

# Battle Garden Disease and Insects the Organic Way

Fort Gordon Garden Club

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# Organic Gardening - Organic solutions to pests and disease.

“ Organic gardening is simply a method that uses our understanding of nature as a guide for growing plants without using synthetic chemical pesticides or synthetic fertilizers. Natural pest and disease control, it follows, is a method of managing pest and disease without the use of chemical pesticides and with a understanding that pest and disease are part of a living system that has an innate balance.” *The Organic Gardener’s Handbook of Natural Pest and Disease control - A Rodale Organic Gardening Book -Fern Bradley, Barbara Ellis and Deborah Martin*

# Things we already know:

- ▶ Healthy Soil = Healthy Plants - adding organic matter
- ▶ Companion planting - Hand out
- ▶ Hybrid or plants grown to be diseased resistant - buy healthy plants
- ▶ Plant the right plant for the right spot - Sun or partial shade or full shade
- ▶ Plant the right plant in the right spot AT the right time - Watch the recommended timing - Date is not as important as temperatures
- ▶ Don't plant the same plant in the same spot every time (Crop Rotation)
- ▶ Weed, feed and water judiciously - PLEASE don't drown you plants
- ▶ Prune or cut back to keep good air flow
- ▶ Keep your garden tools CLEAN - Hose them off spray, with apple cider vinegar 2 cups to 4 to 6 gallons -I use this to clean my chicken coop -

# Bugs that eat Bugs - Predatory insects

- ▶ Lady beetles and Ground Beetles eat many other insects during their life cycle - Aphids are yummy to these
- ▶ Praying Mantis and Assassin Bugs may be able to eat almost any species they can catch - but that can also be the beneficial bugs, they can also eat pollen and may suck on plants when food is scarce or they need water.
- ▶ Parasitoids lay eggs on or in the bodies of other insects which eventually kill the host.
- ▶ Ants - Some ants invade our home and garden and are annoying but not really a pest. They help keep the soil aeriated.

HOWEVER: They do like to feed off of the juice on aphids and will “farm” that juice leaving the aphids around as a source of food.

Bad Bugs and Diseases in this area.

**Please see hand outs**

# Blights-cankers-mildews .....

- ▶ Downey Mildew - Prevent by promoting drying and moisture control. Remove infected leaves - Potassium Bicarbonate spray may help reduce the spread for woody plants copper-based fungicides can be a last resort, can use baking soda spray to start.
- ▶ Early Blight - roundish spots prefers tomatoes and potatoes - keep area clean - keep foliage off the ground - copper-based fungicides can be a last resort. Late Blight use same cure. This disease can last in the ground for 1-2 years, don't plant tomatoes in that area again and treat area in off season.
- ▶ Rust - effects woody and herbaceous plants - Provide good air circulation, avoid wetting leaves (water at base). Sulfur based dust can be applied but this badly effects beneficial bugs.
- ▶ Spotted wilt virus - spread mainly by thirps - spray horticultural oil in the off season - hang blue or yellow sticky traps control the thirps control the problem
- ▶ Cankers - Buy disease resistant plant - Mulch around base of plant to prevent spores from splashing up - REMOVE infected plant and destroy them. Copper spary surrounding plants to help control spread.

# Organic Sprays and Dusts and traps

**Spray them off** - Small soft bodied insects like aphids, leaf hopper, spider mites and thirps can be sprayed off with a blast of hose -Use a forceful but wide spray, too directed can damage plant- be sure to reach under the leaves.

**Barriers:** Cardboard tube around base at planting to prevent cutworms will dissipate as the seedling grows so once it is big enough to fight off cutworms it should be gone, Aluminum foil skirts can also work but you need to remove these when the seedlings are big enough. *Cut worms like young seedlings.*

*Mulch and a barrier - use under plants to prevent the spread of disease*

**Floating row covers** - put these on BEFORE the pest are a problem - Once the plant has grown into the barrier it needs to be removed so the plant can be pollinated.

**Cabbage Maggot Barrier(Also for broccoli and cauliflower):** These maggot lay their eggs under the young plant, place a paper or other type of barrier under the seeding's so they can't lay their eggs. Tar paper repels flies so it a "Twofer".

**Copper strips:** Cooper repels slugs and snails - they actually get an small electric shock when they try to cross.

**Crawlers:** Unattractive or abrasive material such as wood ash, crushed seashells has to be reapplied after rain or watering's. Aluminum foil fence: burry one edge in ground around bed or each plant 6 inches out, leave at least 2 to 3 inches above ground and bend top out in "L" shape to make it hard for crawlers to climb over.

**Ant trap** - in a small covered container put a few ant sized holes. Mix some sugar and borax (found in laundry section at most stores) into a paste leave near ants. They will enter, take mixture back to colony and kill colony.

**Slug Trap** - Garden supply stores offer these that are a reservoir for bait, a liquid in which the pest drowns - OR you can make one from an aluminum pie plate, other recycled container. The BEST is to take a coffee container with lid and cut a one inch hole in the side at least half way up, bury to hole, fill with beer to the hole. The lid keeps the rain water out. You can also create a slug friendly home, an overturned pot, small board or shingle where they can hide from the sun, the in the early morning collect them.

**Earwig Trap** - Use a tuna can, set in the ground to the rim, bait with fish oil or oil soaked bread crumbs. Earwigs eat aphids and other harmful insect and just because they are ugly get blamed for damage they didn't do. They can be harmful to YOUNG plants but after that stage they are a help to your garden.

**Sticky Traps** - trap good and bad bugs - Japanese Beetle traps are best purchased - Light Traps (Bug Zappers) kill good and bad bugs and attarck bugs to the light. If you use these place them AWAY from you and your garden.

# Handle with Care - “Never use a cannon to kill a mosquito”.

In choosing a spray or dust or even a “homemade potion” start with as gentle a remedy as possible. A baking soda spray or kaolin clay that will do the least harm to beneficial garden organisms and are least toxic to people and pet. JUST because something is organic doesn't mean it won't get you sick if misused!

Pyrethrum and neem are botanical poisons that have broad spectrum activity - means they kill even the good bugs. Easy to buy commercially or online.

Sulfur and Copper products are also “organic” but toxic. These are used to treat or prevent disease problems.

ALWAYS read and follow the directions and restrictions on the label.

**Homemade potions** - *Garlic oil* (soak 3 ounces of finely minced garlic in 2 teaspoons of mineral oil for at least 24 hours. Add to one pint of water that has ¼ ounce of liquid dish soap, store in glass jar. Combine 1 to 2 tablespoons of this concentrate with One pint water to make a spray.

*Hot pepper Mix spray* - Do NOT get this in your eyes or on your skin and avoid inhaling it - Chop, grind or liquefy in your blender 1 bulb of garlic, 1 small onion then add one teaspoon powdered cayenne pepper and mix with 1 quart water. Steep for at least one hour, strain and then add 1 teaspoon of liquid dish soap, mix well. Store mixture in a labeled covered container in refrigerator for up to one week. THIS IS NOT SALAD DRESSING!!! 😊

*Baking Soda Spray* - CAN BURN FOLAGE - add 1 teaspoon of baking soda in one quart of warm water. This is good on downy mildew as a treatment and preventative.