Take Steps to Prevent These Vegetable Pest Problems

Early June (and May) is a time to combat some nasty pests. Maggots can devastate susceptible crops. Cabbage maggots attack anything in the cabbage or brassica group of vegetables, including cauliflower, broccoli, Brussels sprouts, kale, collards, kohlrabi, cress, radish, turnip and rutabaga. Onion maggots attack onions, garlic, shallots and leeks. Seed maggots (sometimes called seed corn maggots) attack a large number of sprouting seeds, most notably corn and beans. Although these three insects are of different species and attack different crops, they are similar in their life cycles and habits.

Adults are flies that look like house flies but smaller. They overwinter as pupae in the soil where host crops were grown the previous year, and emerge as adults in the spring about the time forsythia and cherry trees are in bloom. They mate and lay eggs at the base of susceptible plants, on the stem, on the soil or in cracks in the soil. The eggs are white, bullet shaped and about 1/8 inch long. They hatch in three to five days as white maggots and crawl down into the soil and burrow into roots or seeds. Their damage causes severe wilting and death of the plant. Typically several maggots attack one cabbage plant, but one maggot will work down the row, killing several onion seedlings.

Plants can be protected by covering with a floating row cover right after seeding or transplanting. The row cover prevents the flies from entering the planting and laying eggs. It is important to seal all the edges of the cover with soil so the flies cannot crawl underneath. Remember that the pupae overwinter where the crop was grown last year, so be sure to rotate as far as possible, or else the flies will emerge under the cover. It is OK to grow cabbage where onions grew last year since the maggots are specific to the families of crops listed above.

Keep the covers on for several weeks to be sure that egg laying has stopped. These maggots have three generations in our area. The second occurs in mid-summer, but is usually of little concern because most of the eggs are killed by soil temperature over 90° F, which is common at that time of year. Rain can cool the soil and increase egg survival. This has happened, but rarely has been serious. The third generation of maggots occurs in the fall. It can be a problem in onions, but fortunately has been rare here. Radish, turnip and rutabaga have been seriously damaged by maggots in the fall. If these crops are grown in the fall, they can be protected by row covers.

Maggot flies are attracted to manure or other fresh organic matter. Such materials should be applied the previous year on sites where susceptible crops are to be grown.

Leaf miners are related to maggots described above. The adult flies look like maggot adults and they have similar life cycles. Adults emerge about the same time as maggot flies. After mating, they lay eggs by inserting them into leaf tissue of susceptible crops, which include corn, chard, spinach and beets. Tiny maggots hatch from the eggs and eat the inside of the leaf, leaving only the upper and lower epidermal layers. The affected areas become whitish. There are two types of leaf miners known as serpentine and blotch. The serpentine types, leave winding trails as they excavate their way through the leaf. The blotch types eat sections at a time, causing a blotchy appearance. The blotch types are the most common on vegetable crops. Since their life cycles are similar to maggots, row covers can be used in the same manner. Gardeners may choose to tolerate feeding on beets

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if they do not eat the greens, but there can be little tolerance for such damage on chard and spinach. Corn can withstand more damage without harm to the growth of the ears.

Some tricks for getting a good stand of seedlings.
A number of things can happen to seeds and small seedlings, resulting in skips and poor yields. First, be sure to plant at the proper depth. The seed packet should provide this information, but a general rule is to plant at a depth equal to two to three times the diameter of the seed. If you have soil that dries out quickly and it is light, you can plant a bit deeper to attain better moisture.

Don't plant too early! Cold, wet soils are not conducive to germination for many seeds, but are great conditions for some diseases just waiting for a chance. Be patient and wait for the right conditions. Use row covers or plastic mulch to warm the soil and improve conditions somewhat. Some gardeners like to put black plastic down over newly seeded crops and then remove it as the seedlings start to emerge. However, organic mulch acts as an insulating blanket and should not be applied until the soil has warmed. Get a soil thermometer; these are inexpensive and very handy.

Soil crusting is a problem for many gardeners. Some soils tend to form crusts after a rain or watering. Over-working a soil, such as with a rototiller, breaks down aggregates and increases crusting. Organic matter reduces crusting. Use of plastic mulch or row covers protects the soil from beating water droplets and thus reduces crusting by protecting aggregates. Organic mulch works even better, but be sure the soil is warm enough. You can also cover the seed with finished compost, peat moss or vermiculite instead of soil, since these materials will not form a crust.

Be sure the soil pH is OK. Many vegetable seedlings are not tolerant of acid soil and are easily killed or more susceptible to disease such as damping off when the soil is acid. A soil test may indicate that your pH is alright, but then you apply fertilizer and mix it into the top 2 or 3 inches of soil. Since most commercial fertilizers have an acid reaction, you can easily end up with soil that has a low pH in the top layer where the seeds are germinating.

Details, details, details!
Some of these things may not be so bad by themselves, but put two or three of them together and it can spell trouble. Acid soil by itself may not be too bad, but combine that with cool, wet weather and you have a recipe for disaster. It reminds me of straws on the proverbial camel's back. It takes a lot of straws to do in the camel, but only a few things can cause havoc in the garden. There are plenty of things you can't control, but take care of the things you can.

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