June-July
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Common Garden Pests

The appearance and intensity of insect and diseases in your vegetable garden will vary from one garden to another and from year to year. Folks with conventional gardens will typically use granular fertilizer with occasional applications of Sevin or Pyrethrum for managing insects and Dithane or Mancozeb for various diseases. Gardeners who desire to reduce or eliminate their pesticide use make the transition by adopting various organic practices. These include combating pests with choosing disease resistant varieties, building-up soils with manures and compost, and farmscaping with flowering plants to attract beneficial insects which in turn keep the bad insects at bay. Additional techniques include crop rotation, trap crops, sanitation, high tunnels, row covers and more!

Know your enemies and become familiar with your allies. Correctly identifying problem insects and diseases that attack your vegetables is the first step toward controlling these pests effectively. The following descriptions are what I consider the most common pests encountered by gardeners here in Western North Carolina. The pest descriptions are designed to help home gardeners recognize insects and diseases found on vegetables. More specific descriptions of insects and detailed information on control procedures are available through your local Extension Center.

Corn Earworms

This caterpillar does the most serious damage to corn and tomatoes. Other vegetables attacked include peppers, eggplant, beans, okra, sweet potatoes, lettuce, and cabbage. Corn earworms prefer fresh corn silk as a location to deposit eggs. Newly hatched larvae feed on buds and leaves or on corn silks. When they are four or five days old, larvae travel down the silks and feed on kernels at the end of the corn ear. If fresh corn silk is unavailable, moths prefer laying their eggs on tomato foliage, especially when plants are flowering. For control measures apply mineral oil or spray with Bt and plant with clovers and members of the carrot and sunflower families to attract the beneficial insects specific to this pest.

Colorado Potato Beetle

This insect is perhaps best known as the common yellow and black striped potato bug. Both adults and larvae feed on the foliage of potatoes. While potatoes are preferred, this pest also attacks tomatoes, eggplant, peppers, and horse nettle. Adults are about 3/8 inch long and 1/4 inch wide and very convex in shape. Black and yellow stripes run lengthwise along the insect’s back. Females lay clusters of 20 or more yellowish-orange eggs on the underside of leaves. A single female beetle can lay over 500 eggs over the course of her four-week life. Larvae begin chewing on leaves and fruit immediately after hatching. This insect overwinters as an adult in the soil and there are at least two generations per year. For control measures apply Bt and plant with amaranth and various clovers to attract the beneficial insects specific to this pest.
Squash Vine Borer

This borer can be very destructive to squash and pumpkin plants. By boring into a vine near the base, this thick, white, wrinkled brown-headed caterpillar causes entire plants to wilt. The larva overwinters 1 or 2 inches in the soil within a dark, dirt-encased cocoon and molts into a pupa in the spring. Within two or three weeks after molting, the 3/4-inch-long pupa has worked its way to the soil surface and emerged as an adult. The adult squash vine borer is a moth with a wingspread of about 1-1/2 inches. The front wings are covered with metallic, greenish black scales. There are two generations of this pest each year. Damage is usually noticed in early June and again in early August. For control measures, try planting butternut squash along with other more resistant winter squash varieties.

Mexican Bean Beetle

The brown Mexican bean beetle is decorated with 16 black spots arranged in three rows across its back. Beetles are 1/3 inch long, convex, and resemble lady beetles. Adults overwinter on the ground among leaves and trash near fields where beans were grown. When warm weather arrives in the spring, they leave their overwintering sites and feed on beans for a week or two. Females lay lemon-colored eggs in groups of 25 or more on the underside of leaves. Eggs hatch about 10 days after being laid and yellow larvae with six rows of black-tipped, branched spines on their backs appear. Both larvae and adults feed on leaves, usually on the underside. Damaged leaves have a skeletonized or lace-like appearance. The insect attacks all kinds of garden beans, cowpeas, and soybeans. For control measures try planting golden rod, yarrow and bishops weed to attract the spined soldier bug.

Flea Beetles

The many different species of flea beetle attack a variety of vegetables. Species that attack potatoes, tomatoes, and eggplant are the most troublesome, but flea beetles also damage corn and sweet potatoes. Flea beetles are named because of their enlarged hind legs and jumping ability. Adults are 1/16 to 1/18 inch long and usually black with brown legs and antennae. These insects overwinter as adults in trash around field borders and in ditch banks. There are three or more generations per year. Round holes chewed in leaves are the most obvious damage caused by flea beetles. For control measures try row covers and planting with berseem and subterranean clovers to attract the beneficial insects specific to this pest.

Nocturnal Pests

There are several kinds of insects that feed only at night. These include beetles, weevils, caterpillars and all earwigs and cutworms. Symptoms include young chewed or cut-off plants near the ground. In addition, one may find chewed off leaves, stems, flowers and fruit. Nightly inspection with a flashlight may uncover the suspect insect.

Early Blight

Alternaria solani attacks tomatoes and potatoes at any stage of growth. Some leafspotting occurs early in season, but occurs as the fruit matures. Plants heavily loaded with fruit are the most susceptible. Spores survive in plant debris in the soil for at least a year. The fungus is most active in humid weather with a temperature range of 75 to 85 degrees F. For control measures, create a high tunnel over tomatoes with drip irrigation to keep rainfall off leaves or plant resistant varieties such as Big Beef, Mountain Fresh, Mountain Supreme and Spitfire.

Scab

Streptomyces scabies is a fungus that creates brown corky scabs or pits on potato tubers. Infection occurs through wounds and through the breathing pores in the tuber skins when the tubers are young and growing quickly. Scab is most severe in warm (75-85 degree F) dry soil with a pH of 5.7 – 8.0. Scab is not a problem in acid soils with a pH of 5.5 or less. If your garden has a history with Scab, try lowering your pH or planting with resistant varieties such as Chieftan, Viking, Norgold Russet, Norship or Superior.

For a great publication on Farmscaping, go to the website: attra.ncat.org/attra-pub/farmscape.html
There are multiple reasons why people garden. Many enthusiasts view gardening as a hobby that provides exercise or a relaxing escape from daily stress. Others garden for the feeling of productivity, for health and nutrition, the desire to save on their grocery bill or add money to their income by selling at local farmer’s markets. A garden as defined in Webster’s dictionary, is a plot of ground where herbs, fruits, flowers, or vegetables are cultivated. A gardener is classified as one who works in or tends a garden for pleasure or hire. One of the main reasons that people garden is that vegetables from the supermarket cannot compare in taste, quality, or freshness with vegetables grown locally or in their own garden!

Throughout history many civilizations practiced various forms of community gardening. As groups of people transitioned from a nomadic lifestyle into settlements and towns, food production became a vital component in their day-to-day living. Gardening had to take place either within or directly bordering the perimeter of their settlement or city, as food was perishable and transportation was slow.

Sumer, an ancient civilization and region in southern Iraq is said to be one of the first societies where 90% of the population living in cities produced food in the surrounding irrigated fields. In Italy, each household in the famous city of Pompeii had its own gardens used not only for food but also as a central place for the family to socialize. During medieval times, there existed kitchen gardens and orchards within the fortress walls of castles. In the 1500’s, the ancient Incan city Machu Picchu in Peru was known for supporting itself on terraced and irrigated fields surrounding the mountain city.

During World War I, farmers in Europe had gone off to war (1914). Europe struggled with producing enough food as much of the land had fallen into the war zone, making it impossible to farm. Food shortages increased while shipping in food from overseas became treacherous. The United States and Canada responded to the call to provide food for the 120,000,000 people in the countries of the Allied Forces. Under the direction of Charles Lathrop Pack, The US Department of Agriculture formed a committee to help plant “a million new backyard and vacant lot gardens.” These were named liberty gardens (1917-1919).

At the beginning of World War II, victory gardens (1940-1945) emerged to reduce the pressure on the public food supply brought on by the war effort. Some of these gardens had started as depression relief gardens while others remained in existence from the WWI. Many gardens consisting of vegetable, fruit and herbs were carved out of vacant lots, back yards, and city parks. Victory gardens during WWI and WWII were considered patriotic and a morale booster as participants felt they were indirectly contributing to the war effort. Sometimes, gardening was integral to survival as existed in the Jewish ghettos of Europe in the 1930s and 1940s.

In 1942, the USDA estimated that about 5.5 million people participated in this effort with gardening approximately 20 million plots. Seed package sales increased 300%. Victory gardens produced an estimated 9-10 million pounds of fruit and vegetables each year equating to 44 percent of the fresh produce grown in the United States. In 1943, American families bought 315,000 pressure cookers for canning vegetables up from 66,000 in 1942. When World War II ended, so did the government promotion of victory gardens.

Today there exists multiple ways to obtain locally grown fruits and vegetables. If you have land, then the obvious course of action is to plant your own garden! If space is an issue, try square foot gardening or container gardening. If this is not feasible, then join one of the Community Sustainable Agriculture (CSA) operations in Jackson or Macon Counties where you can purchase locally grown organic produce. Finally, there’s a plethora of hobby gardeners out there who sell at local tailgate markets. Support your local produce stands and markets and discover the wide variety of herbs, vegetables and flowers that are in-season, tasty and fresh.
Sincerely,
Christy Bredenkamp, Extension Agent
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For more information Contact Christy Bredenkamp at 488 3848.