

## How to Naturally Eliminate Aphids

By Lynn Gillespie

A gardener with a watchful eye will eat more produce from his garden than the gardener who doesn't pay close attention, as keen eyes on the garden everyday are the best way to control insects and prevent diseases. By hand watering my garden every day, I can observe each plant to see if it is healthy. This is the most critical part of insect and disease control.

When I walk through my greenhouses, I check under many leaves looking for trouble; monitoring the buildings like a hawk. I have not used pesticides in the greenhouse complex for decades. Instead I release beneficial insects to take care of any aphids that appear. If a bad outbreak of pests does occur, I quickly remove the infected plants to keep the rest of the greenhouse clean.

As I monitor, I have noticed that aphids tend to haunt my gardens and greenhouses more than any other insect. We get red and green aphids in the spring. In the fall we get gray aphids.

Aphids are soft, pear-shaped bodied insects that suck the juice out of your plants. Some aphids have wings and some don't. Most aphids are green but they also come in red, yellow, gray and black. Aphids are about 1/8 inch long, have 6 legs and can be born pregnant. Yep, they are born pregnant. This means they will multiply very rapidly if the conditions are right. Female aphids can give live birth to pregnant females, occurring for several generations. In the fall, the female aphids mate with a male to produce eggs that winter over.

Aphids secrete a sticky honeydew substance from their rear. The secretions will block the pores of the plants and will grow black sooty mold. Ants will carry the aphids around and harvest the honeydew from the aphids. In the fall, ants will carry aphid eggs into their nest and take care of the eggs until spring. In the spring the ants will return the aphid eggs to the plants. If you have an ant invasion, look for aphids as well. Despite their prevalence, there are several natural methods to eliminate aphids.



Green aphid on tomato leaf



Sticky aphid secretions and black sooty mold on tomato leaf.

## Natural Methods to Eliminate Aphids

1. **Water:** Wash aphids off with a strong spray of water. Do this every day for a week. Spray the plants early in the day so the plants can be dry before night fall.
2. **Tobacco spray:** Soak tobacco leaves in water for 24 hours. Dilute the solution until it looks like weak tea, and then spray on plants. Be sure to hit the bug with the spray. Aphids tend to hide on the underside of leaves and on the main stems.
3. **Rhubarb spray:** Boil one pound of rhubarb leaves in 1 quart of water. Next, take two cups of water and mix in one tablespoon of dish soap. When the rhubarb has cooled pour off the liquid and add it to the soapy water. Spray on aphids.
4. **Safer Soap:** Safer Soap is a product you can purchase at a local nursery. It works well on aphids if you can get it on the body. It kills by suffocation. Aphids breathe through their pores, but Safer Soap clogs their pores and they can't breathe.
5. **Neem oil:** Neem oil is a byproduct of the Neem tree seed and it is considered a natural way of killing aphids. Local nurseries will carry Neem oil or you can get it online.
6. **Diatomaceous earth:** Diatomaceous earth is ground up fossilized sea shells. Diatomaceous earth will puncture soft bodied insects and they will dehydrate and die. Local nurseries should carry diatomaceous earth. You need to apply this to dry plants as well as keep the diatomaceous earth dry for it to be effective.
7. **Homemade soft bodied bug spray:** Mix three tablespoons of liquid dish soap (do not use Ivory) and one gallon of water. Spray on the aphids every other day for two weeks. Test plants first to see if the soap will burn the leaves. This homemade recipe will kill aphids by suffocation.
8. **Non-fat dried milk for aphids:** To control aphids apply non-fat dried milk, mixed according to the instructions on box. Spray the leaves of your plants with the milk. The aphids get stuck in the milky residue and perish.
9. **Homemade Repellent spray:** Mix one minced bulb of garlic, one small minced onion, one tablespoon cayenne pepper, and one quart water. Let steep for three hours. Next add one tablespoon liquid soap. Strain and put in sprayer. Spray on plants. This homemade spray can be used to repel aphids as well as whiteflies, slugs and cutworms. Reapply after rains or once a week.
10. **Garlic oil spray:** Mince one bulb of garlic and soak in two teaspoons mineral oil for 24 hours. Next, mix 2 cups of water with one tablespoon liquid soap then add garlic mix to water and soap, mix thoroughly. Strain out garlic and place into a jar for storage, this will be your concentrate. Use one to two tablespoons garlic oil concentrate to two cups water, then spray plants covering all leaf surfaces. Use for control over aphids, cabbage loopers, earwigs, June bugs, leaf hoppers, squash bugs, and whiteflies.
11. **Alcohol sprays:** Mix ½ cup isopropyl alcohol (70%) with one cup water and spray on leaves and pests. Alcohol can burn the leaves of certain plants. African violets and apple trees are sensitive to alcohol sprays. Test a few leaves on your plant before you spray the whole plant. Use for aphids, mealybugs, scale, thrips and whitefly control.

12. **Yellow sticky traps:** To catch white flies, gnats and aphids use STP motor oil treatment or honey. Smear motor oil treatment or honey onto bright yellow plastic and place it amongst your plants with bugs. When the plastic gets full of bugs, wipe it off and reapply STP motor oil treatment or honey and set the trap out again.

13. **Pyrethins:** Pyrethins are extracts from a chrysanthemum flower. These extracts are deadly to aphids. Dust or sprays are available from local nurseries or online.

14. **Rotenone:** Rotenone is a product derived from the root of two different legumes (the bean family). Rotenone has been used as a pesticide since 1649 in Europe. Dust or sprays are available from local nurseries or online.

15. **Beneficial insects:** Beneficial insects are bugs that you can purchase and release on your plants that will hunt down and eat the bad bugs that damage your plants. Beneficial insects are a great way to keep the bad bugs at bay, but it is important to know that the sprays above can also kill the beneficial bugs too. I don't use sprays and beneficial insects at the same time. If you are going to use beneficial insects and sprays, keep the spraying down as much as possible and only spray the really infested areas. I prefer the beneficial insects; they can crawl into places that the sprays could never reach. Also, it only takes a few seconds to release the beneficial insects and it can take hours to spray.

I use several beneficial insects to clear the greenhouses of aphids. I use *Aphidius ervi* and *Aphidius colemani*, both parasitic wasps, that attacks, stings and lays their eggs inside the aphid body. They can sting up to 100 aphids per day. When an aphid is stung and the eggs of the aphidius are growing inside the aphid body, the body turns gold and looks like a golden round mummy. You don't have to worry about the wasp stinging you, they are only a millimeter long and cannot hurt us. In my greenhouses, the aphidius will colonize and I will see many generations.

I also order ladybugs and release them in the greenhouses to eat aphids and other insects. I have used Lace Wing larvae, they can eat their fair share of aphids. The Lace Wing also naturalize in the greenhouses and outdoor gardens so I see new generations every year. I order all my beneficial insects from Hydro- Gardens in Colorado Springs , Colorado. [www.hydro-gardens.com](http://www.hydro-gardens.com)

The real key to keeping out aphids is to have a weekly monitoring



The tiny black fly looking bug is *Aphidius ervi* and the red bug above it is a red aphid, its target.



Ladybugs on the lettuce.

program and a quick elimination response. Look for aphids, sticky residue and ants. Also, look around the garden in the yard and tree tops for aphids. They can migrate in to your garden from other areas. If you keep a close look out, you can derail almost any infestation that wants to invade your garden.

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