and tobacco, are host plants.

**Description of damage:** Tobacco and tomato hornworms leave dark pellets of excrement behind. Damage is eaten leaves, often toward the top of the plants. The caterpillars feed at night and shelter in the foliage during the day.

**Preventative measures:** Plant lots of flowering herbs with tiny flowers near susceptible plants as these flowers attract tiny parasitic cotesia wasps that use hornworms as hosts for their young, eventually bringing death to the hornworm (more on using beneficial insects to control pests in a bit). This is a great way to prevent all of the pests discussed in this guide to vegetable garden pests.

**Physical controls:** Inspect plants for hornworms on a regular basis and handpick, but do not destroy any hornworms that have the white, rice-like cocoons of parasitic wasps hanging from their backs.

**Organic product controls:** Spray products are seldom necessary as handpicking is more successful. If necessary, Bacillus thuringiensis (Bt) and spinosad are effective.

## Whiteflies (Trialeurodes vaporariorum and others)



Whiteflies are annoying vegetable garden pests that suck plant juices and cause distorted growth.

**Identification:** Whiteflies are tiny, white, moth-like flies. Infested plants are often coated in sticky honeydew, the excrement of the flies. Whiteflies are often present in large numbers on leaf undersides.

**Plants affected:** Common whitefly hosts in the vegetable garden include sweet potatoes, tomatoes, peppers, citrus, and others.

**Description of damage:** Both whitefly adults and nymphs suck plant juices, causing weak plants, yellow leaves, wilt, and in severe cases, leaf drop.

**Preventative measures:** Carefully inspect all new plants for whiteflies before purchasing from a nursery. This is a helpful idea for preventing all of the insects featured in this guide to vegetable garden pests.

**Physical controls:** Hang yellow sticky cards just above plant tops to capture the adult flies and prevent a new generation.

**Organic product controls:** Insecticidal soap, horticultural oil, neem, and hot pepper wax are all effective whitefly controls.