

Number 1 - April 28, 2014

### **First Issue for 2014**

This is the first issue of the University of Illinois Extension Home, Yard, and Garden Pest Newsletter for 2014. It is written to keep professional landscapers, arborists, golf course superintendents, lawn care personnel, and garden center operators up-to-date on the commercial management of diseases, weeds, insects, and other pests. We will report on the pests we are seeing and anticipating throughout Illinois. To assist us in these efforts, we ask for your help in reporting pest situations as you see them through the year.

Our main authors are plant pathologists Travis Cleveland ([tcleveland@illinois.edu](mailto:tcleveland@illinois.edu)), Suzanne Bissonette ([sbissonn@illinois.edu](mailto:sbissonn@illinois.edu)), and Diane Plewa, weed scientist Michelle Wiesbrook ([buesinge@illinois.edu](mailto:buesinge@illinois.edu)), and entomologists Kelly Estes and Phil Nixon ([pnixon@illinois.edu](mailto:pnixon@illinois.edu)).

We plan on publishing 17 issues this year. The next issue will be in two weeks, followed by weekly issues through June, with issues every other week in July, August, and September into mid-October. The last issue in mid-October will contain an index to 2014 issues. The web site contains several years of back issues with a search function as well as indexes in the final issue of each year. (*Phil Nixon*)

### **New ICLT Available**

The 2014 issue of the Illinois Commercial Landscape and Turfgrass Pest Management Handbook is available at the University of Illinois' PubsPlus web site at <https://pubsplus.illinois.edu/ICLT-14.html>. The price is \$19 plus shipping. It is also available at local Extension offices and at Commercial Pesticide Applicator Training Clinics.

This publication is revised every 3-4 years and contains the University of Illinois Extension recommendations for the management of diseases, weeds, and insect pests associated with professionally maintained trees, shrubs, turf, and flowers. Although it primarily contains pesticide recommendations, practical non-chemical control options are included. (*Phil Nixon*)

### **Rabbits**

The extended snow cover and cold weather during the winter has resulted in severe rabbit feeding damage to shrubs and small trees. Eastern cottontail is the primary rabbit species in Illinois. They are active through the winter primarily feeding on leafy vegetation from the previous summer. However, when snow accumulation restricts their access to these plants, they feed on the shoots and bark of small woody plants.

The colder the temperatures, the more they eat to maintain their internal body temperature.

Damage on shrubs and young trees appears as bark stripped off of the stems and trunks. Cottontails will stand on their hind legs to feed, resulting in damage up to two and one-half feet above the ground. However, with their broad feet, they are able to stand on crusted snow and feed that high above the snow line. In drifted areas, we are seeing damage four or more feet high this spring. Stripped stems will usually die, but wait to be sure because even small strips of remaining bark will provide water and nutrients.

An interesting phenomenon we are seeing this year is no damage to the lower couple of feet on stems that were covered for months with snow. Axillary and adventitious buds on these undamaged areas will sprout twigs and foliage even though upper parts above girdled areas die. This will allow for quicker recovery of attacked shrubs as new shoots will not have to be produced off of the root system as happens when stems are girdled to the soil line.

The other type of rabbit damage being seen this year is clipped stems. They leave sharp, even cuts, similar to that made by hand pruners. The enlarged front teeth of cottontails are responsible for these clean cuts. Because they frequently feed while standing on crusted snow drifts, these cuts are commonly 3-4 feet above ground. Although the tips are gone, they will be replaced rapidly by breaking buds lower on the stems.

Both high girdled and clipped stems will tend to result in bushy growth as many

buds will break and grow new stems and leaves. Pruning will be needed later in the season to recover the desired appearance.

This damage could have been prevented with a late fall spray after it had gotten cold of rabbit and deer repellent containing thiram or other effective active ingredient. A second application in late January through February would have provided winter-long protection. Damage from whitetail deer will have ragged edges because browsers grab stems in their mouths and jerk them free. (*Phil Nixon*)

### **Meadow Vole**

Meadow voles eat runways through turf and strip bark off of trees and shrubs below the snow during the winter. These field mice are larger than house mice with broad heads and short tails. Last winter with its lingering snow cover was ideal for voles to live and feed under the snow with little predator impact. Dogs, cats, mink, weasels, raccoons, opossums, skunks, coyotes, hawks, owls, and many other predators feed on voles, but they are difficult to find under the snow.

Damage to trees and shrubs start at or just below the soil line and extends as high as the snow line. There is no damage above the snow because the rodents are then exposed to predators. Voles eat away the bark, girdling and killing the plants. Close examination of damaged stems reveals slanted cuts or V-shaped marks left by their teeth.

Voles also eat turfgrasses, consuming the leaves, stems, crowns, and roots. Damage appears as narrow, winding,

open-topped runways about two inches wide. The size of these winding trails is reminiscent of a garden hose left on the turf, resulting in dead turf beneath it. However, the voles remove the grass plants completely, leaving only bare soil behind. Turf damage is most common near cover for these mice, such as heavily mulched and groundcover areas, but the extended snow cover last winter allowed for damage far from these areas. With rapid growth in spring, these runways will be filled in quickly by the surrounding turf.

With the snow melted, predators make short work of the excess voles. These mice provide food necessary for their predators to raise their young. Vole damage is prevented by applying mulch no thicker than 2-3 inches and thinning out groundcovers. It is helpful to rake away and remove mulch around young trees as winter approaches to reduce vole cover. Removing snow from around young trees during the winter is also helpful. Anything that exposes voles to their predators reduces damage. (*Phil Nixon*)

### **Spruce Spider Mite**

Conifer feeding mites including spruce spidermite, arborvitae mite, juniper mite, and pine mite are active at this time of year. They should be feeding with this year's late spring through late April in southern Illinois, mid-May in central Illinois, and late May in northern Illinois.

Verify that the mites are present by holding a white piece of paper below a branch and striking the branch. If present, numerous mites will be knocked

onto the paper where they can be easily seen. Slow-moving greenish to grayish dots that streak green when smashed are damaging mites. Quick-moving red to clear mites that streak red when smashed are predatory mites. Numerous predatory mites will control the spider mites without the need for miticide application.

Spider mites are tiny, eight-legged, sucking pests that are more closely related to spiders than insects. They are too small to be seen without a hand lens on foliage. They feed by sucking the contents, including the green chlorophyll, out of several cells next to each other. This results in a tiny, white spot. As the damaged cells die, the spot turns brown. Numerous spots caused by many mites feeding is referred to as stippling, borrowed from artists' use of pencil dots to cause a shading effect. From a distance, the brown stipples merge with the green around them to cause the foliage to appear bronze in color.

Spider mites are controlled with miticide sprays when the mites are active, making the paper test before application critical. Effective miticides include acequinocyl (Shuttle), bifenthrin (Onyx, Talstar), fenazaquin (Magus), insecticidal soap, spiromesifen (Forbid), and summer oil. As summer approaches, the mites will lay over-summering eggs that will not hatch until fall. These eggs are resistant to most miticide applications. (*Phil Nixon*)

### **Have Patience With Plants Injured During the Winter**

Welcoming spring temperatures have finally arrived and allowed us to return

to our gardens and landscapes. Even with onset of the nice weather, the harsh conditions of the past winter are still fresh in our memories. One of the major concerns we have entering the growing season is how the harsh winter may have affected the plants in our landscapes.

Aside from any mechanical damage caused by ice, snow, or animals; evergreens have been the first to display symptoms of winter injury in the form of winter desiccation. Needled evergreens affected by winter desiccation commonly show symptoms of yellowing or browning needles starting at the tips. Damage is usually most evident on the side of the tree exposed to prevailing winds, but can also appear on portions exposed to intense sunlight. Broadleaved evergreens such as boxwood, rhododendron, holly and English ivy have also shown symptoms of winter desiccation. Damage to boxwood is discussed in a separate article within this newsletter.

Many deciduous trees and shrubs, though dormant, were also damaged over the course of the winter. The hardiness of plant will provide an indication of the likelihood of damage. Those of us that may have tried to “stretch the hardiness zone” with some unique but marginally hardy landscape plants will likely see and have to accept significant damage and loss. The extent of damage will vary based on the hardiness of specific plant tissues. Flower buds are often the most tender of the aboveground tissues. Some of the less cold-hardy cultivars of *Forsythia* provide a good visual example of this. The flower buds of the forsythia may be killed by cold temperatures while stems and vegetative buds are unharmed. Affected forsythia plants flow-

er abundantly at the base where snow insulated the flower buds from extreme cold temperatures, but may flower sporadically or not at all where buds were exposed to the cold. For many plant species, the vegetative buds and branches tend to be more tolerant of cold temperatures, yet they can still be damaged. Damaged branches and shoots typically are off color and have a desiccated or wrinkled appearance. Living branches will have light colored inner tissues when gently scratched. A dead branch will typically have brown or dark colored inner tissues. Root tissues are the most sensitive to cold temperatures. However, damage rarely occurs because soil temperatures are moderated and usually much higher than air temperatures. Cold injury to roots is more likely to occur to plants being grown in containers or raised beds.

Have patience with plants that have been suspected to be damaged over the winter and give the plant time to recover. By late spring and early summer any plants that survived should have developed new leaves and shoots. At that time you should have a better idea of what needs to be pruned and what needs to be replaced. (*Travis Cleveland*)

## **2014 Season at the University of Illinois Plant Clinic**

Welcome to another Diagnostics season! Samples have been steadily appearing this spring here at the Clinic in our 39th year of operation. On the field front, there have been concerns with virus disease diagnosis in wheat. On the home landscape front, there is a mountain of winter kill and windburn injury from the harsh winter just past.

The University of Illinois Plant Clinic began year-round operation in the fall of 2011. Our new location is in Jonathan Baldwin Turner Hall on the south end of the Urbana campus. During the winter, our hours are irregular due to trainings and winter meetings so call ahead. However, we resume regular business hours, 8am-12pm and 1pm-4:30pm, on Monday April 28th, 2014.

Plant Clinic services include plant and insect identification, diagnosis of disease, insect, weed and chemical injury observation (chemical injury on field crops only), nematode assays, and help with nutrient related problems, as well as management recommendations involving these diagnoses. Microscopic examinations, laboratory culturing, virus assays, and nematode assays are some of the techniques used in the clinic. Many samples can be diagnosed within a day or two. Should culturing be necessary, isolates may not be ready to make a final reading for as much as two weeks. Nematode processing also requires about 1-2 weeks depending on the procedure. We send your final diagnoses and invoices to you through both the US mail and email. If you provide your email address on the sample form you will get your information earlier.

Please refer to our website <http://web.extension.illinois.edu/plantclinic> for additional details on sampling, sample forms, fees and services offered. If you have questions about what, where, or how to sample call us at **217-333-0519**. Whenever submitting a sample, provide as much information as possible on the pattern of injury in the planting, the pattern on individual affected plants, and details describing how symptoms have changed over time to cause you concern.

Our fees vary depending on the procedure necessary. General diagnosis including culturing is \$15, ELISA and immunostrip testing is \$25, Nematode analysis for SCN or PWN is \$20, Specialty Nematode testing (such as corn) is \$40. Please include payment with the sample for diagnosis to be initiated. Checks should be made payable to the University of Illinois or to the Plant Clinic. Companies can setup an account, call and we will accommodate you. Call if uncertain of which test is needed.

**Sending a sample thru US mail or delivery service address to:**

University of Illinois Plant Clinic  
1102 S. Goodwin, S-417 Turner Hall  
Urbana, IL 61801

**Drop off a sample:**

You can also drop off a sample at S-417 Turner Hall. Park in the metered lot F 28 on the east side of Turner or at the ACES library metered lot on the west side of Turner. Come in the South door. Take the elevator located in the SE corner of the building. Turn left when exiting the elevator; we are located along the SE corridor of the 4th floor. Please use the green drop box located just outside S-417 if we are temporarily out of the office.

**Social Media:** We have a lot of ways to keep you up to date on what is happening at the Plant Clinic and about other plant and pest issues. Follow the U of I Plant Clinic on Facebook, <http://www.facebook.com/UofIPlantClinic> or, YouTube <http://tinyurl.com/clinicyoutube> or, Blogger <http://universityofillinoisplantclinic.blogspot.com> (*Suzanne Bissonnette*)

## Boxwood Winter Injury

Boxwood plants are susceptible to winter injury in central and northern Illinois when warm winter days are followed by freezing temperatures. The warm days deceive the plant into breaking dormancy and taking up water. Then when the sun goes down, the temperature drops, and that causes the water in the leaf tissue to freeze. The expanding ice within the plant splits and kills cells. Affected branches can split from inside pressure as well.

Dry winds will also pull moisture out of evergreen leaves, resulting in freeze-dried burn symptoms. Depending on a plant's susceptibility, location, and the weather conditions, winter injury can damage the entire plant or just the branch or leaf tips causing leaves to become pale yellow/reddish bronze. Most boxwood species are hardy in zones 5-6, but some cultivars have been selected to tolerate the colder temperatures of zone 4.

To repair a winter damaged boxwood plant, it will need to be pruned. If only the tips of the plant are affected, simply remove the dead ones with a hand shears and the plant should recover quickly. If the plant is severely affected with splitting bark and dead branches, it will have to be pruned all the way back to where the splitting or dead areas stop. It may take several years for the plant to recover. It is very important to prune the dead tissue in early spring since it is an easy target for fungal invaders such as *Volutella* spp., and always be sure to sanitize pruning equipment between cuts to avoid spreading infection. (*Suzanne Bissonnette and Nicholas Prudhomme*)

## Prostrate Knotweed – A Harbinger of Spring

Prostrate knotweed (*Polygonum aviculare*) is one of the first summer (warm season) annual weeds to germinate, first appearing when soil temperatures are only in the 40's. For this reason, I know that spring has arrived when I see it emerge. Though its subtle beauty is perhaps less appreciated than that of other spring knockouts like magnolias and tulips.

The late Dr. Marshal McGlamery, better known as "Mac", University of Illinois professor of weed science used to always joke about this weed saying, "It's occasionally called knotgrass but it's not grass, it's knotweed!" His jokes were always "punny" – not the funniest but certainly memorable. And to this day, I'm certain many of his students still know that when knotweed first emerges, it looks like grass. The seed leaves (cotyledons) are very narrow.

With time, seedlings will grow into a circular mat. Stems can extend up to 2 feet long. They are wiry and tough to pull apart especially if the plant has been growing in droughty conditions. The leaves are dull, blue-green, alternate on the stem, long and narrow (up to 1¼ inch long and 1/3 inch wide). The leaves can appear grayish-green or whitish green when infected with mildew fungi. Being a member of the Buckwheat family, it has a papery sheath (ocrea) surrounding the stem at the leaf base.

The flowers are borne in small clusters in leaf axils from June through October but typically go unnoticed due to their small size. The sepals are white to green,

with pinkish margins. Seeds then follow which is how the plant reproduces.

Plants can show some purpling after a frost. This is perhaps when they are most attractive and the flowers are most noticeable.

Prostrate knotweed is an indicator of compacted soils and is often found growing in full sun in thin turf or next to sidewalks and driveways where traffic has spilled over. If not for this weed, bare soil would be found in many of these areas. Where I grew up, our grassy farm field drive was mostly prostrate knotweed in many of the areas. I grew up thinking it was a type of grass until Mac told me otherwise.

Prostrate spurge is similar in appearance and in growth habit, however, it has oppositely arranged leaves and the stems exude a milky sap when damaged.

Prostrate knotweed has a thin taproot so hand removal is an option, but best used on young plants growing in moist soil. Tillage can be used and for turfgrass situations, core aeration can be used to get more oxygen to the roots which can aid in growth of grass. Prostrate knotweed tolerates low oxygen levels in the soil.

Postemergent herbicides for controlling this weed in turf include 2,4-D, and dicamba, while preemergent options include pendimethalin and prodiamine. Due to the early arrival of prostrate knotweed, fall preemergent applications are often used. For landscapes, these herbicides may be used: dichlobenil, di-thiopyr, isoxaben, napropamide, oryzalin, trifluralin. For more information about these herbicides, consult the

Commercial Landscape & Turfgrass Pest Management Handbook available at [pubsplus.illinois.edu](http://pubsplus.illinois.edu). Remember to read and follow all pesticide label directions. (Michelle Wiesbrook)

### Modified Growing Degree Days (Base 50°F, March 1 through April 24)

| Station Location | Actual Total | Historical Avg. (11 year) | One-Week Projection | Two-Week Projection |
|------------------|--------------|---------------------------|---------------------|---------------------|
| Freeport         | 134          | 117                       | 175                 | 235                 |
| St. Charles      | 103          | 118                       | 140                 | 197                 |
| DeKalb           | 97           | 134                       | 140                 | 206                 |
| Monmouth         | 119          | 163                       | 167                 | 237                 |
| Peoria           | 146          | 183                       | 199                 | 274                 |
| Champaign        | 167          | 183                       | 220                 | 295                 |
| Springfield      | 203          | 210                       | 261                 | 344                 |
| Brownstown       | 213          | 248                       | 277                 | 364                 |
| Belleville       | 240          | 266                       | 306                 | 395                 |
| Rend Lake        | 258          | 292                       | 330                 | 427                 |
| Carbondale       | 257          | 283                       | 324                 | 415                 |
| Dixon Springs    | 279          | 312                       | 352                 | 449                 |

Insect development is temperature dependent. We can use [degree days](#) to help predict insect emergence and activity. In warm years, insects emerge earlier, like we experienced last spring. Degree day accumulations are slightly behind the 11-year average. Home, Yard, and Garden readers can use the links below with the degree day accumulations above to determine what insect pests could be active in their area.

[GDD of Landscape Pests](#)

[GDD of Conifer Pests](#)

Degree day accumulations calculated using the [Illinois IPM Degree-Day Calculator](#) (a project by the University of Illinois Department of Crop Sciences and the Illinois Water Survey). (Kelly Estes)

## Illinois Invasive Species Awareness Month

As we near the end of April we are getting ready to embark on another Illinois Invasive Species Awareness Month (ISAM) beginning in May. Central to this year's events is the theme that "Invasive Species Affect Everyone!" If you live in Illinois, work in Illinois, recreate in Illinois, or just simply breathe in Illinois, invasive species affect you!

Organizations, agencies, and groups from across Illinois are once again teaming up to make this Invasive Species Awareness Month a huge success. **Over 100 invasive species events have already been scheduled across the state during May (and early June).** New this year will be an Invasive Species Symposium hosted by The Illinois Wildlife Action Plan-Invasive Species Campaign on May 29 in Springfield at the Department of Natural Resources. This will be an all-taxa meeting, covering invasive plants, animals, insects, and diseases. Stay tuned for more information!

ISAM provides opportunities for all citizens of Illinois to participate in invasive

species awareness events around the state. Events and programs are being held across the state and everyone is encouraged to attend and learn more about invasive species (check out the ISAM [website](#)). During May, you'll be able to volunteer to help remove invasive species, join a nature hike to see invasive species firsthand, or attend presentations to learn more about what they can do help fight these threats.

Invasive species come in many forms, from plants and animals, to insects and diseases. Invasive species can greatly harm the ecology and economy of Illinois. Invasive species can reduce productivity of agricultural lands, impact diversity of natural systems, reduce wildlife habitat, and limit recreational activities. Illinois has its share of invasive species problems. Two of the most recognizable are Asian carp and emerald ash borer, but we also face many challenges with invasive plants such as garlic mustard, Oriental bittersweet, kudzu, bush honeysuckle, and leafy spurge. Just as this year's theme suggests . . . invasive species do affect everyone! (*Kelly Estes*)