

Number 11 - July 11, 2011

Biweekly Issues

During July, August, and September, the Home, Yard, and Garden Pest Newsletter will be published every other week rather than weekly. As we get into the hotter, drier summer months, there tends to be fewer disease and insect problems compared to the spring. Also, the weather becomes somewhat more predictable, making the pest problems more predictable. This allows a wider time interval between issues.

We appreciate the reports that we have received from a number of you on what you are seeing. It makes the newsletter more useful for all. *(Phil Nixon)*

Scouting Report

Bagworms have settled down to feed and are treatable throughout the state. Noticeable damage is being seen in southern and central Illinois. *Bacillus thuringiensis* kurstaki, spinosad (Conserve), and pyrethroids provide very effective control, even on larger larvae. Carbaryl (Sevin) and chlorpyrifos (Lorsban) provide adequate control only on small larvae whose bags are one-half inch or shorter.

White grub control decisions rely on rainfall over the next couple of weeks. Most turf areas continue to be green and lush throughout the state. Many of the

Japanese beetle and masked chafer eggs have been laid. However, if there is little rainfall and high temperatures over the next couple of weeks, unwatered turf is likely to go dormant. This is likely to result in significant amounts of egg-laying in irrigated turf and damaging grub numbers in these areas without treatment. If this occurs, preventative application within the next month of a long-lasting white grub insecticide is recommended. This includes chlorantroniliprole (Acelepryn), clothianidin (Arena), imidacloprid (Merit), or thiamethoxam (Meridian). *(Phil Nixon)*

Japanese Beetle

Japanese beetle adults are present throughout the state. We appreciate the sighting reports that several of you have provided. Although obvious in east central Illinois, the numbers do not seem to be very large. Their numbers appear to be about one-quarter of what they have been in some years. Substantial numbers have been reported in the Springfield area. Other areas of the state are not reporting unusually high numbers, but considerable emergence is still likely in northern Illinois. Historically, numbers tend to be higher in the Collinsville area, which is probably due to warmer temperatures and dependable rainfall from year to year. If Japanese beetle adult numbers

appear to be low in your area, less preferred ornamental plant species may not need to be sprayed or sprayed as many times.

Ornamental plants extensively fed upon by Japanese beetle adults:

Japanese maple, Norway maple, gray birch, horsechestnut, black walnut, sassafras, American elm, English elm, Chinese elm, Althea, London planetree, rose, black cherry, crabapple, American mountain ash, Lombardy poplar, pussy willow, goat willow, American linden, littleleaf linden, European linden, bottlebrush buckeye, Virginia creeper.

Ornamental plants lightly to moderately fed upon by Japanese beetle adults:

Spicebush, Japanese barberry, European barberry, trumpet creeper, butterfly bush, buttonbush, flowering quince, weigela, viburnum, sycamore maple, sugar maple, black alder, white birch, mockernut hickory, Southern catalpa, hawthorn, American beech, European beech, European larch, tupelo, American sycamore, chestnut oak, pin oak, weeping willow, bald cypress.

Ornamental plants rarely fed upon by Japanese beetle adults:

Ailanthus, clematis, English ivy, climbing hydrangea, winterberry, European privet, honeysuckle, rhododendron, elder, European bush-cranberry, box elder, pignut hickory, shagbark hickory, American hazelnut, smoke tree, ginkgo, witch hazel, butternut, Chinese juniper, common juniper, Eastern red cedar, American sweetgum, Virginia pine, white oak, scarlet oak, post oak, Eastern red oak, southern red oak, black oak, locust, American arborvitae, Oriental arborvitae.

Ornamental plants not fed upon by Japanese beetle adults:

Bamboo, beauty-berry, sweetshrub, American bittersweet, Chinese redbud, Evergreen euonymous, mountain-laurel, Japanese pieris, coralberry, white fir, red maple, silver maple, false cypress, American holly, boxwood, snowberry, winged euonymus, flowering dogwood, white cedar, yellow poplar, saucer magnolia, white ash, green ash, lilac, Norway spruce, Colorado spruce, Scotch pine, Eastern white pine, white poplar, Douglas fir, Canadian hemlock, mock orange, hydrangea, yew, forsythia.

These lists are from an older USDA publication. Some of the plant names may not be in general use today, but they were listed without scientific names. Rather than try to update the names and possibly commit errors, it is left up to the reader to interpret them. (*Phil Nixon*)

The Thin Green Line—Windbreak Advice

A windbreak protects its homestead from the too prevailing wind. Part forest, part engineering feat, a triple row of evergreens stands at its core. Their failure exposes the buildings to leeward; their health is vital to achieving shelter. It is important to select trees that are well suited to the site, and to maintain the windbreak after it is established.

Windbreaks differ in several critical ways from forests. They are even age stands of trees, planted in single species rows to prevent shading, and to create a tight, uniform shelter. Prudence dictates that each row be comprised of a

different species. If a pest or pathogen devastates one type of tree, the survivors will still afford considerable protection. If all goes well, and the trees grow together, they will begin to shade each other out. Trees that can stand an exposed site are intolerant of shade. The lower branches will die, and the windbreak will resemble an old hedge—green perimeter, dead branches inside. The dead wood feeds decay organisms that can decimate trees. Instead of a triple row of trees, there will be, effectively, one wide, thin row. Cutting down every other tree before branches are lost will keep those retained green to the ground—for a time. (Bolin, p 18). The tightly packed, evenly matched trees will lose branches, weaken and decline together; between forty and fifty years is the useful life expectancy of a windbreak.

This list summarizes what we are seeing in the way of reported problems. An issue for all species is herbicide drift. If you are establishing a new windbreak, it should start a minimum of 30 feet from the edge of the nearest farmed field. Farmers may need to use herbicides in their fields; even the most careful applicator can have some drift. Keep your new trees out of harm's way. No tree is perfect in all respects; one or more of these species may offer useful diversity to your landscape.

Abies concolor (White Fir)—described by Dirr as the, “best for the Midwest” (Dirr p.8), it is heat and cold tolerant, but not well adapted to heavy clay. Not many pest/pathogen problems are reported on firs, but they can be stressed by poor sites.

Abies veitchii (veitch fir - Veitch Fir)—These are slightly less heat tolerant.

Juniperus virginiana (Eastern Redcedar)—This is a tough plant. It is susceptible to bagworms, and is an alternate host for cedar – apple/hawthorn/quince rust. If you have susceptible apple or hawthorn trees, this is probably not a good choice.

Picea abies (Norway Spruce)—One of the toughest spruces. It needs full sun and adequate moisture. It is afflicted by spider mite and spruce gall adelgid.

Picea glauca (White Spruce)—Very tolerant of less than ideal conditions; it can even endure light shade. It can get bagworm.

Picea pungens (Colorado Spruce)—Serious, widespread stress related disease problems; *Cytospora* Canker, *Rhizosphaera* needle cast. It is susceptible to spider mite, spruce gall adelgids, and bagworm. Sun and wind tolerant, but requires even moisture—not a feature of our climate in recent years.

Picea omorika (Serbian Spruce)—“Excellent for the Midwest” (Dirr p.18). Quite heat tolerant (most conifers are native to boreal forests; heat is more difficult for them to endure than cold)—not quite as wind tolerant as White Spruce. It can be infested by aphids, budworm, and borers (Dirr p. 719)

Pinus nigra (Austrian pine)—this species is severely affected by *Diplodia* blight; it is subject to pine wilt disease. Not recommended.

Pinus strobus (Eastern White Pine) - A beautiful tree, but it needs protection from the wind, and is often damaged by ice storms. With maturity, it will lose its lower branches, reducing the amount of screening provided. The species is subject to White Pine decline, a stress related syndrome, if improperly sited. It can also get White Pine Blister rust, White Pine weevil, and Pine needle scale.

Pinus sylvestris (Scotch Pine)—Stands are being devastated by Pine Wilt Disease; it is also subject to *Diplodia* blight. It is very susceptible to pine needle scale and Zimmerman pine moth. Not recommended.

Pseudotsuga menziesii (Douglasfir)—this species is not particularly drought or wind tolerant. It is an alternate host of the Cooley spruce gall adelgid, so should not be planted next to a Colorado Spruce. Subject to Rhabdocline needle cast.

Thuja occidentalis (Eastern Arborvitae)—It needs full sun, and can be damaged by ice snow, extreme winds, and deer. It can be infested by bagworms. A tough plant when established.

References

Bolin, Michael *et al.* *Illinois Windbreak Manual*. Illinois Department of Conservation, Cooperative Extension Service, Soil Conservation Service. http://web.extension.illinois.edu/forestry/iwm_complete.pdf. Web. June 27, 2011.

Dirr, Michael A., *Manual of Woody Landscape Plants; Their Identification,*

Ornamental Characteristics, Culture, Propagation and Uses, fifth Edition. Stipes Publishing, Champaign, Il 1998. Print.

(Article written by Jean A. Burrige, Illinois Certified Arborist, Volunteer at the U of I Plant Clinic. Edited and amended by Stephanie Porter and Phil Nixon)

Update on Possible Herbicide Injury to Spruce and White Pine

Over the last month, several States have now reported evergreen injury (mainly spruce and white pine) due to either herbicide or environmental factors.

Symptoms include: wilted, necrotic, yellow, needles; needle death; wilting of new shoots; desiccated and drooping candles; twisting and distorted shoots.

All of the pictures in this article consist of a spruce sample where a lawn herbicide was applied on the property; however we never received confirmation of exactly what chemistry was used; therefore, we could not make a definite diagnosis.

One of the main topics of discussion is the injury of spruce and white pine, in some cases, which has been linked to the herbicide, Imprelis (DuPont). Imprelis is a newly, released lawn herbicide with excellent soil activity. *It is also important to note, that not all spruce and white pines have been injured in areas where Imprelis herbicide has been applied.* In addition, be aware that all herbicides with good, soil activity could be a potential danger to evergreens and broadleaf ornamentals, if root uptake occurs.

DuPont Imprelis Label:

http://www2.dupont.com/Professional_Products/en_US/assets/downloads/pdfs/H65717.pdf

As with any herbicide, it is VERY IMPORTANT to read and follow label directions!

The Imprelis label states: "Do not apply this product directly to, or allow to be under, ornamental ground covers, foliage plants, flowers, nearby crops or other desirable plants; or to the soil where potentially sensitive plants will be planted during the same season. Do not exceed specified application rates for any area and particular care should be taken within the dripline of trees and shrubs." **In addition, the Imprelis label states that grass clippings are not to be used as mulch or put into compost piles.**

DuPont has made some statements. See the link below for an example of a statement from DuPont:

<http://www.ksuturf.org/blog/2011/06/possible-herbicide-injury-to-spruces-and-pines/>

Here are some other links to fact sheets, articles, blogs, and pictures with further information on this topic.

Iowa State:

<http://iaturf.blogspot.com/2011/06/imprelis-damage-on-trees.html>

Michigan State:

<http://expeng.anr.msu.edu/news/article/imprelis-herbicide-injury-to-evergreens>

Ohio State:

<http://www.osugarden.com/2011/06/imprelis-herbicide-may-injure.html>

<http://hg.ohio.com/2011/06/herbicide-damage-on-spruce-and-other-conifers/>
http://bygl.osu.edu/index.php?option=com_content&view=article&id=945:bygl-june-09-2011&catid=1:latest-news&Itemid=74#5

Purdue fact sheet:

<http://www.ppd.purdue.edu/PPDL/hot11/6-10.html>

Penn State:

<http://extension.psu.edu/greenindustry/giec/news/2011/heads-up-spruce-and-pine-injury>

Nebraska:

<http://turf.unl.edu/pdfctarticles/Juneimprelisdamageonconifers.pdf>

Washington:

<https://sharepoint.cahnrs.wsu.edu/blogs/urbanhort/archive/2011/06/27/imprelis-damage-to-landscape-conifers.aspx>

Wisconsin:

<http://tdl.wisc.edu/Interactive%20Page/s/ImprelisFactSheet062111V2.pdf>

There have been several other reports of evergreen injury (spruce) linked to herbicides that are considered growth regulators or referred to as "auxin" as well as "phenoxy" herbicides. At the U of I Plant Clinic, we have received several spruce samples with injury that is suspected to be linked to a "phenoxy" lawn herbicide.

Why is this herbicide injury happening this growing season? Is everyone applying lawn herbicide according to label directions? Could environment or weather be a factor? There is speculation that spruce may be stressed from the drought of last fall and could be

more susceptible to injury of all kinds (diseases, insects, mites, and possibly herbicides). There was a lot of rain this season that could move chemicals closer to the roots of plants for uptake. Lastly, was it a coincidence that symptoms started to occur when there was a sudden temperature fluctuation from low 40° F to 90° F?

Lastly, there have been reports of some of these same evergreen symptoms in areas where NO HERBICIDES have been applied. Late freezes can cause death of new growth.

It is possible that hot, dry winds or "tornado-like winds", as well as a cold to hot temperature extreme can cause evergreens, such as spruces, to have uniform candle dieback or desiccation of needles.

Since the environment could be to blame for some of the same symptoms described on spruce, you have to be very, careful before you jump to the conclusion of herbicide injury. However, it appears that the "twisting" and "distortion" of evergreens seems to be a common symptom of suspected herbicide injury cases. (*Stephanie Porter*)