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- Disease Information: Karen Rane (Plant Pathologist) and David Clement (Extension Specialist)
- Weed of the Week: Chuck Schuster (Extension Educator, Montgomery County)
- Cultural Information: Ginny Rosenkranz (Extension Educator, Wicomico/Worcester/Somerset Counties)
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### Record August Temperatures: What Does it Mean for Plants?

Stanton Gill

NOAA has released the weather score for August and it doesn’t look good. We just broke the record for the number of days above 90 °F in August and continuing into September (53 days). The record we broke was set back in the late 1900s. Worldwide, the temperatures were 1.5 °F hotter than last year.

From the spring through the end of July we had regular rains and relatively cool weather. Soil moisture levels were very high through early summer. Now we are in a bit of a drought situation with plenty of sunshine, hot weather and no really significant rain on the horizon.

This weather is having a late season impact on plants. We have had three different landscape companies comment that spruce, mainly blue spruce and Norway spruce, are showing scorching needles and branch dieback. The high soil moisture levels of the spring and early summer compromised the root systems of these plants that need a really well drained soil. Now that we are have lots of sunshine and high temperatures, the foliage is losing moisture faster than the damaged root systems can pull up water which is resulting in scorching and dieback.

We are also seeing deciduous trees that were transplanted in the spring showing leaf scorching and some trees, especially red oaks and pin oaks, developing bacterial slime flux on the trunks of trees from the heat and water stress.

Hopefully, cooler and rainy weather will be on the way soon. Meanwhile, be on the lookout for plants showing stress symptoms.
Hot and Dry = Mites
By: Stanton Gill

We continue to see a lot of activity from twospotted spider mites and now spruce spider mites in landscapes with the hot dry weather. Check foliage for activity by placing a light colored paper under branches and tap the branch sharply to dislodge mites onto the paper for closer examination.

**Control:** Two mite growth regulators that can be used are TetraSan or Hexygon. Both materials kill immature stages, providing several weeks of control and are very soft on beneficial organisms. Other choices for control include Avid, Floramite (landscape use), Akari (nursery/greenhouse), and horticultural oil.

![A heavy spruce spider mite infestation caused extensive stippling on this spruce](UMd-PManet)

Japanese Maple Scale
By: Stanton Gill

We had a couple of inquiries on Japanese maple scale this week. We are still in the second generation and crawlers continue to emerge. We have seen crawlers emerge at 2200 degree days up to 3037 degree days. With crawlers and settled 1st instars being present it is still alright to apply either Talus or Distance to control them now.

![Twice-stabbed lady bird beetles are predators of scale insects, including Japanese maple scale](UMd-PManet)

White Prunicola Scale
Marty Heidel, Arader Tree Service, found this heavy infestation of white prunicola scale on a holly shrub in the Villanova, PA area on September 12. The female cover is round and looks like dinner plates stacked on top of each other for the three instar stages. The female covers often go undetected by most people. The male, after the 2nd instar, exudes a white wax on its body. Males tend to cluster on branches. Look for third generation crawlers now.

**Control:** When WPS crawlers are active, apply pyriproxyfen (Distance) or buprofezin (Talus) mixed with 0.5 – 1% horticulture oil. If there are abundant live scales or scale covers on your trees, and it is feasible, you can use a soft brush with water to “scrub” the scales of the branches.

![The grouping of male covers looks like snow covering the branch](UMd-PManet)

Photo: Marty Heidel, Arader Tree Service
More on Ambrosia Beetle Activity
By: Stanton Gill

Mark Windham, Plant Pathologist from the University of Tennessee, sent along a picture early this week that he received from Keith Allen, who is from just North of Nashville, Tenn. A homeowner had pruned 15-20 Bradford pears back in mid-May. They are seeing severe scorching of foliage and die-back on the trees. When Keith went out to examine the dying tree he thought it might be bacterial fireblight injury. It was a combo of sapsucker injury and a good infestation of ambrosia beetles. He found the frass tubes coming out in the last week. The beetle species has not been confirmed yet. So, we in Maryland, are not the only ones seeing late season activity from ambrosia beetles. Thanks to Mark and Keith for passing along the photo.

Late season ambrosia beetle is also occurring in Tennessee
Photo: Keith Allen, University of Tennessee Extension

Hibiscus Sawfly Damage
Mark Schlossberg, ProLawn Plus, Inc., sent in a photo of hibiscus with heavy damage from hibiscus sawfly larvae. The later instar larvae cause shot hole damage and can skeletonize the foliage. If you see shot hole damage, look for the green larvae with black spines on the undersides of the foliage. Control is usually not necessary this late in the season, but a spinosad product such as Conserve will control sawflies.

This hibiscus has heavy feeding damage from sawfly larvae. This year at our research center, there was no activity from hibiscus sawfly, which is unusual.
Photo: Mark Schlossberg, ProLawn Plus, Inc.

Rose Midge
David Kinderdine, Velvet Touch Rose Care, is reporting that he is receiving multiple calls each week inquiring why Knockouts and other roses are not blooming. Upon examination, he is finding that the problem is rose midge. David reports that in his opinion rose tip midge populations are at high levels never experienced in the Washington region. Early timing is very important for getting control. Removing mulch around rose shrubs in late winter removes some of the pupating rose midges. Putting fresh mulch on in early spring buries deeper any remaining midges. Physical removal can also help with control. Monitor weekly for infested shoots throughout the growing season and prune off infested shoots when possible. Black shoots are an indication that the larvae are gone. When active, applications of spinosad or cyfluthrin applied every 10 days will help to control the insect.

Each rose tip can have up to 35 larvae in one shoot
Photo: David Kinderdine, Velvet Touch Rose Care
Caterpillar Activity
Late summer into fall seems to be a good time to find caterpillars.

This bright red caterpillar is one of the color forms of the white-blotched heterocampa caterpillar; larvae can also be tan, brown or green. It feeds on oaks. Photo: Gary Huntsberger, Greenkeeper

The white-lined sphinx caterpillar, *Hyles lineata*, can be another tricky caterpillar to identify because the colors and patterns also vary. It can be variations of yellow and black or bright green like this one. Larvae have a wide host range; this one was found on common purslane.

Antlions
Antlion larvae are making curious pits in the landscape in September. Claire Porterfield sent in a photo of 1.5 - 2 inch across, shallow craters showing up in her landscape. Adult antlions look like damselflies or dragonflies and take flight at dusk and at night. The larvae are fierce predators. The species we have in Maryland tends to dig pits to trap passing ground dwelling insects, including ants, or other prey.

Antlions sit and wait in their pits for an ant or other prey to slip and fall in the loose soil. Photo: Claire Porterfield

Carolina Praying Mantid
Ross Fornaro, Naturalawn of America, found this Carolina praying mantid this week. Mantids feed on a wide range of insects and spiders, some of which are pests of our plants, others are not. In addition to the native Carolina mantid, two other species found in Maryland are the European mantid and the Chinese mantid.

This Carolina mantid is native to Maryland. Photo: Ross Fornaro, Naturalawn of America
Beneficial of the Week
By: Paula Shrewsbury

Who eats spider mites?

Two-spotted spider mites, *Tetranychus urticae*, are active during the heat of the summer. I imagine two-spotted spider mites have been quite happy this summer! Two-spotted spider mites are herbivorous mites that feed on a wide range of deciduous trees, shrubs, and herbaceous and annual plants. These mites are commonly found on the underside of foliage, have a sucking type mouthpart that removes chlorophyll from plant cells, and their feeding results in fine yellow stipple (spots) or stippling of the foliage. Fine webbing is also associated with spider mites. The other spider mite starting to show up is spruce spider mite, *Oligonychus ununguis*, which feeds on 40 species of conifers, and most commonly on needled evergreens such as spruce and hemlock. Spruce spider mites cause similar stippling damage to plants. Spruce spider mite is more of a “cool season” mite and most active in the spring and fall months. We will likely see more activity as the cool weather continues to move in.

There are numerous predators of spider mites such as predatory mites, lady beetles, dusty wings, and lacewings. Lady beetles and predatory mites are the most common and likely have the greatest impact on spider mite populations. Several species of predatory mites are natural enemies of plant feeding mites. Many of the predatory mites attacking spider mites are in the family Phytoseiidae. Predatory mites have needle-like chelicerae (mouthparts) that they insert into spider mites or spider mite eggs to remove the fluids of their prey. Phytoseiid mites are about the same size as spider mites but their bodies are tear-drop or pear shaped. They tend to be a clear yellow to orange color (depending on species and sometimes prey item). Relative to plant feeding mites, phytoseiids have longer legs and run faster. Remember they must forage or hunt for their food. Predatory mites occur in nature and they can be purchased commercially and released (known as augmentation biological control). Most documented success with augmentative release of predatory mites has been in indoor environments such as green houses or conservatories. However, in outdoor environments naturally occurring predatory mites are believed to be very effective biological control agents in ornamental landscapes and nurseries.

Most important to the success of naturally occurring predatory mites is the selection and use of pesticides that have minimal impact on these predators to help in their conservation and build-up of these natural enemies. Many pesticides in the Pyrethroid class are known to have long term detrimental impacts on predatory mite populations. Other miticides such as those on the “EPA reduced risk” list (ex. acequinocyl (Shuttle), bifenazate (Floramite), and others) or horticultural oil (follow label instructions) have been shown to have reduced or little impact on predatory mites. It may take a year or two of “wise” pesticide use to build up effective predatory mite populations. This practice will also help to conserve other natural enemies of spider mites.

Another frequently observed and voracious predator of spider mites is a lady beetle referred to as the spider mite destroyer, *Stethorus punctillum* (Coccinellidae). Spider mite destroyer adults are tiny (less than 2mm), somewhat hairy (light colored fine hairs), black lady beetles that feed as adults and larvae on a variety of spider mite species. Adult females will lay eggs by scattering them singly on foliage infested with spider mites. Spider mite destroyer adult among shed skins and eggs of spider mites

Photo: Sonya Broughton, Department of Agriculture & Food Western Australia, Bugwood.org)
Weed of the Week
By: Chuck Schuster

Hog peanut, *Amphicarpaea bracteata*, sometimes called American hogpeanut, was found in a landscape recently. This plant is a vining summer annual that looks very similar to poison ivy. It can be found throughout much of the eastern and central United States. It can produce vines up to eight feet in total length, has thin slender stems that are light green in color with tiny hairs which help it climb. The leaves are alternate and in groups of three (trifoliate). The large terminal leaflets are from 2.5 to 4 inches in length. Lateral leaflets will be smaller. All leaflets are light green in color, ovate in shape, have smooth margins, with the upper surface nearly hair free, and the lower surface has more hairs than the upper surface. Each trifoliate leaf has a longer petiolule on the terminal leaflet, up to .75 inches in length, and the side trifoliate petiolule will be only 1/8 inch long. These petiolules are attached to a thin petiole which can be 2-6 inches in length. At the base of each petiole is a pair of small stipules less than ¼ inch in length. The flowers are light pink to lavender and occur in mid-June. Some flowers can be self-fertile flowers that will lack petals. This plant prefers full sun to nearly full sun and a moist soil that drains well. As a member of the Bean family, it produces its own nitrogen. The fruit of this plant usually occurs very near or slightly into the soil. It is preferred by many birds and mice.

Hog peanut can be controlled through light cultivation or hand pulling. In settings mechanical cultivation is not practical, the use of broadleaf selective post-emergent herbicides can be considered. Non selective herbicides can be utilized, with caution to prevent damage to surrounding vegetation.

Plant of the Week
By: Ginny Rosenkranz

*Hibiscus syriacus* ‘Helene’ is a small tree or large shrub Rose of Sharon with large pure white flowers that sport a bright red eye in the center to attract pollinators. ‘Helene’ grows best in full sun and moist, organically rich soils, but will tolerate partial shade and poor soils, just don’t expect a large number of beautiful flowers. Plants are very tolerant of both heat and humidity, clay soils, black walnuts and deer, while it attracts butterflies and
Hibiscus syriacus ‘Helene’ attracts butterflies and hummingbirds. ‘Helene’ is a triploid cultivar that was developed by Maryland’s own Dr. Egolf, who created the Goddess series at the National Arboretum. It is a more compact plant that grows 6-8 feet tall with ruffled, thick petaled, and very large white flowers. The flowers do not throw seeds around the garden, but concentrate on flowering from June through October. The foliage is thicker than the species and a dark rich green. Plants should be shaped each spring, and some research has shown that pruning back to 2-3 buds in late winter may produce larger flowers. ‘Helene’ is an upright plant that can be left as a single stem specimen, an espalier on a fence or wall, or allowed to become a multi-stemmed plant that grows naturally into a vase shape. *Hibiscus syriacus* ‘Helene’ can be planted as a small hedge or screen or used as a shrub boarder or planted in cottage gardens. Japanese beetles can become a problem.

**Hibiscus syriacus ‘Helene’ attracts butterflies and hummingbirds**

*Photos: Ginny Rosenkranz, UME*

**Degree Days (As of September 14)**

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**Important Note:** We are now using the [Online Phenology and Degree-Day Models](http://www.ume.edu/phenology) site.

Use the following information to calculate GDD for your site at the [Online Phenology and Degree-Day Models](http://www.ume.edu/phenology) site: Select your location from the map.

- **Model Category:** All models
- **Select Degree-day calculator**
- **Thresholds in: °F**
  - Lower: 50
  - Upper: 95
- **Calculation type:** simple average/growing dds
  - Start: Jan 1

Once you know the GDD and/or plant phenological indicators (PPI, what plants are blooming) in your location, you can go to the [Pest Predictive Calendar](http://www.ume.edu/phenology) to determine what pests you can expect to be active soon in that location.
Perennials that Drink Responsibly
October 1, 10:00 – 11:30 am
Location: Visitor Center Auditorium, US National Arboretum
The climate is changing! We are having drier, hotter summers, wetter springs, and possibly wetter winters. We can no longer afford water guzzling plants; as gardeners we need to set the example for responsible water use in our communities. Join the Perennial Diva, Stephanie Cohen, for a fun and fact-filled lecture on perennials that thrive with less watering. Fee: $15 ($10 FONA) Registration required.

Commercial Horticulture Conferences

5th Annual Trees Matter Symposium
October 19, 2016, 7:30 AM – 4:00 PM
Silver Spring Civic Building
Details are available online

New Location for 2016 December 2016 Conference
Howard Community College in Columbia for December 16, 2016. Look for the schedule in mid-October.

Advanced Landscape Plant IPM PHC Short Course
January 3rd to January 6th
Website: landscapeipmphc.weebly.com
For registration information vist our website or contact: Kiley Gilbert, University of Maryland, Dept of Entomology
Tel: 301-405-3911, Monday-Friday 8-4:30
Email: kgilber4@umd.edu

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