INSECTS IN THE GARDEN

I often get many insect questions throughout the year, so I thought I would share with you some general things about insects. If you are not familiar with beneficial insects, become familiar! Be able to identify them and do not kill or spray them when you see them in the garden or your flower beds. Some of the most common beneficials you will see in the garden include: Lady Beetles, Lady Beetle larvae, Assassin Bug, Green Lacewing, Praying Mantis, Minute Pirate Bug, Bees (honey and bumble are pollinators), Spined Soldier bug, Braconid parasite (parasitoids) found on tomato hornworms, Syrphid fly-aids in pollination, and Butterflies-pollinators.

Some serious insect pests in Missouri during the growing season include: Codling Moth—a big pest of apples, causes "wormy" apples; Scale—can be a pest on tree fruits and ornamentals; Plum Curculio—serious pest of tree fruits; Spider Mites—can be a serious pest in dry years on fruit trees, vegetables and ornamentals; Borers—can be a serious pest of fruit trees, like the peach tree borer, also Squash Vine Borer a serious pest of squash and pumpkin plants; Stink Bug and Tarnished Plant Bug can be a pest of fruit trees causing dimpled apples; and there are several vegetable garden insects that can cause damage to crops like squash bugs, cucumber beetles, flea beetles, hornworms, corn earworms, and the various worms that feed on cole crops.

One thing that gardeners should know is that the severity of an insect infestation depends on a lot of different factors, including the climate. Some insects are worse in dry years. In really wet years, some plants go under stress from too much water, and stressed plants are very likely to suffer from insect damage and even disease. Insect infestations can also depend on a gardener's cultural practices. If you have a weedy garden, you are a lot more likely to have insects, than someone who has a weed-free garden or just a few weeds. Keep borders around gardens mowed. If you crowd plants together, you are more likely to have insect problems than someone who properly spaced their plants. If you do companion planting you are less likely to have insects than someone who does not do it. Use a lot of marigolds near your plants, especially your squash plants. I plant three marigolds around every zucchini plant to control squash bugs and cucumber beetles. I use basil next to tomatoes to control fruitworms and tomato hornworms. It doesn't matter what kind of basil you use. Nasturtiums and herbs are also good for repelling insects in the garden. I have done companion planting for five years now, and it does work. We have a lot less insects now than before we did.
MAKING AND USING COMPOST

Composting is a garden practice I have been doing for about two years now, and I love it! It’s a great way to get rid of kitchen scraps, plant material, dryer lint, etc. and turn it into a product that can be used to improve garden soil. I built one compost bin two years ago from pallets. I connected three pallets together, leaving one end open and then lined it with chicken wire. It is full and I have begun using compost from it to put in my raised beds. I built a second compost bin in March of this year, also out of pallets and chicken wire, so I could start a new pile since I am using compost from my other one.

Some gardeners often have difficulty disposing of leaves, grass clippings and other garden refuse, particularly in urban areas. Missouri law bans these materials from landfills, so finding environmentally sound ways to dispose of them has become even more important. These byproducts of the garden and landscape can be turned into useful compost with no more effort than it takes to bag and haul them away. Composting is a natural biological process where bacteria, fungi and other organisms decompose organic materials such as leaves, grass clippings, and food wastes. The end product is called compost. While composting occurs naturally, the process can be accelerated and improved by human intervention. Good compost consists primarily of decomposed or partially decomposed plant and animal residues but may also contain a small amount of soil. Compost improves both the physical condition and the fertility of the soil when added to the landscape or garden. It is especially useful for improving soils low in organic matter. Organic matter in compost improves heavy clay soils by binding soil particles together into “crumbs,” making the soil easier to work. Binding soil particles also helps improve aeration, root penetration and water infiltration and reduces crusting of the soil surface.

Many types of organic materials can be used for compost. Possible materials include sod, grass clippings, leaves, straw, weeds, manure, cornstalks, sawdust, shredded newspaper, wood ashes, and many kinds of plant refuse from the garden. If the compost is to be returned to the garden, leave out weeds with seed heads. Even though some seeds will be killed during composting, those that survive might create a weed problem. Most kitchen scraps such as coffee grounds, apple cores, potato and banana peels, napkins and paper towels, among many other things, may be used in the compost heap. Some items that should not be used are grease, fat, meat scraps and bones. These materials may attract dogs, rats or other animals. They also may develop an unpleasant odor during decomposition.

Before you construct a compost pile, you must decide where to locate it and whether you want it contained in a structure or just heaped. Once the area is ready, you can begin layering compost materials. Build the pile in a convenient but inconspicuous place. If the compost will be used mainly in the garden, then a location near the garden would be logical. Compost piles develop best when built in layers. Layering is a good way to ensure that the materials are added in the proper proportion. Once several layers are formed, however, composting will be most rapid if the layers are mixed before making new layers. Turn your pile often, and moisten it if dry. For more information on composting see MU Guide 6956 and 6957. You can access them from our Extension website, [www.extension.missouri.edu](http://www.extension.missouri.edu) or you can call your extension office and request a copy, or if you are a Master Gardener, you should have it in your “Grounds For Gardening” manual. SOURCE: MU Guide 6956 and 6957.
MAKING AND USING RAIN BARRELS

Just in the past three years I have incorporated three gardening practices into my yard and garden—raised beds, compost bins, and a rain barrel. I absolutely love all three and encourage you to do the same. People are now encouraged more than ever to use rain barrels as a way to protect our lakes and rivers while saving money on water bills. So, what is a rain barrel? A rain barrel is a container used to catch rainwater. It is placed at the end of a home’s guttering downspouts to catch and store rainfall from the roof. Using rain barrels is not a new practice. People have been using containers and barrels for hundreds of years to catch rainwater, only now a days they are a little fancier than they were back then. Instead of letting the water flow down your driveway and into a storm drain, you can collect it. Just a small amount of rain of less than half an inch can easily fill up a 55 gallon rain barrel.

There are several benefits to using rain barrels. You can use the water collected to water your garden or container plants. It is estimated that nearly 40 percent of household water is used for lawn and garden maintenance. Rain barrels can be used in areas where you may not have a convenient spigot. Rain barrels can be a very effective tool against basement water problems, and they can prevent run-off from potentially washing harmful chemicals and pesticides into local streams and rivers.

Clean your barrel before using it. It is best to use a food-grade barrel. Plastic is best because it will not rust. Do not use a barrel that has been used to hold petroleum products or chemicals! They may leach toxins into the water. Water collected from rain barrels should not be used for drinking, cooking or bathing. The lid should be secure so children or animals do not fall into the barrel. You should disconnect the barrel during the winter and attach it in the early spring to fill it for use. You will need to elevate your rain barrel slightly to make access to the spigot easier. The screened louver vent will prevent mosquitoes from breeding in your barrel. Consider joining multiple barrels for additional capacity. You can add goldfish to your barrel.

Rain barrels are easy to make and it’s much cheaper than buying one. All you really need is a 55 gallon barrel, a spigot, overflow valve and a drill and bit. If you are from the northeast region of Missouri, you can find 55 gallon barrels at the flea market in Rutledge for $10. You can get the spigot and overflow valve at any hardware store. Make sure the valve has pipe threads on one end and hose threads on the other end. You want to be able to attach your water hose to the overflow valve and the spigot. But, you need pipe threads to insert them into the barrel. You will probably want to drill a hole with a 15/16 inch bit. If you drill your hole this size, you will want to purchase a ¾ spigot and valve. You basically drill a hole about 3 inches from the bottom of the barrel and put in your spigot, and drill a hole about 3-4 inches from the top of the barrel for your overflow valve. You can go on the internet to find plans on how to make one. I love having a rain barrel. It is located about 20 feet away from my garden and since I do not have a spigot on that end of the house, I use the water in the rain barrel to water my garden. I also use the water from the barrel to water my container plants and plants in my raised beds. If you don’t already have one, try making one this summer. You are sure to love having one too!

VEGETABLE QUESTIONS & ANSWERS

How do I control worms in my cabbage and broccoli?
Use a lightweight row cover to exclude moths and prevent them from laying eggs. Using a Bt (Bacillus thuringiensis) insecticide such as Javelin, Dipel, Thuricide, Biobit, Agree and Xentari will effectively control worms and conserve beneficial insects. Begin application when worms are small. You may want to apply a couple drops of liquid detergent per gallon to aid in spray coverage.

Why are the stems of my rhubarb leaves green rather than red?
There is a difference between varieties in stem color. However, lack of color development in plants that once had red stems may be the result of too much shade.

SOURCE: For more vegetable questions and answers refer to MU Guide 6400.
GARDEN TIPS FOR MAY

ORNAMENTALS
- Pinch azaleas and rhododendron blossoms as they fade. Double flowered azaleas need no pinching. Fertilize azaleas after bloom with a formulation that has an acid reaction.
- Apples, crabapples and hawthorns susceptible to rust disease should have protective fungicidal sprays applied when these trees bloom.
- Begin planting gladiolus bulbs as the ground warms. Continue at two-week intervals. Plant hardy water lilies in tubs or garden pools.
- Continue monitoring pines, especially scotch and mugo, for sawfly activity on new shoots.
- Don’t remove spring bulb foliage prematurely or next year’s flower production will decline. Bulbs can be moved or divided as the foliage dies.
- Canker worms (inch worms) rarely cause permanent damage to ornamentals. Use B.T. if control is deemed necessary.
- Begin planting warm-season annuals.
- Plant summer bulbs like caladiums, dahlias, cannas, and elephant ears.
- Scale crawlers are active now. Infested pines and euonymus should be treated at this time.
- Trees with a history of borer problems should receive their first spray now. Repeat twice at three-week intervals.
- Begin fertilizing annuals. Continue at regular intervals.
- Pinch back mums to promote bushy growth.

VEGETABLES
- Slugs will hide during the daytime beneath a board placed over damp ground. Check each morning and destroy any slugs that have gathered on the underside of the board.
- Growing lettuce under screening materials will slow bolting and extend harvests into hot weather.
- Place cutworm collars around young transplants. Collars are easily made from cardboard strips.
- Set out tomato plants as soils warm. Place support stakes alongside planting time. Thin plantings of carrots and beets to avoid overcrowding.
- Isolate sweet, super sweet and popcorn varieties to prevent crossing.
- Keep asparagus harvested for continued spear production.
- Control caterpillars on broccoli and cabbage plants by handpicking or use biological sprays such as B.T.
- Plant dill to use when making pickles.
- Remove rhubarb seed stalks as they appear.
- Watch for striped and spotted cucumber beetles. Both may spread wilt and mosaic diseases to squash and cucumber plants.
- Set out peppers and eggplants when soils have warmed. Plant sweet potatoes. Sow warm-season vegetables after harvesting early crops.

FRUITS
- Mulch blueberries with pine needles or sawdust.
- Don’t spray any fruits while in bloom. Refer to local Extension publications for fruit spray schedule.

TURFGRASS
- Keep bluegrass cut at 1.5 to 2.5 inch height. Mow tall fescues at 2 to 3.5 inch height. Apply post-emergence broadleaf weed controls now if needed.
- Watch for sod webworms emerging now.

- MISSOURI BOTANICAL GARDEN-