

## Horticulture 2011 Newsletter No. 32 August 9, 2011

Video of the Week: [Colorful Fall Veggies](#)

### VEGETABLES

#### Fall Gardens



We mentioned starting broccoli, cabbage, and cauliflower directly from seed a couple of weeks ago. If you can find transplants, there still is time to grow these crops. Other crops that can be seeded now include lettuce, radishes, spinach, and similar crops. There still is time to raise another crop of green beans and possibly some summer squash.

Planting a fall garden is just like planting a spring garden with some big advantages. You will find weed pressure to be much less and insect problems may be far fewer than in a spring garden. Seeds will germinate rapidly, so you will have crops up and growing in just a few days – compared to several weeks in the spring.

There are a few drawbacks to fall gardening. One of those is that you must provide regular, frequent watering (possibly daily) until crops are up and growing. It is best to plant seeds deeper than you do for a spring garden because soil is cooler and moister further down.

As far as soil preparation is concerned, don't get too excited about deep tillage for a fall garden. Lightly work the soil enough to establish a seedbed; reserve deep tillage for later in the fall. Also, don't concentrate on adding a lot of organic matter and fertilizer for the fall garden. Organic matter can be added later in the fall with the deeper tillage, and excessive fertilizer application in hot weather is not a good idea. If you have some crop residue to remove from a previous crop, chop the residue with a lawn mower and lightly till the soil surface after residue has had a chance to dry for 2 to 3 days. (WU)

## ORNAMENTALS

### Twig Dieback on Oak



Recently we have seen twig dieback on pin and other oaks caused by a fungal disease called *Botryosphaeria* canker. Affected trees show wilting or “flagging” of terminal growth on the ends of branches. Dieback usually extends 4 to 6 inches down the twig with leaves bending back toward the twig before turning brown. Dead leaves remain attached to the tree. If you look closely at the twig, you should see a rather marked transition from healthy to diseased tissue. Take a knife and scrape away some of the outer bark tissue. Healthy tissue

is light green. Diseased tissue tends to be brown to black.

*Botryosphaeria* canker differs from oak wilt in that only the tips of branches are affected. Oak wilt affects whole branches. This disease causes such minor damage that chemical control measures are unwarranted. Dead twigs on small trees may be pruned off if desired. (WU)

## PESTS

### Fall Webworms



I first began recovering fall webworm moths from blacklight traps on June 14. Despite the continued presence of moths through June, I noted only a single web mass as I drove routes where webworm masses were common in the past. During the past two weeks, the presence of fall webworms has revealed itself as larvae have grown and enlarged their webs to enclose new foliage on which to feed. The predominant fall webworms are of the redheaded race (red head capsules and orangish tubercles). Nests are comprised of rather loosely woven silk.

While the caterpillars feed on many tree species, they prefer walnut, flowering crab, and pecan. Web masses within reach can easily be raked away with fingers. A pole with either a bent nail or a toilet bowl brush affixed to the end also can be used. Often, webbing is beyond pole distance and left untouched. The consolation is that like other defoliating caterpillars damage is aesthetically objectionable but not harmful.

A detailed account of fall webworms is contained in K-State Research and Extension Publication MF-2395, Web-Producing Caterpillars in Kansas, found at <http://www.ksre.ksu.edu/library/entml2/mf2395.pdf> (BB)

Editors Note: If insecticides are deemed necessary, a high-pressure sprayer is needed to penetrate the webs of more mature colonies. Numerous products can be used for control including spinosad (Conserve; Fertilome Borer, Bagworm, Leafminer and Tent Caterpillar Spray; Captain Jack's Dead Bug Brew), cyfluthrin (Tempo, Bayer Multi-Insect Killer) and permethrin (numerous trade names).

### **How Does “Drought or Heat Stress” Influence Plant-Insect Interactions**



The recent hot and dry weather conditions and lack of substantial rainfall throughout most of the state may result in extensive problems with plant-feeding insects and mites. First of all, the excessive heat accelerates insect and mite development so it takes less time to complete a life cycle or generation. In addition, a major control for caterpillars, aphids, beetle larvae, and many other insects are natural fungi present in the environment. Fungi are more prevalent and aggressive when weather conditions are cool and moist. Under dry conditions, more insects survive.

Drought or heat stress, usually a temporary state, is the lack of sufficient moisture to maintain plant turgor, which reduces a plant's ability to conduct biochemical processes that allow cells to function. This occurs when transpiration from plant leaves and evaporation from the soil exceeds roots capacity to absorb water. Drought or heat stress effects may vary depending on the feeding behaviors of insect and mite pests. For example, insects with piercing-sucking mouthparts, including aphids, scales, and plant bugs, typically benefit more from dry conditions than insects with chewing mouthparts such as beetles, caterpillars, and sawflies. Plant stress due to lack of soil moisture often increases susceptibility to wood-boring insects and bark beetles. Plants experiencing extreme drought or heat stress decrease production of compounds such as oleoresin, which deter wood-boring insect feeding, increasing susceptibility. In addition, water-deficient plants emit volatile chemicals such as ethanol and alpha-pinene, which attract wood-boring insects and bark beetles. Wood-boring insects use chemical cues to locate plants whose natural defenses have been compromised by insufficient moisture. For example, a lack of moisture in the upper tree canopy may result in localized areas of cambial and phloem tissue degradation that are attractive to wood-boring insect females for egg laying. Also, the colonization success of bark beetles increases when trees are stressed due to lack of moisture. Bark beetles depend on moisture stress to weaken the defenses of trees and shrubs.

Inadequate soil moisture also can lead to enhanced populations of the two-spotted spider mite (*Tetranychus urticae*) because there is less moisture in the air from evaporation. Lower relative humidity levels and drier conditions tend to favor twospotted spider mite development. The mites also tend to feed more under dry conditions because dry air or low relative humidity allows them

to easily acquire excess water in plant leaves.

Insects thrive during drought conditions or heat stress through a number of mechanisms. Dry conditions provide a favorable thermal environment for growth and development of plant-feeding insects and mites. Drought- or heat-stressed plants are more attractive to insects. As plants lose moisture through transpiration, water columns in the xylem break apart, producing sounds that can be detected by bark beetles, attracting them to drought-stressed plants. Drought- or heat-stressed plants are more suitable for certain insects. Water-deficient plants are more favorable for insect growth, survival, and reproduction because plant nutrients are more concentrated. Water-deficient plants are more susceptible to insects because production of defense compounds declines, increasing susceptibility to attack. Drought conditions also increase insect detoxification systems. Insects feeding on drought- or heat-stressed plants may be more efficient in breaking down certain plant allelochemicals or defense compounds that would normally discourage them. Overall, drought or heat stress changes plant quality, which may improve the performance of plant-feeding insects and mites. (RC)

## MISCELLANEOUS

### Slime Molds



Slime molds are primitive organisms that are common on turf and mulch. Slime molds are not fungi and are no longer classified as such. They belong to the Kingdom Protista rather than Kingdom Fungi. On turf, you might often see large numbers of small gray, white or purple fruiting structures, called sporangia on leaf blades during cool and humid weather throughout spring, summer, and fall. Affected areas are often several inches to 1 foot in diameter. During wet weather, the fruiting structures may appear slimy. As the

structures dry out in hot weather, they become ash gray and break up easily when touched. Homeowners often are concerned that this is a disease organism that will kill the grass, but slime mold feeds on bacteria, other fungi, and dead organic matter. It simply uses the turf as a structure on which to grow. However, slime mold can damage turf by completely covering leaf blades and interfering with photosynthesis. Chemical control of slime molds is not necessary. Use a broom or a heavy spray of water to dislodge the mold.

Slime molds on mulch often attract attention because of their bright colors and disgusting appearance. Common names are often quite descriptive. For example, the "dog vomit" slime mold is a bright, whitish color that resembles its namesake. It eventually turns brown and then into a hard, white mass. There is also the "scrambled egg" slime mold, "the yellow blob" slime mold and the "regurgitated cat breakfast" slime mold. Slime molds do not hurt anything, but most people do not find them attractive and want to get rid of them. Simply use a shovel to discard the offensive organism and then stir up the mulch for aeration. (WU)

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