



Early Spring Garden Pests

Gardeners learn early that, for every crop, there are pests that will consume it. Managing pests begins at the time of planting. There are several pests that will arrive as soon as seedlings emerge or plants are transplanted. Here are some early season pests and simple management strategies that are especially helpful if you are an organic gardener.

Cutworms are fat, hairless caterpillars that feed on a variety of plant material. There are many species; some climb plants to feed on stems and foliage, others feed at or just above the soil surface, cutting off newly transplanted plants at the soil line and leaving the plants lying on the ground. They pass the winter as fully grown caterpillars which is why newly set plants are so susceptible. The adult stage is a moth. Newly planted peppers and tomatoes can be protected by placing a collar around each plant made from cardboard, paper or plastic cups, or milk cartons with the bottoms cut off. The collar should be at least 3" tall and pushed 1" into the soil. The collar acts as a barrier, keeping the cutworms from reaching the plants. Cutworms feed at night and hide in the soil during the day. Check the soil around the transplant before putting the collar around it to make sure there are no cutworms trapped between the collar and the plant.

Root maggots (white larvae) feed on the underground portion and roots of broccoli, cabbage, onions, radishes and plants in the cabbage family. As a result of feeding, plants will be stunted or turn yellow and die. Adults of the maggots are grayish flies, about half the size of house flies, that lay eggs at the base of the plant which then hatch into larva. There are a couple of different barriers that can be used to prevent damage from root maggots. A 6" collar (3"radius), laid flat on the ground around individual transplants will prevent adult flies from laying eggs at the base of the plants. Another option is to use row covers as a barrier to keep flies from laying eggs near plants.

Leaf miner larvae (immature stage) feed on spinach, beets and Swiss chard, making long slender, winding tunnels between the top and bottom of the leaf surfaces. Inside the mines are tiny white maggots. Tan colored blotches on the leaves indicate leafminer feeding damage. The fly overwinters as a pupae (resting stage) in the soil and hatches in late April and May. The adult fly then lays eggs on the leaves and the larvae begin their damage. Leaf miners also feed on many weeds including chickweed, lamb's quarters and nightshade. Rotating crops so they do not grow in the same spot as last year and weed control are the first lines of defense. Row covers can be used to exclude flies if placed over the crop before flies are active or immediately after planting.

Flea beetles are very small (1/16") insects that jump like fleas when disturbed. The crucifer flea beetle is uniformly black and shiny, while the striped flea beetle has two yellow stripes on its back. They chew numerous small holes on a variety of vegetable plants including potato, tomato, pepper, eggplant, beets, cabbage and others. They overwinter as beetles, and are among the earliest pests on young transplants and emerging seedlings. Eggs are laid in the soil starting in late May, and beetle larvae feed on roots. To delay infestations, avoid growing plants in the same location each year. One of the best ways to protect crops from flea beetles is to

place floating row cover over the bed or row. It is critical to seal the edges immediately after seeding or planting because beetles rapidly find the young plants. Flea beetles can fit through extremely tiny cracks – edges of the cover must be sealed on all sides.

Striped cucumber beetles are tiny (1/4" long) yellow and black beetles that feed on young leaves of cucurbits (cucumbers, squash, melons) and vector *Erwinia tracheiphila*, the causal agent of bacterial wilt. This disease causes cucumber seedlings to turn yellow and die. Young cucumber seedlings are more susceptible to infection with bacterial wilt than older plants. Beetles spend the winter in plant debris and emerge when the weather warms and cucurbit crops emerge. Several studies in the Northeast have shown that setting out transplants instead of directly planting seed results in earlier and higher yields. Among the benefits - plants are bigger when cucumber beetles arrive so that they are less vulnerable to both feeding damage and to wilt. Floating row covers can be used as a barrier to prevent cucumber beetles and bacterial wilt.

Lightweight, floating row covers are an excellent barrier to some early pests including root maggots, leafminers, flea beetles, Colorado potato beetles and cucumber beetles, as long as the insect did not overwinter in the same location that is being covered. Pests that emerge near their target plant under the protection of a row cover may damage plants even faster than usual!

Row covers are made of lightweight fabric that can be laid directly over plants; leave enough excess fabric so plants can grow under it. The fabric needs to be secured to keep pests out. Some people use rocks; others bury the fabric edges with soil down each side of the row, or one can use metal staples made for this purpose. Row covers can also be supported with hoops. The fabric allows water and light to pass through and protects young plants from wind. Row covers should be removed from vine crops such as cucumbers when flowers appear because vine crops need bees for pollination. Covers should also be removed when temperatures reach high 80's for four or more hours. Row covers have also been used to protect sweet corn from European corn borer which lays eggs in early June. Covers are available in a variety of widths, lengths and thickness.

Note that row covers made of mid to heavier weight materials are used for frost protection. These covers can provide 2-8 degrees of frost protection depending on the weight of the fabric and can inhibit light transmission down to as much as 50 percent.

Disclaimer -The most reliable information was included that was available at time this information was compiled. Due to constantly changing laws and regulations, UMass Extension can assume no liability for recommendations. The pesticide user is always responsible for the effects of pesticide residues on their own crops, as well as problems caused by drift from their property to other properties or crops. **Always read and follow all instructions on the label.**

WARNING! PESTICIDES CAN BE DANGEROUS. Read and follow all directions and safety precautions on container labels. Handle carefully, and store in original containers with complete labels, out of reach of children, pets, and livestock.

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