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THE PURDUE LANDSCAPE REPORT

In This Issue

Cryptomeria scale on Christmas trees

(Alicia Kelley, ajkelley@purdue.edu)

Christmas tree growers have been struggling with an invasive scale pest called Cryptomeria scale (*Aspidiotus cryptomeriae*), which is a serious pest of conifers. The scales infest the undersides of the needles and extract plant juices with their piercing-sucking mouthparts. Economic losses are due to the unsightly yellow discoloration and needle drop that occurs from the insect feeding (Fig. 1).

Fig. 1. Yellowing mottling damage due to scale feeding. Image: Brian Kunkel, University of Delaware.

Life cycle. Cryptomeria scale has two generations per year. It overwinters as second-instar nymphs on the undersides of the needles, and in spring (March-April) the nymphs begin feeding again and continue development. They reach maturity by late spring. The adult females are flightless and remain stationary. They have a “fried egg” appearance of a white oval shape with a yellow center (Fig. 2). The adult males are alate, meaning they have wings (Fig. 3). Males fly in the summer, typically in July. They will mate with the females and die shortly after. The females lay eggs in the weeks following the mating flight. Egg hatch occurs around late August. These newly-hatched nymphs are called “crawlers”, because they are mobile and will disperse across the plant to find a new spot to settle and feed. Cryptomeria scale nymphs may not move very far from the female; many settle close to the female. The crawler stage is over by early September, when most have established a feeding site. They will develop through the fall into second-instars and overwinter until the following spring.

Fig. 2. Adult female Cryptomeria scale. Image: United States National Collection of Scale Insects Photographs, USDA Agricultural Research Service.

Fig. 3. Alate adult males. Image: Blake Williams.

Management. Scout for the scale in the late winter when the scales are overwintering and prune infested branches, or remove the entire tree if heavily infested. Lady beetles and parasitic wasps will feed on Cryptomeria scale, so use biorational insecticides to maintain populations of beneficial insects which

help control Cryptomeria scale and other pests.

Since Cryptomeria scales are armored scales, horticultural oils are recommended instead of insecticidal soaps for effective management (Quesada et al. 2017). Apply oils before bud break to target overwintering scales. Make sure to saturate the needles fully, especially the undersides of the needles, to smother the scales. For a more aggressive solution, dinotefuran can be applied for control of Cryptomeria scale. Basal bark applications of dinotefuran applied just after bud break were shown to significantly reduce scale populations and actually improved the rate of parasitism from parasitic wasps (Cowles 2010).

Not sure if you Cryptomeria scale or something else? Reach out to the Plant Pest and Diagnostics Lab for identification services!

References

Cowles, R. S. (2010). Optimizing a Basal Bark Spray of Dinotefuran to Manage Armored Scales (Hemiptera: Diaspididae) in Christmas Tree Plantations. Journal of Economic Entomology, 103(5), 1735–1743. doi.org/10.1603/EC10077

Quesada, C. R. & Sadof, C. S. (2017). Efficacy of Horticultural Oil and Insecticidal Soap against Selected Armored and Soft Scales. HortTechnology, 27(5), 618–624. doi.org/10.21273/HORTTECH03752-17

Susan Scheufele and Nicholas Brazee (2014). Cryptomeria scale. UMass Extension Landscape, Nursery and Urban Forestry Program. umass.edu/agriculture-food-environment/landscape/fact-sheets/cryptomeria-scale

Purdue Turfgrass Disease Report: Cool Breeze Offers Some Ease

(Lee Miller, turfpath@purdue.edu)

Summer patch hits hard in early August; fall rust outbreaks causing orange shoes; cool temperatures allowing a head start on recovery plans.

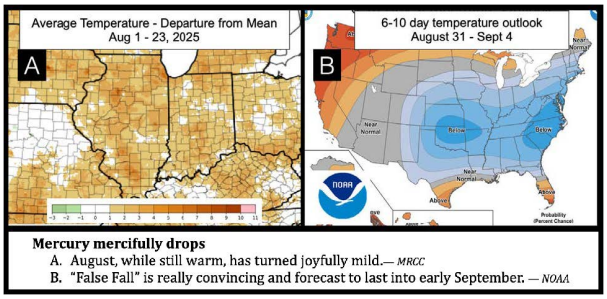

Figure 1. A: August, while still warm, has turned joyfully mild (MRCC). B. 'False fall' is really convincing and forecast to last into early September (NOAA).

August in the region started cool, got back to summer hot, and now dare I say it feels like fall. This "false fall" in Indiana certainly is convincing as a stagnant high-pressure dome descended from Canada last week. Today was the coldest August 26 in the last 43 years with lows in the 40s across upper and middle Indiana. Recent temperatures have been 10- 12 degrees below normal and brought monthly average temperatures back to near average after a solid span of heat with 90F + highs from August 8 – 19. The total number of days >= 90 F in Indy is 29 days, 5th most in the last 15 years (2018 – 38 and the brutal three year stretch from 2010 – 37, 2011 – 42, and 2012 – 51 days). With the prescribed forecast indicating no major shifts, perhaps the summer spikes are finished and the time is nigh to get into recovery mode.

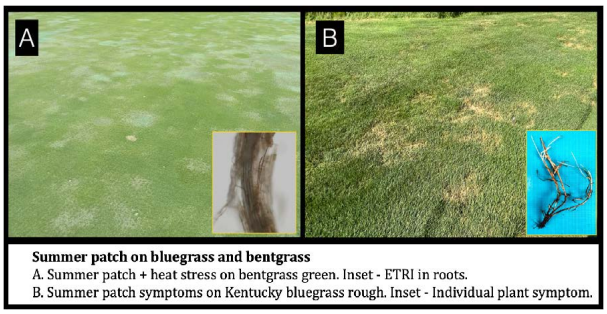

Figure 2. Summer patch on bluegrass and bentgrass. A. Summer patch + heat stress on bentgrass green. Inset- ETRI in roots. B. Summer patch symptoms on Kentucky bluegrass rough. Inset- Individual plant symptom.

Summer patch arrived with numerous samples to the diagnostic lab starting in early August. Kentucky bluegrass on lawns and golf course roughs was severely affected as were numerous bentgrass putting greens broadly throughout the region. These summer patch infections of roots, stolons and rhizomes likely started occurring and accruing much earlier in the summer. Some of the samples displayed dark necrosis up into the leaf sheath and crown tissue.

To read the rest of the Purdue Turfgrass Disease Report, click here: https://mrtf.org/wp-content/uploads/2025/08/Purdue-Turfgrass-Disease-Report_082625.pdf

To become a member of the Midwest Regional Turfgrass Foundation, click here: www.https://mrtf.org/

Abnormally Dry and Drought Conditions Are On The Rise

(Jacob Dolinger, jdolinge@purdue.edu)

If you have any stakes in agriculture, you may have noticed a fairly rapid drying trend as summer has come to a close. According to the U.S. Drought Monitor on September 2, 76 percent of Indiana is considered abnormally dry—up from just 26 percent one week earlier. Moderate drought conditions have also expanded from less than 1 percent on August 26 to over 7 percent on September 2. The driest conditions are in several counties along the Ohio River in southwestern Indiana, as well as sporadically across northern Indiana and along the Illinois-Indiana border.

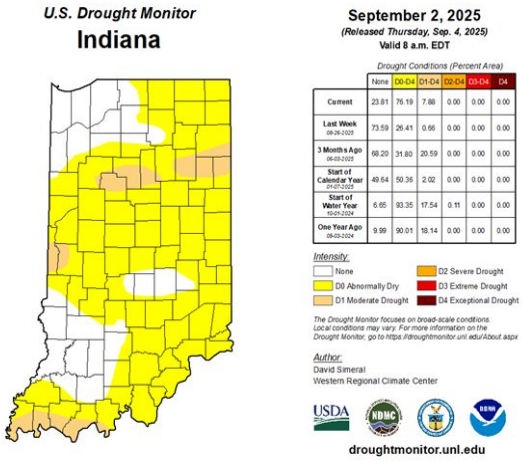

Figure 1: Three-fourths of the state are now abnormally dry, while several counties are also dealing with moderate drought conditions, as indicated by tan shading.

Meanwhile, 30-day precipitation is fairly lacking—especially across northern Indiana. Several counties around Indianapolis and to the north and east have seen less than 25 percent of their normal precipitation totals since August 4. Even across southeastern Indiana, conditions have rapidly become drier over the course of the final weeks of August. Only a few counties across southwestern Indiana and Northwest Indiana have observed near to above normal precipitation.

Soil moisture forecasts do not bode well for improving conditions. Anomalies are at least 40-80mm below normal across northern Indiana in the coming weeks. The 8–14-day precipitation outlook for the September 11-17 period is leaning toward below normal precipitation, especially for eastern Indiana, and equal chances for above normal and below normal precipitation through the end of the month. The U.S. Drought Monitor has accounted for this, with drought development likely across almost the entire state into September. Precipitation totals across Indiana tend to decrease slightly in September before increasing again in October and November, so it will be crucial to monitor soil conditions as we head through the Fall months.

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