

# Burlington Community Gardens

*Dig in. Eat fresh.*

## Organic Pest and Mildew Management

### **MILDEW MANAGEMENT:**

- Add mulch between the soil surface and plant to avoid water splashing from soil to plant
- Cut off infected leaves ASAP
- Avoid wetting leaves when watering, especially in humid conditions
- Provide air circulation by removing bottom leaves
- Thin plants if they were planted too closely
- Natural fungicide: Mix 2 tsp. of baking soda in a liter of water with a drop of vegetable oil, a drop of natural detergent to make a spray. The baking soda kills fungus, and the detergent and oil help the spray stick to plant leaves. This mixture kills powdery mildew, black spot and rust
- Lime sulfur: provides protection against blight, anthracnose and powdery mildew, and can help manage problems with eriophyid mites, scales and thrips
- Bordeaux mix: A combination of copper sulfate and calcium hydroxide – is a multipurpose fungicide that you can also use to manage insect pests
- Commercial organic products such as Serenade may be used for both prevention and treatment of mildew on squash, cucumbers and tomato blight. Apply every 7-10 days.

### **PEST MANAGEMENT:**

**CABBAGE WORMS:** The Cabbage White butterfly feeds on nectar, and lays single eggs on the undersides of plants of the brassicas family. The eggs hatch in five to seven days. The larva (cabbage worm) feeds voraciously on brassicas, building up energy to make its chrysalis and metamorphize over the winter.



- Prevent infestation by protecting your plants with floating row covers, especially in spring and early summer, when egg-laying activity is at its highest.
- Stop worms from burrowing into cabbage heads by inserting each head into a nylon stocking, and leave it on until you harvest the head.
- Spray with Insecticidal soap or Neem Oil: Make your own soap with 1 litre of water in a spray bottle, add 1 teaspoon of dish soap and 1 drop of vegetable oil.
- The Braconid wasp (*Diaeretiella rapae*) attacks the common cabbage worm. Braconid wasps are drawn to nectar plants like yarrow, daisies and alyssum.
- Repell with garlic water: Make your own by mixing 1% pure garlic juice with 1% fish oil and 98% water. Put the mixture in a pump sprayer and saturate the leaves and head of the cabbage.

**FLEA BEETLES:** Use Diatomaceous Earth (100% Silicon Dioxide power). Apply to plant and the soil surface underneath. Diatomaceous earth is the fossilized remains of an aquatic single-cell organism called a diatom. Applied as a dust, the diatom's pulverized remains have a glass-like quality that cuts through the insect's outer body covering, resulting in death by dehydration. *An important consideration when using diatomaceous earth is that it does not discriminate between nuisance insects and beneficial ones such as ladybugs and praying mantis.*



**JAPANESE BEETLES:** Pick and drown in water with a drop of soap. They will attack and defoliate beans, tomatoes, hops, and much more.

**CUCUMBER BEETLE:** Spreads bacterial wilt disease and damages plants when feeding. Found on cucumbers, squash, pumpkins, cantaloupe, and



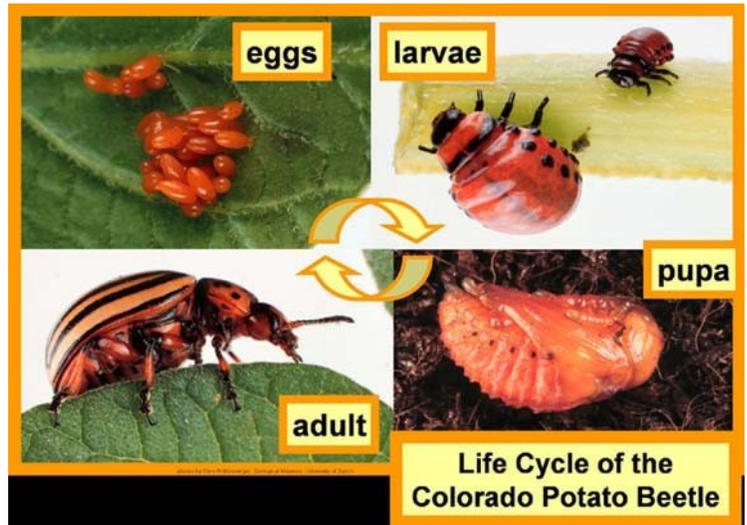
melons. Also, occasionally on beans, peas, and corn. Spotted cucumber beetles will feed on a wider range of host plants, including tomatoes, eggplant, and potatoes.

Use barriers to protect young seedlings from adult beetles. Cones, row covers, or cheesecloth will keep beetles from feasting until plants are large enough to tolerate them. Remove and destroy any wilt-infected plants immediately.

### COLORADO POTATO BEETLE:

Look for and remove:

- adult beetles that may overwinter in the soil
- eggs laid on the underside of nightshade plant leaves (eggplant, tomato)
- larvae that feed on plant leaves
- pupa of the larva which will metamorphosis into an adult beetle in the soil under ground near the host plant



### TOMATO HORN WORM:



Likely the largest caterpillar you may see, the tomato hornworm is three to four inches long at full size, green with white v-shaped marks along its sides, and a black "horn" which projects from the rear.

Watch for tell tale droppings on and around your tomato plants and devoured leaves.

Tomato hornworms are voracious, munching entire leaves, small stems, and even parts of immature fruit.

While they are most commonly associated with tomatoes, hornworms are also common pests of eggplants, peppers, and potatoes.



Since the hornworm is so large, the easiest and most effective way to get rid of it is to pick it off of plants as soon as you detect it and drown it by tossing it into a bowl of soapy water. However, if you see a hornworm covered with white egg sacs, leave it be. The egg sacs are those of a parasitic wasp called the Braconid wasp. Let the eggs hatch, and you'll have an army of wasps ready to defend your garden against all types of pests.