

Gardening: Alternatives to Pesticides



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1. Alternatives to Pesticides

Caffeine Buzz

Coffee grounds are a completely natural way to provide soil with nitrogen, which it needs to fertilize veggies, flowers and grass. So save your coffee grounds and mix them with compost or garden soil. Not a big coffee drinker? Stop by your local coffee shop. You may be able to ask them for their used grounds.

A Salty Solution

Sometimes all it takes to get rid of weeds is a little common sense! Instead of using harsh chemicals, try sprinkling stubborn weeds that spring up on pavement and brick surfaces with salt. This method won't work with hardy dandelions unless you pull off the head, sprinkle salt on the exposed root and then pour on a cup of boiling water.

No More Mildew

Many ornamental plants are susceptible to powdery mildew which covers their leaves with an undesirable whitish-gray fungus. Rather than using a chemical fungicide to rid your plants of this plague, try mixing one part vinegar with three parts warm water. Spray the solution on the leaves of your plants. Other natural preventing tips:

- Only plant in well-drained soil with proper sunlight

- Space plants out for proper circulation

- Don't plant mildew susceptible plants like rose, zinnia and phlox in damp, shady locations

- Don't handle or work with plants that are still damp from rain

Marvelous Mulching

Organic mulch is an eco-friendly gardener's dream. Spreading a layer of mulch all over your garden can smother weeds, improve the condition of your soil, help with drainage and provide a natural fertilizer. You can buy organic mulch or save and use materials such as grass clippings (dried and bleached in the sun), straw, chopped leaves, ashes, pine needles, composted kitchen scraps and coffee grounds.

2. Compost How-to

Composting is another important component of an earth-friendly garden. Some quick composting tips:

"Green" materials are those that are rich in nitrogen. "Green" compost materials include grass clippings and kitchen waste.

"Brown" materials are rich in carbon. They include dead leaves, straw and sawdust.

To make the most out of your composting project, mix both "green" and "brown" products together in your bin.

Always Aerate

An easy and chemical free way to revitalize your lawn is to aerate it in spring and fall. This allows for better drainage and increased oxygen. Rent an aerator, purchase or borrow a spiked roller or simply break out the spiked golf or baseball shoes.

A Bug's Life

Bugs are not a bad thing! In fact, most bugs don't do any harm in your garden at all. So instead of getting aggressive when it comes to pest control attempt to identify the new bugs you see by looking them up on the internet or bringing a sample to a local garden centre. If you do come across a bug that needs to be banished, hunt down organic pest-control products, which are easy to find these days. One to try: BT or *Bacillus thuringiensis*. This compound is biodegradable and all natural.¹

3. Lawn Care

- **Mow High.** Grass doesn't drink its food through its roots; it manufactures its food in its leaves - the green parts. Grass cut an inch high is as healthy as you would be on one meal a week. Two inches (5 cm) is the absolute minimum for healthy grass, three inches (8 cm) is best. Long grass shades its roots to keep them cool, and shades out weeds so they find it harder to grow.
- **Water Deeply and Seldom.** Bluegrass lawns need about one inch of water once a week. (Fescues and perennial ryegrasses need only about half that much.) Put a small can on the lawn before turning the sprinkler on to measure watering accurately. Frequent light sprinklings encourage shallow weak roots.
- **Mulch Clippings.** Mow often enough that no more than 1/3 of the leaf length is removed at one time, and leave the clippings in the grass. This reduces the need for fertilizer by 30 percent.
- **Aerate and Overseed.** Grass roots must breathe air to work properly. A grass plant growing in soil packed tight as concrete is as healthy as you would be with your head in a plastic bag. That is also a perfect environment for dandelions. Rent a small aerator once each year, or ask an organic lawn care business to do it. June is best, when there are the fewest weed seeds blowing around. Then rake it all smooth, overseed with a bit of high quality grass seed, and water it in.
- **Fertilize in Fall.** Use a slow-release granular fertilizer, once a year. Never over-fertilize — too much actually weakens grass. Organic fertilizers are best — they last the whole year, and prevent weak green growth that bugs love to eat.
- **Enjoy It!** Only the weeds and bugs that threaten a lawn's health or ours really need to be removed. A lawn is healthier when several kinds of grass cooperate to deal with differing conditions around your home. And, 90 percent of insects around your home actually help your lawn grow.

4. Natural Alternatives to Chemical Pesticide Products

Gardening:

There are many products available through gardening supply stores that offer natural alternatives to chemical pesticide products. It is still important to follow the manufacturer's directions closely. Products that require spraying or dusting should only be used if absolutely necessary.

Also note that some products are harmful to beneficial insects. And because beneficial insects often need the harmful ones as a food supply, it is better to tolerate small numbers of them, than to destroy them all. Therefore, before treating the garden, collect a few of these in a small container and release them again after the treatment is done.

¹ <http://www.nationalpost.com/life/footprint/story.html?id=496679>

Insecticidal Soap (liquid):

- Used to control aphids, earwigs, mealy bugs, mites sawfly larvae, white flies and others
- Harmless to beneficial insects
- Do not use household detergent for this purpose

Organic Insect Killer (liquid):

- Controls most species of caterpillars
- Harmless to beneficial insects

Pyrethrins Plus Piperonal Butoxide (liquid):

- Controls flea beetles, leafhoppers, Colorado potato beetles, rose chafers and tarnished plant bugs
- Harmful to beneficial insects. Breaks down rapidly after application

Rotenone (spray or dust):

- Controls Colorado potato beetles, corn borers, cucumber beetles, currant and raspberry sawfly, raspberry fruit worm, flea beetles and leafhoppers
- Harmful to beneficial insects and fish. Breaks down rapidly after application

Because Pyrethrins and Rotenone kill many beneficial insects, they should only be used to control severe insect infestations. Spot treatments, directly on harmful insects, will limit the fatal effect to the beneficial insects.

Dio Slug Killer (dust):

- Attracts and kills slugs and earwigs
- Harmless to beneficial insects and to dogs. (It's important to note that other types of slug killers, which contain metaldehyde bait, are **not** safe for dogs.)²

5. Healthy Garden Care

Prize-winning blooms:

Who doesn't love a beautiful garden, full of brilliant blooms, luscious foliage and decadent aromas? Switching to pesticide-free gardening techniques will help to create a healthier garden and a healthier home for your family. Pesticides provide quick, temporary fixes to more systemic problems in the garden. Just like the human body and diseases, pests have an easier time attacking an unhealthy garden than a healthy, functioning ecological system. Synthetic chemicals may temporarily wipe out an invading bug, but they will also wipe out the beneficial insects, like ladybugs, worms and bumblebees, that help make our gardens healthy. One frequent problem with gardens is poor soil conditions and the subsequent nutrient deficiencies that can arise.



² http://www.womenshealthmatters.ca/Centres/environmental/Healthy-Environments/Alternatives_Pesticides.html

Go organic in your vegetable patch: It is especially important to use healthy alternatives to pesticides in the vegetable garden and to not spray pesticides near fruits or vegetables that will be consumed. Pesticide residue can persist both in soil and on produce and the direct consumption of pesticides is extremely hazardous to health.

Get Your Garden Off Drugs! The good news is that there are plenty of healthy alternatives to keep your garden healthy and pesticide-free. See below for some examples, but for a more comprehensive set of information, see our “Valuable Links” section, or visit your local garden centre and ask for advice.

Healthy soil breeds healthy plants: Build up your soil by adding compost and manure. Measure the pH and nutrient deficiencies in your soil by buying a test-kit from a garden store. Once you know how your soil is, you can feed it the nutrients it is missing.

Weeds on hard surfaces, such as concrete or gravel: Use boiling water or acetic acid (vinegar) to control weeds on hard surfaces; however, if applied to lawns, they will kill everything they touch, so they are best kept to controlled situations.

Broadleaf Weeds, i.e. Dandelions: Manual removal is the best way to combat dandelions – try to remove the entire root. Try also corn-gluten products or acetic acid-based products

Aphids: To control aphids, try an insecticidal soap, such as Safer’s, or try mixing biodegradable dish soap with a small amount of oil and water. Apply to the whole plant – don’t forget the underside of the leaves, where the aphids frequently hang out! This will need to be repeated to kill off aphids and their offspring. Remember: you will need to re-apply after a rain storm or sprinkling!



White flies: Try using an insecticidal soap or mineral oil for white flies. You will need to re-apply, just as with the aphids above.

Mites: Try using an insecticidal soap, mineral oil or sulphur.

Black Spot: Try 1 tablespoon baking soda and 2 tablespoons horticultural oil in 4 litres of water.

Mildew: Try garlic oil to combat a powdery mildew.

Fungus: Try borax, garlic, fungicidal soap or a sulphur-based fungicide. ³

From your Kitchen to your Garden: Natural Alternatives to Toxic Chemicals for Controlling Pests in the Garden

The Quick Facts: Toxic chemicals that comprise many pesticides and fertilizers are often found in the foods that we eat. These toxic chemicals can cause cancer and disorders of the nervous and reproductive systems. You can avoid toxic chemicals in your garden and still control pests by using any number of natural solutions.

³ <http://www.pesticidefreekimberley.ca/gardencare.html>

Natural Alternatives to controlling insects:

Pest-Repelling Plants: The following plants will repel insects in your garden:

borage, dill, garlic, onion, fennel, sage, thyme, parsley, nasturtium and French marigolds.

Basic Insect Spray: This spray will repel insects and can also kill fungi and mites.

Mix 2 tablespoons of dishwashing liquid* (not detergent) and 1 gallon of water. Add 1-2 tablespoons of baking soda to kill fungi. Add sulfur to eradicate mites. Put solution in a properly labeled spray bottle.

Basic Oil Spray: This is a general insect repellent.

Mix 1 tablespoon of vegetable oil, 2 cups of water and 1 teaspoon of dishwashing liquid.* Put solution in a properly labeled spray bottle.

Peppermint Tea: This is an all purpose insect spray, and is also useful for repelling ants. Brew peppermint leaf tea. Cool and place in a properly labeled spray bottle.

Garlic Spray: This spray will repel insects.

Mix 1 quart of water, 2 teaspoons of garlic juice, 1 teaspoon of cayenne pepper and 1 teaspoon of liquid soap. Put solution in a properly labeled spray bottle.

Minced Garlic: Minced garlic placed around tulip bulbs will discourage squirrels from eating the bulbs.

Lemon Spray: This spray will repel white flies and soft bodied insects. It also gets rid of pet fleas. Boil peels of 3 lemons in 1 quart of water, cool and remove peels. Put solution in a properly labeled spray bottle.

Basil Spray: This spray will repel white flies.

Boil water and add a few basil leaves. Let it steep and add dishwashing liquid.* Put solution in a properly labeled spray bottle.

Banana Peel Repellent: Banana peels will repel aphids. The potassium from the peels also stimulates large blooms. Place banana peels around roses and other plants.

Hot Pepper Spray: This spray will repel insects and eliminate black spots on roses. Mix 2 teaspoons of cayenne pepper, 1 quart of water and _ teaspoon of dishwashing liquid.* Put solution in a properly labeled spray bottle.

Tomato Leaf Spray: This repels insects in the vegetable garden. Mix 2 cups of tomato leaves with 1 quart of water. Bring to a boil, cool, strain and add 1 teaspoon of dishwashing liquid. You can find a natural dishwashing liquid at stores that specialize in organic products. Put solution in a properly labeled spray bottle.

Lemongrass Wasp Repellent: Place lemongrass in a vase on your picnic table to keep the wasps away.

Natural Alternatives to Controlling Fungus:

Anti-Fungus Spray: This solution will repel and combat fungal disease. Mix 2 tablespoons of baking soda, 1 teaspoon of vegetable oil and 1 gallon of water.

Vinegar Spray: Use this solution to combat fungal disease and black spots on roses. Mix 3 tablespoons of apple cider vinegar and 1 gallon of water. ⁴

⁴ <http://www.realmama.org/archives-spring-2006/kitchentogarden.php>, published in The Guardian, Monday, July 14.

Gardening: Alternatives to Pesticides Quiz

1. What is an alternative for getting rid of dandelions?
 - a, putting baking soda on the top and cover in boiling water
 - b, put salt on the root, leave for a day, and put on baking soda
 - c, pop off the top, put salt on the root, and cover in boiling water
 - d, step on it

2. When composting, "green" materials are rich with...
 - a, nitrogen
 - b, oxygen
 - c, carbon
 - d, estrogen

3. Most people cut grass far too short. The appropriate length to leave cut grass, so there is enough leaf to properly produce food is..
 - a, 4 inches minimum, 6 inches best
 - b, 5 mm
 - c, one inch minimum
 - d, 2 inches minimum, 3 inches best

4. Insecticidal soap...
 - a, controls earwigs, mealy bugs and white flies
 - b, is harmless to beneficial insects
 - c, should not be replaced by household detergent
 - d, all of the above

5. Toxic chemicals that comprise many pesticides are fertilizers are often found in..
 - a, our skin
 - b, our beds
 - c, our food
 - d, our hair

6. Which of the following is not an insect repelling plant?
 - a, dill
 - b, sage
 - c, fennel
 - d, roses

7. Which of the following repels insects, especially ants

- a, peppermint tea
- b, green tea
- c, jasmine tea
- d, red rose tea

8. Which will repel insects and eliminate black spots on roses

- a, garlic spray
- b, hot pepper spray
- c, lemon spray
- d, tomato leaf spray

9. What keeps wasps away?

- a, tomato leaf grass?
- B, minced garlic
- c, banana peel repellent
- d, lemon grass

Gardening: Alternatives to Pesticides Quiz Answers

1. C

2. A

3. D

4. D

5. C

6. D

7. A

8. B

9. D