

Number 17 – October 27, 2014

Year in Review

In central Illinois, there's a chill in the air and the trees have started to turn, with brilliant yellow walnut trees and vibrant red maples. Fall is here, and with it comes the end of the growing season and some time to reflect.

The University of Illinois Plant Clinic processed over 3400 soil and plant samples from agronomic producers and the general public in 2014, with some issues becoming more and more familiar as the season progress. Here are some of the most common problems seen at the Plant Clinic in 2014:

Oak Wilt

This is a worrisome disease caused by the fungus *Ceratocystis fagacearum*. The fungus is widespread across the Midwest. It invades the vascular tissue of the plant, causing a rapid browning of leaves, followed by branch, then entire tree death. It is easily spread via beetle vectors and through root grafts between adjacent trees. Red oaks succumb much faster to the disease than oaks in the white oak group, though the disease is fatal to both types. In 2014, 55 oak samples were tested for this disease with 17 testing positive (31% positive). This number increased from 2013, when the Plant Clinic tested 53 samples with a 24% positive rate (13 samples). This could be due to plants

being more susceptible due to continued environmental stress (see below), increased awareness of how to scout for the disease, and/or better shipping procedures. We highly suggest that, if you suspect oak wilt, to ship the sample via overnight mail or with a cold pack with the sample. The fungal pathogen seems to be somewhat delicate and may die in very hot conditions, making diagnosis impossible.

For more information, please see the following article:

<http://hyg.ipm.illinois.edu/article.php?id=633>

Bur Oak Blight (BOB)

This is a fairly new disease only affecting bur oaks (*Quercus macrocarpa*). While the disease was noticed almost a decade ago, the pathogen was not identified until 2012. The pathogen only appears to affect a specific variety of Bur Oak (*Quercus macrocarpa* var. *oliviformis*). The disease is widespread throughout all of Iowa and much of Minnesota, and has also been identified in western Wisconsin, northern Missouri, and northern Illinois. This year the Plant Clinic diagnosed 4 bur oak samples with Bur Oak Blight, all from Lake County.

For more information, please see the following article:

<http://hyg.ipm.illinois.edu/article.php?id=537>

Bacterial Leaf Scorch (BLS)

Bacterial leaf scorch is a bacterial disease that affects a wide range of woody ornamentals. Every year the Plant Clinic tests for this disease in late-August to mid-September, when the population of bacteria in the leaves and petioles of affected trees is highest. This year the Plant Clinic tested 30 samples with 21 testing positive, a rate of 70% positive. In 2013, 35 samples were tested with 51% positive, and in 2012 18 samples were tested with 50% positive. This year hosts included oaks, maples, and a ginkgo. Again, environmental stress may have contributed to the higher-than-normal positive testing, along with better scouting for suspected hosts.

For more information, please see the following article:
<http://hyg.ipm.illinois.edu/article.php?id=629>

Fire Blight

This spring we saw a number of trees with classic Fire Blight symptoms: blackened, shriveled leaves, with petioles and twig tips curling back to form an upside-down J (known as a “Shepherd’s crook”). While the environment this spring was conducive to Fire Blight infection (rain and high humidity), we also saw a number of plants infected with a much weaker bacterial pathogen which causes a condition known as Bacterial Blast. Bacterial Blast produces many of the same symptoms as Fire Blight, but does not seem to progress as rapidly.

The Plant Clinic tested 25 samples for Fire Blight (common hosts are apple, pear, and crabapple) with 13 confirmed

as being infected with the pathogen. In 2013, 14 samples were diagnosed with Fire Blight. 6 samples were diagnosed with Bacterial Blast in 2014, with 0 diagnosed in 2013.

For more information, please see the following article:
<http://hyg.ipm.illinois.edu/article.php?id=582>

Downy Mildews

Downy mildew in basil and impatiens was another major problem this year. The pathogens that cause this disease are different species, though they’re closely related. These oomycete pathogens (also referred to as fungal-like organisms, or water molds) flourish in cool, wet weather, much like what we saw this spring. IDM (impatiens downy mildew) and BDM (basil downy mildew) can be devastating if the pathogen becomes established, especially if it’s early in the growing season. Leaves begin to mold, then fall off the plant leaving naked stems; under very bad conditions, the entire plant may collapse. Unfortunately there are no easy management techniques for these pathogens, other than to not plant the host.

For more information, please see the following articles:

IDM:
<http://hyg.ipm.illinois.edu/article.php?id=577>

BDM:
<http://hyg.ipm.illinois.edu/article.php?id=578>

Stress

After two summers of drought and a very difficult winter (which was espe-

cially hard on our evergreens), the Plant Clinic has diagnosed a large number of perennial plants with winter injury, environmental stress, or weak pathogens that are usually only found on stressed plants. Plants that are stressed are more susceptible to pests and pathogens, and less able to recover from the damage. Happily, plants that are affected by environmental stress or stress-induced pests or pathogens can usually be nursed back to health if the cause of the stress is removed. We recommend maintaining plant vitality to reduce stress by watering during periods of dryness lasting more than two weeks, mulching the bases of plants to conserve soil moisture, and fertilizing when appropriate. Dead wood should be pruned out of larger woody plants, and the dormant season is a good time to do so. Remember to disinfect your pruners or shears with ethanol or 10% bleach to sanitize them between cuts. Some evergreen plants, such as rhododendrons and boxwoods, are susceptible to desiccation, or over-drying. This usually occurs in winter, due to cold, dry wind. Plants can be wrapped or protected to reduce the likelihood of desiccation during the winter months.

For more information about winter damage, please see the following articles:
<http://hyg.ipm.illinois.edu/article.php?id=555>
<http://hyg.ipm.illinois.edu/article.php?id=557>

(Diane Plewa)

Last Issue for 2014

This is the seventeenth and last issue of the Home, Yard, and Garden Pest News-

letter for 2014. It contains an index of this year's articles. We plan to start 2015 issues in mid-April, depending on how early or late spring occurs next year. Thank you for your interest and support of this newsletter through your suggestions and reports of pest occurrence. These should be directed to me, the coordinator and editor of the newsletter, at pnixon@illinois.edu or to appropriate individual authors. (Phil Nixon)

Emerald Ash Borer

Emerald ash borer has been found in white fringetree, *Chionanthus virginicus*, in the Dayton and Springfield areas of western Ohio. Part of a dead adult found in one of the trees has been positively identified by USDA personnel along with larvae from the same tree whose anatomical characters are consistent with emerald ash borer. Live larvae were found in single trees in each of four sites. Many more dead larvae were found in the trees. It was estimated that emerald ash borers had been in the trees for at least four years.

White fringetree is very susceptible to drought, and this region of Ohio has had severe drought for several years. It is likely that these trees were in decline when attacked, so it is not known whether emerald ash borer attacks healthy white fringetrees. This area also has had a large emerald ash borer infestation with many dead ash trees. In this situation, adult beetles are likely to lay eggs into various hosts.

White fringetree is in the same family, Oleaceae, as ash. Several years ago after finding emerald ash borer in the U.S.,

researchers screened numerous plants related to ash as hosts. The most suitable host found at that time was lilac, in which emerald ash borer larvae tunneled for a short distance over a few days before dying. I do not know whether white fringetree was tested.

White fringetrees in areas containing emerald ash borer should be inspected for this insect's presence. If suspected emerald ash borers are found, contact your local Extension office or Illinois Department of Agriculture inspector for verification.

Preventative treatment is not being recommended until more is known about emerald ash borer's ability to attack healthy trees. Imidacloprid (Merit, Imicide, others), dinotefuran (Safari), and emamectin benzoate (Tree-age) recommended for emerald ash borer treatment in ash are also labeled for application to white fringetree. (*Phil Nixon*)

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