SPRINGTIME DISEASES AND INSECTS AFFECT TREES

In recent weeks I’ve had numerous calls and emails regarding curled leaves on peaches, black maple leaves, and caterpillars in trees. In the spring, particularly a rainy spring, a fungal disease called Peach Leaf Curl occurs on peach and nectarine trees. The disease is not a problem every spring, but can be severe during cool, wet springs that follow mild winters. Symptoms of leaf curl appear in the spring. Developing leaves become severely distorted (thickened and puckered), and have a reddish or purple cast. Later, as spores form on the leaf surface, the leaves become powdery gray in color. Shortly after this, the leaves turn yellow or brown and drop. The fungus survives the winter as spores (conidia) on bark and buds. Infection occurs very early in the growing season. During cool, wet spring weather the conidia infect new leaves as they emerge from the buds. Leaf curl is not difficult to control. Since the fungus survives the winter on the surface of twigs and buds, a single fungicide spray, thoroughly covering the entire tree, will provide control. If leaf curl does result in significant defoliation in the spring, the fruit on affected trees should be thinned to compensate for the loss of leaves. Over-cropping the tree will weaken it and make it more susceptible to winter injury. For control of peach leaf curl, spray the trees with a fungicide containing the active ingredient chlorothalonil before buds swell in the spring. There is not much you can do to control it after the symptoms have appeared.

Anthracnose is a fungal disease that affects many shade trees. This is what homeowners are referring to when they say the leaves on their maple trees are black. Anthracnose of shade trees is caused by a group of related fungi whose development is favored by cool, wet conditions. The fungi have very specific host associations so that maple anthracnose is not the same disease as oak anthracnose, although the symptoms of these diseases may be similar. Anthracnose fungi typically create spots that form around the leaf veins, causing the death of the vein and the surrounding tissue. Over time these areas tend to fall out, giv-
ing the leaves a very ragged appearance. Leaf margins, interveinal areas and some petioles can also be infected, causing malformed and blighted leaves. Anthracnose infections on some species, particularly sycamore and oak, are not restricted to leaves, but also infect the twigs and small shoots and buds, which can result in twig death and branch dieback. A frequently observed symptom is the sudden wilting and death of a young leaf, which is often confused with frost damage. Because these fungi primarily infect in mild weather when there is a film of water on the leaf surface, spring and fall are the seasons when infection occurs. Anthracnose fungi overwinter in infected leaves and twigs that fall to the ground or in cankered twigs that remain on the tree. Fungal spores spread from these infected tissues to buds and young leaves by wind and rain during early spring and summer. Disease development is favored by extended periods of cool, wet weather. Fungicide sprays are not necessary for large shade trees. Young, newly planted trees can be sprayed with a fungicide, but spraying after the infection has occurred provides little benefit.

The caterpillars on trees that make webs in the spring are called Eastern Tent Caterpillars. Their preferred hosts are wild cherry, apple and crabapple, but it will occasionally feed on forest and ornamental trees such as ash, birch, maple, oak, poplar, cherry and plum. Adults first appear in the spring. They emerge from cocoons found in the soil or ground debris where they overwintered as pupae. Eggs are laid in masses on the undersides of leaves. The young caterpillars tie together one to several leaves and form a "tent" lined with silk. Groups of larvae live within each leaf tent. Initially, the young larvae will feed on the surface of the tent's leaves and later add other leaves to it. As the larvae grow, they leave the tent at night and feed on other leaves. Under normal conditions, populations of these web-producing caterpillars are kept in check by invertebrate and vertebrate natural enemies. But occasionally their populations reach a point where artificial control must be employed. The best nonchemical control on small to moderate-sized trees is to search the foliage and branches for newly developing web nests or tents, and prune off and destroy the infested leaves or twigs. During the night or on cloudy, overcast days when the caterpillars are in their tents, the tents can be scraped off the trees and destroyed.

For more information see these websites:

- [http://soilplantlab.missouri.edu/plant/diseases/anthracnose.aspx](http://soilplantlab.missouri.edu/plant/diseases/anthracnose.aspx)
- [http://extension.missouri.edu/p/G7271](http://extension.missouri.edu/p/G7271)

**EXHIBIT YOUR FLOWERS AND PRODUCE AT THE COUNTY FAIR**

In just a few weeks it will be fair time all across the country. County fairs are a great way to show off locally grown produce including fruits, vegetables, and flowers. Most county fairs have an “open” division in addition to a 4-H or youth division, which means anyone of any age can exhibit. Nearly every kind of fruit, vegetable or flower including flower arrangements and potted plants can be exhibited at most fairs. All you have to do is get it there.

Fair books are available at most county extension centers and local businesses, or you can call the extension center if you have any questions about exhibiting. Pick your produce or flowers early in the morning on entry day at the fair. Make sure they do not have any disease or insects on them. Each flower must be exhibited individually. Plastic water bottles work great for this. Fruit and vegetables are usually exhibited on a white paper plate. Often these are provided by the fair. Remember if you have flowers in your yard, vegetables in your garden, fruit on your trees, grapes on your vines, or berries in your patch, then you can exhibit.

**Support your local fair-exhibit your flowers and produce!**
CLOVER MITES BEGIN HOME INVASION AS WEATHER WARMS

Every year at about this time, small red clover mites begin invading homes in large numbers. Thousands of them can appear during the spring or fall. Clover mites often crawl around through cracks and tiny openings around windows and doors. A heavy growth of well-fertilized grass growing against the foundation of a home is often the source of an infestation. “Clover mites are plant feeders and they get nutrients by sucking plant juices. Damage to plants generally is minimal. For that reason there is seldom a need for control,” said Patrick Byers, horticulture specialist with University of Missouri Extension.

Clover mites do not bite people or pets and cannot cause damage to home structures. They can leave unsightly stains on light-colored walls, carpet, fabrics, or papers when crushed. The south, southwest, and east sides of a building are most susceptible to the critters due to quick warming from the sun. “Prevention is the best step in controlling populations of clover mites. Creating a zone free of grass and weeds around the foundation of the home is important,” said Byers. To prevent movement into the home, exterior cracks around doors and windows or holes in the foundation should be caulked. Once inside, there are really only two options for removal: vacuuming them or killing them with a direct contact pyrethrin aerosol spray.

For more information, guide sheet “G7358 Clover Mites” is available through the University of Missouri Extension Centers or online http://extension.missouri.edu.
GARDEN TIPS FOR JUNE

ORNAMENTALS
- Watch for bagworms feeding on many garden plants, but especially juniper and arborvitae.
- Deadhead bulbs and spring flowering perennials as blossoms fade.
- Pruning of spring flowering trees and shrubs should be done after flowering.
- Thin seedlings to proper spacings before plants crowd each other.
- Apply organic mulches as the soil warms. These will conserve moisture, discourage weeds, and enrich the soil as they decay.
- Most houseplants brought outside prefer a bright spot shaded from afternoon sun. Check soil moisture daily during hot weather.
- Rhizomatous begonias are not just for shade. Many varieties, especially those with bronze foliage do well in full sun if given plenty of water and a well-drained site.
- Apply a balanced rose fertilizer after the first show of blooms is past. Continue spraying roses with a fungicide to prevent black spot disease.
- When night temperatures stay above 50 degrees, bring houseplants outdoors for the summer.
- Apply a second spray for borer control on hardwood trees.
- Plant tropical water lilies when water temperatures rise above 70 degrees.
- Trees and shrubs may still be fertilized before July 4th.
- Softwood cuttings can be taken form trees and shrubs as the spring flush of growth begins to mature.

VEGETABLES
- Repeat plantings of corn and beans to extend the harvest season.
- As soon as cucumber and squash vines start to “run,” begin spray treatments to control cucumber beetles and squash vine borers.
- Plant pumpkins now to have Jack-O-Lanterns for Halloween.
- Early detection is essential for good control of vegetable pests. Learn to identify and distinguish between pests and beneficial predators.
- Stop harvesting asparagus when the spears become thin.
- Start seedlings of broccoli, cabbage and cauliflower. These will provide transplants for the fall garden.
- Soaker hoses and drip irrigation systems make the most efficient use of water during dry times.
- To minimize diseases, water with overhead irrigation early enough in the day to allow the foliage to dry before the nightfall.
- Set out transplants of Brussel sprouts started last month. These will mature for a fall harvest.
- To maximize top growth on asparagus, apply 2 pounds of 12-12-12 fertilizer per 100 sq. feet, water well and renew mulches to conserve moisture.
- Control corn earworms. Apply several drops of mineral oil every 3 to 7 days once silks appear. Sprays of B.T. are also effective.

FRUITS
- Oriental fruit moths emerge. Most serious on peaches where first generation attacks growing tips. Shoots will wilt. These should be pruned out.
- Thinning overloaded fruit trees will result in larger and healthier fruits at harvest time. Thinned fruits should be a hands width apart.
- Enjoy the strawberry harvest. Renovate strawberries after harvest. Mow the rows; thin out excess plants; remove weeds; fertilize, and apply mulch for weed control.
- Summer fruiting raspberries are ripening now.
- Begin control for apple maggot flies.
- Spray trunks of peach trees and other stone fruits for peach tree borers.
- Prune and train young fruit trees to eliminate poorly positioned branches and establish proper crotch angles.

- Missouri Botanical Garden -