



# Natural Pest Control Handout

Seedy Saturday Workshop Evergreen March 2014

Plants are already defending themselves and have evolved over thousands of years to defend against insects, animals, and inclement weather. We must remember that insects and disease are often a symptom of a larger problem – such as in the less than ideal environmental conditions or nutrient deficiencies. By thinking holistically, we can help plants help themselves and defend against harmful pests that may arise.

We can think of natural pest control as a 4-Step Method, starting at the first step by taking proactive measures to preventing problems, moving through simple remedies if early infestations arise, and finally to more aggressive treatment options if the previous methods don't work or the pests start to become more damaging to your plants.

## 1. Cultural Controls

The first step in any pest control strategy must be cultural. This includes choosing the right environment conditions for the plants such as soil composition (sand vs. clay soil), soil pH, sun conditions, plant nutrients (macro/micro nutrients added through amendments or composting), crop rotation, selecting suitable seeds/transplants, and ensuring a clean working/growing environment. As the old adage goes, "An ounce of prevention is worth a pound of cure." We suggest you incorporate these practices into your general gardening plan. There are few, if any, harmful side effects on beneficial organisms when using cultural controls.

## 2. Physical Controls

The next step up the ladder in terms of natural controls is physical barriers. These controls are about excluding and removing pests from plants and can take multiple forms:

- Thick mulch to prevent insects buried in the soil from emerging
- Yellow sticky paper traps
- Beer dish to drown slugs/snails
- Trap crops like nasturtiums to act as an early warning against aphids
- Hand picking insects off plants
- Copper strips around raised beds to deter slugs and snails
- Bagging fruit in orchards
- Using floating row covers to keep insects like flea beetles off of crops
- Spreading diatomaceous earth along the border of a garden

Understand what challenges you normally face based on past experience, your selection of crops, talking with neighbours and experts at your local garden center will help you determine which methods may be most suitable for your unique situation.

### **3. Biological Controls**

Biological Controls use living organisms to kill garden pests. These can include beneficial insects and bacterial insects. These organisms can be encouraged to take up residence in your garden by providing them with an environment with suitable food and shelter, as well as by purchasing beneficial insects from a specialty garden center or online and releasing them into your environment.

Certain animals can be classified in this category too such as chickens, lizards, toads, and snakes who eat up lots of insects. The most common beneficial insects are ladybugs, lacewing, and predatory mites.

### **4. Organic Sprays and Dusts**

Finally, as a last resort if all the other methods do not work, organic sprays and dusts can be employed to control a variety of pests. These can include homemade pesticides, sulfur and copper compounds, and botanical controls.

Take additional precautions when it comes to handling potentially harmful materials. Even natural materials like garlic and chili peppers can burn and cause things like skin irritation if handled improperly. We suggest following these best practices

- Always handle with care
- Wait for calm weather before applying
- Avoid applications in mid-day, wait until early morning or evening
- Remove/harvest any ripe fruit/veg before spraying and wait a few days after spraying before harvesting again
- Remove conspicuous weeds that may provide cover for pests
- Dress properly – we suggest long pants and closed toed shoes
- Check your equipment before starting
- Make only as much solution as you need
- Be thorough with your application, applying to both upper and lower areas of leaves and areas where pests might run and hide
- Monitor for pest resurgence shortly after application. Pest resurgence is when not all of the pests are killed, but many of the natural predators are. The pests who do survive come back stronger and now with less threat from diminished populations of natural predators.

#### **Rhubarb Tea Recipe (use for treating aphids):**

Pour boiling water over crushed rhubarb leaves then leave to soak for several days. Strain, add a good squirt of detergent and dilute enough so that it looks like weak tea and spray over pest infested plants.

#### **Garlic Oil Spray (use for treating aphids, spider mites, white flies):**

- 10-15 cloves of minced garlic
- 2 tsp. mineral oil
- 600 ml water

- 1 tsp. liquid dish soap

Soak garlic in mineral oil for 24 hours. Strain garlic out and add 600 ml water and 1 tsp. liquid dish soap. Mix thoroughly. Spray plants with this solution.

#### **Onion/Mint Spray (use for treating flea beetles)**

- ½ cup minced onions
- ½ cup fresh mint leaves
- 1 cup canola oil
- 1 cup water

Soak onions and mint in canola oil overnight. Strain and blend in water and a few drops of liquid soap. Shake and apply to affected plants suffering from flea beetle attacks.

#### **Hot Pepper Spray (use to deter small mammals from your garden)**

- 6-10 hot peppers
- 5-10 cloves garlic
- 2 cups water

Combine all ingredients in a blender. Let mixture stand up to one day and strain through cheesecloth. Dilute with 1 quart of water and spray plants to deter small mammals from the garden.

#### **Final Thoughts**

Think of natural pest control as an ongoing task where you are continually trying to improve the health of your plants and the soil while continually monitoring for signs of other pests.

This is just the tip of the iceberg when it comes to natural pest control. A whole study can be done on specific pest insects, their life cycle and feeding habits, as well as identifying common symptoms of infestation. We hope you continue your study in learning about natural pest controls and work on improving your soil and choosing the right plants for your environment.

For more information, ordering some natural pest control products, or help with your edible garden, please contact us at [info@youngurbanfarmers.com](mailto:info@youngurbanfarmers.com) or visit [www.youngurbanfarmers.com](http://www.youngurbanfarmers.com) for weekly gardening tips and unique urban farming products.