

# GROW: Keep It Organic - Pest Control Options

## Organic Tools

### DIATOMACEOUS EARTH

skeletal remains of diatoms consisting of silica, trace minerals & metals. DE is a natural insecticide. It is approved by the USDA to be used in food. Don't use swimming pool filter DE!

### NEMATODES

Beneficial nematodes should be used for soil-borne pests. Overall broadcasting is best. One treatment a year is usually enough. they control fleas, ticks, grubworms, termites, fire ants and roaches, but don't hurt the beneficials.

### ORGANIC SPRAYS

**Baking soda spray:** conquer powdery mildew on squash, melons, pumpkins. It can also help with fungus. Mix 1 quart water, 1 tsp baking soda, 1 tsp vegetable oil, a few drops liquid soap Spray leaves with strong stream to knock off spores. Then spray tops and undersides of leaves.

To keep cabbageworms off cabbage, broccoli, kale, & cauliflower, use **hot pepper spray**. Mix 2 tbl red pepper powder, 6 drops dishwashing detergent, 1 gallon of water. Let sit over night. Spray weekly.

**Bt (*Bacillus thuringiensis*)**, a bacteria, is fatal to many caterpillars, but safe for beneficial insects. Controls cabbage worm, corn borers, squash vine borers, fruitworms, mosquito larvae, and other caterpillars. Spray in the evenings or on cloudy days as sunlight kills Bt.

**Insecticidal soap** can kill aphids, whiteflies, mealybugs, scales, mites, etc. Insecticidal soap is a contact killer - you spray the insect. Test spray some small leaves first. If they are undamaged the next day, then spray. After three sprays, give plants a break - too much soap can harm your plants.

**Compost tea** works against fungus and bacterial diseases. It contains benign microorganisms which grow on leaves and prevent disease. Mix 1 part mature compost with 4 parts water. Let sit 2 weeks, stirring occasionally. Decant the liquid off the compost and dilute the tea to a pale brown color. Spray before you see signs of disease - it can't cure disease, only prevent it.

## Target Pests

### Chinch bugs

Dust problem area with diatomaceous earth after spraying with *Garrett Juice* (*compost tea, molasses, seaweed, natural apple cider vinegar, molasses*) and *citrus oil*.

### Aphids and other small insects

Build soil health, release *ladybugs, green lacewings* and *trichogramma wasps*. Spray *garlic tea* as a preventative. Spray garlic/pepper tea or *Garrett Juice* plus citrus oil if needed. Spray foliage with molasses & water before releasing beneficial insects.

### Spider mites

Spray *liquid seaweed* and garlic/pepper tea and release green lacewings. Spray *Garrett Juice* plus garlic for heavy infestations. Make sure plants aren't being watered too much or too little.

### Caterpillars and bagworms

Release *trichogramma wasps*. Spray *Bacillus thuringiensis (Bt)* or spray *Garrett Juice* plus garlic.

### Slugs, snails, and pill bugs

Diatomaceous earth, hot pepper and *beneficial nematodes*. Cayenne pepper powder dusted on infested areas is very effective. Spray *Garrett Juice* plus garlic or citrus oil.

### Crickets

Treat problem areas with *Nosema locustae* products. Spray *Garrett Juice* plus garlic.

### Whiteflies

Spray a mix of liquid seaweed and garlic/pepper tea or *Garrett Juice* plus garlic.

### Fire Ants

Treat mounds: spray with manure compost tea, citrus oil and molasses. Nematodes are also effective.

### Grubworms

Nematodes are effective, but maintaining healthy soil biology is the primary control. Apply sugar or dry molasses to problem areas at 5 lbs/1000 sq. ft.

### Squash bugs& stink bugs

Spray with *Garrett Juice* plus garlic and citrus oil.

### Black spot, brown patch, powdery mildew

Best control is prevention through soil improvement and avoidance of high nitrogen fertilizers. Spray plants with *Garrett Juice* plus garlic tea, and neem. Sprays of baking soda or *potassium bicarbonate* (1 rounded tbl/gallon of water) can also be used.