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Reminder: Test NOW for Bacterial Leaf Scorch

As a reminder, the University of Illinois Plant Clinic is testing for Bacterial Leaf Scorch (BLS). This serious disease affects a wide range of woody ornamentals, causing leaf discoloration and margin necrosis. BLS can often be confused with environmental scorch, Oak Wilt (in oaks) and occasionally with Verticillium Wilt in other woody ornamentals. The Plant Clinic tests symptomatic leaves once a year, at the end of the growing season when the bacterial populations are highest. There is a \$25 fee for BLS testing. Symptomatic leaves with petioles still attached should be collected now and shipped to the Plant Clinic. We anticipate running the test in late August or early September.

For more information about BLS, please see this article from the last issue of the Home, Yard, and Garden Pest Newsletter: <http://hyg.ipm.illinois.edu/article.php?id=735>. (Diane Plewa)

Tar Spots of Maple

Tar spot has been evident on many species of maple this year. Tar spots of maple are caused by several different fungi in the same genus, *Rhytisma americanum*, *R. punctatum*, and *R. acerinum*. Each is known to cause raised, black spots on

upper leaf surfaces. Affected leaves appear as if splattered with tar, hence the name Tar Spot.

The first symptom of the disease appears in mid-June as small, pale yellow spots. By mid-July, the yellow spots have expanded and a thick, raised, black stromata forms within the spot. By September, spots truly look like tar and often have a wavy or rippled surface. This disease may cause some early defoliation if severe, but even then it is not believed to significantly impact tree growth and development.

The fungi that cause tar spots overwinter on infected leaves. In the spring, overwintering fruiting bodies ripen and eject spores. The spores are carried by wind to nearby developing leaves of susceptible hosts. First symptoms appear 1-2 months following the initial infection.

Outbreaks of this disease are relatively infrequent. Trees in moist, sheltered locations, which allow the pathogen to easily survive the winter, may be repeatedly infected. The most effective management practice for a home landscape is to rake and destroy leaves in the fall. This practice will help reduce inoculum capable of causing infections the following spring. Fungicides can be used to protect newly developing leaves, but are not warranted. (Travis Cleveland)

Powdery Mildew

Usually, summer's heat has stressed many flowers by now. The great news is that's not the case this year. The bad news is all the rain has had its detrimental effects.

With all the rain, powdery mildew hasn't been as much of a problem, though it has shown up on a few of the garden flowers. Powdery mildew really prefers the hot humid days where rain fall is practically non-existent. Probably because many of the flowers have grown tall and leggy, mildew has been kept in check by air movement; when foliage is dense, mildew is more of a problem. Anything to improve air circulation will cut down on mildew. Stripping off the lower fourth of the leaves helps for phlox, zinnias, and other garden flowers. Some plants, such as lilacs (*Syringa*), will get powdery mildew at the drop of a hat, though it seldom affects the plant adversely other than aesthetically.

Powdery mildew is usually a "top surface" disease; you seldom find it affecting the underside of the leaves. It mainly reduces the plant's ability to photosynthesize, reducing plant growth and flowering.

As a superficial disease, you can wipe it off easily, though it probably will return unless you modify the environment. Black pepper-like spores can usually be seen by the naked eye or a low-power magnifying glass.

Several fungicides can control powdery mildew, but it is important to rotate the fungicide types so the disease doesn't become resistant to the products. Sanitation is also important; remove the debris in the fall and if possible, plant an-

nuals in different locations next year. Resistant cultivars are on the market, particularly for zinnia and phlox. Of course, planting flowers that never seem affected such as marigolds and geraniums is another option.

If plants are severely infected, you may just want to remove the plants this late in the season, and insert some of late season ornamentals such as flowering kale, chrysanthemum or asters.

For some plants, a mid to late summer (through mid-August) pruning back may stimulate enough new growth and flowers to get you through the middle of October. Most of the annuals can be cut back by half, and then watered and fertilized. For upright plants, simply use your pruners and cut back to a bud right above a leaf. For cascading plants, such as petunias, lift the plants carefully and prune. Pruning will remove any seedpods forming which is the plant's main goal. Fertilizing, with half the recommended rate on most complete fertilizer formulations, will provide the boost to stimulate growth and then flowers. Plants may not bloom for two weeks, but after that should be compact. Some groundskeepers will use electric hedge clippers if the number of plants is too much to hand prune. It looks "interesting" for a few days until the plants start re-growing. (*David Robson*)

Emerald Ash Borer

Due to uncertainty about last week's report of emerald ash borer being found in white fringetree at the Morton Arboretum, the Illinois Department of Agriculture needs additional information about its status as an Illinois host. If you find

evidence of EAB in white fringetree in Illinois, please contact your local IDA field person or me, Phil Nixon, at pnixon@illinois.edu or 217-333-6650.

The insecticides that we recommend for control of EAB in ash, imidacloprid, dinotefuran, azadirachtin, and emamectin benzoate, have labels that allow treatment of white fringetree for emerald ash borer.

Adult EAB flight should be finished for this year in Illinois. Adults were present as late as July 16 in the Effingham area. At the EAB Open House in Peoria on August 10, 2015, several apparent second instar larvae one-half to three-quarters inch long were found feeding in ash. *(Phil Nixon)*

Zimmerman Pine Moth

Zimmerman pine moth is a common trunk and scaffold branch borer in Scotch, Austrian, and red pine in Illinois. It is a shoot tip borer in Eastern white pine. Although it is difficult to control once inside the tree, its life cycle makes it relatively easy to control while on the outside of the tree.

Trunk damage appears as white, crusted areas of pitch an inch or two wide at branch whorls. Sometimes this also appears as whitish cones of pitch about one inch in length along with oozing pitch at the branch whorl. The caterpillars are located in the trunk underneath this pitch. They tunnel under the bark as well as deeper into the trunk and base of branches.

Commonly, associated branches will die. The death and flagging of these branch-

es allows easy identification of attacked trees, even at highway speeds. Closer inspection for masses of pitch determines whether the damage is due to Zimmerman pine moth or other cause. Tunneling into the trunk for several years weakens the trunk to where it snaps off at that location, causing the loss of the upper part of the tree. The tree survives this loss as lateral buds will break and produce new trunks. However, without pruning, the tree usually becomes multi-trunked from that point upward. This changes the overall appearance of the tree from that of a tall, telephone pole shape into a squatty candelabra shape.

The location of pitch at the branch whorl is important. Pine pitch moth can cause similar damage, but the pitch is located just under the branch whorl rather than between the branches. Yellow-bellied sapsucker feeding also results in large exudation of pitch, but occurs on the trunk between branch whorls. These woodpeckers require an open stretch of trunk to perch, resulting in their attack between the whorls.

Tip damage to Eastern white pine causes two or more inches of dieback. The needles turn brown and the tip usually bends downwards. Slicing open the shoot longitudinally during the summer reveals the feeding larva. The loss of the shoot results in lateral bud break and subsequent bushier foliage but not as much longitudinal growth. Generally, lateral shoots are attacked. Attack of the apical shoot on the tree causes a multiple-trunked tree if pruning and shoot training does not occur.

Full grown caterpillars are about one inch long and whitish to tan or greenish

with dark brown spots. They pupate in or below the exuded pitch, emerging as one-half inch long light to dark gray moths. Emergence of the moths varies from mid-July in southern Illinois to mid-August in northern Illinois. Mating and egg-laying occurs soon after emergence. With egg hatch occurring a couple of weeks after moth emergence, this ranges from early to late August from southern to northern Illinois, respectively.

The young caterpillars on trunk-attacked trees feed on bark and crawl around on the bark for several weeks in the late summer before forming a hibernaculum under a piece of bark to spend the winter. A hibernaculum is a cocoon of silk that the larva spins around itself. After spending the winter in the hibernaculum, it emerges in the spring and roams across the bark for several days before tunneling under it. This behavior provides time periods in the late summer into early fall and early spring when

the caterpillar is susceptible to exterior insecticide application.

On Eastern white pine and other shoot-attacked trees, the caterpillars feed on terminal buds scales and form their hibernacula under the bud scales. Roaming activity and exposure to insecticide application occurs at the same time as trunk-attacking caterpillars.

This is the time of year to spray Scotch, Austrian, and red pine trunks and major branches with bifenthrin (Onyx), cyfluthrin (Tempo), permethrin (Astro), or other labeled insecticide to control Zimmerman pine moth. Spraying can be confined to the lower ten to twelve feet of pines under eight inches in diameter as this moth rarely attacks higher in the tree. It also is not a trunk problem on larger trees, although scaffold branches can be attacked. Spray the ends of the branches on Eastern white pine. (*Phil Nixon*)