Issue: 23-12
August 8, 2023

THE PURDUE LANDSCAPE REPORT

In This Issue

Black Vine Weevil

(Alicia Kelley, ajkelley@purdue.edu)

Black vine weevil (Otiorhynchus sulcatus) is a serious pest of several ornamental and fruit plants, such as azalea, *Cyclamen*, caneberries, yew, rhododendron, grape, and strawberry. It is not a widespread issue, but when they occur, infestations can be devastating to a grower. A few larvae can be lethal to a *Rhododendron*, and the foliage feeding from adults will greatly reduce the value of ornamental plants. Unfortunately, monitoring for these insects is not easy. Adults are nocturnal and difficult to find during routine scouting. Larvae are in the soil and can only be detected through regular soil sampling, which is impractical for a nursery operation. Due to their elusive nature, populations can build without the grower noticing until it is too late.

While black vine weevils might be hard to find, the damage they leave behind is not. The best indicator of the adult weevils is the characteristic feeding damage. Insects will chew from the outside edge of the leaf towards the middle, creating irregular notching.

If you see this kind of damage, you can gently shake the leaves of the plant to attempt to dislodge adults, or thoroughly examine the foliage and the surrounding area. The adults will hide away from sunlight in locations such as cracks in the soil, on the undersides of benches or trays, and around the base of leaf petioles.

Adults weevils are 11 mm long and have black bodies with orange tufts on their elytra.

Larvae are the primary cause of economic harm to the crop due to extensive feeding on the roots of the plants. They are white with brown heads, legless, and covered in small hairs. They are not easy to ID to species in the field and appear similar to many beetle larvae. The presence of these grubs in the soil of susceptible host plants, in addition to notching damage, may indicate black vine weevil presence.

Black vine weevil is a regulated pest in Indiana, and presence of this pest will result in regulation of infested plant material. Landscape professionals would benefit from understanding the signs of black vine weevil to avoid purchasing and moving infested plants. Fortunately, these weevils are flightless, so their movement is extremely limited. Diligent pest monitoring will go a long way to preventing its spread.

Tree-of-Heaven is not so Heavenly

(Lenny Farlee, lfarlee@purdue.edu)

Despite the sublime name, tree-of-heaven, *Ailanthus altissima*, is a particularly bad actor when it comes to trees encountered in the Midwest. This native of Asia was introduced to North America more than 150 years ago and has since become a widespread invasive pest. Rapid growth, extremely high seed production (hundreds of thousands from a mature female tree), and root sprouting that can turn one tree into dozens makes this a formidable competitor with our native plants. Tree-of-Heaven can sprout and grow almost anywhere, including cracks in streets and sidewalks or building foundations, resulting in infrastructure damage and increased costs of maintenance. It is also the preferred host for a new and destructive invasive insect pest, the spotted lantern fly.

Reducing tree-of-heaven numbers on the landscape is a worthy goal, but can be a difficult task. Seed is windblown and can disperse for hundreds of yards or further, producing new populations. Tree-of-heaven will produce dozens of root sprouts if the stem is cut or girdled, even when herbicides are applied to the cuts. Both seedlings and root sprouts can grow rapidly, outpacing the native trees. However, there are effective control methods and even a potential biological control agent, a native wilt fungus, on the horizon. If you have tree-of-heaven or know of those who do, here are some methods to control this invasive tree.

Young seedlings and sprouts may be controlled with foliar applications of herbicides containing glyphosate during the summer growing season. Apply the herbicide and water mixture according to label directions, covering the entire leaf area. Pulling seedlings is an option, but any root fragments left in the soil may produce new sprouts.

Larger tree-of-heaven too tall for foliar spray may be controlled with a couple of other techniques. The basal bark technique applies an herbicide and oil mixture to the lower 15-18 inches of the stem of the tree. The oil carries the herbicide into the tree stem and kills the tree while also limiting the amount of root sprouting. This method is recommended for stems up to 6 inches in diameter, but larger stems have been controlled effectively with this approach. The best seasons for application are summer to winter, but avoid days where temperature is over 85 degrees F as the herbicide and oil mix can volatilize and damage non-target plants. Also discontinue applications if stems are wet or when snow cover is present. Recommended herbicides are the triclopyr ester herbicides and a commercially available basal oil mixed in a ratio of 20% herbicide and 80% oil.

Trees three or more inches in diameter may also be controlled using the “hack and squirt” method, also referred to as the injection method in some cases. A narrow cutting tool like a shingle hatchet is used to make 45 degree angled cuts through the bark of the tree around the circumference, with equal-sized uncut spaces between the cuts. Herbicides like glyphosate or triclopyr amine formulations are applied as directed on the label into the pockets created by the cuts. This treatment results in very few root sprouts as compared to cutting down or girdling the tree. The number of cuts should approximately equal the diameter of the tree in inches, and be sure to leave the uncut spaces between the cuts.

If the tree stems need to come down for safety or other reasons, apply the basal bark or hack and squirt treatments and wait approximately 30 days before cutting down the stem. This should allow time for the herbicide to impact the root system and limit the amount of root sprouting.

Work safely for yourself and the environment by reading and following the herbicide label, wearing the required personal protective gear, and working carefully with cutting tools.

For additional details on tree-of-heaven management visit these sites:

Tree of Heaven | Purdue University Report Invasive Species

Control & Management — State of Indiana Cooperative Invasives Management (sicim.info)

Invasive Plant Control Database (wisc.edu)

A new Purdue Extension Publication, *Invasive Plant Series – Tree of Heaven,* will be released later this year.

Turn Around a Down Lawn with Seed

(Lee Miller, turfpath@purdue.edu)

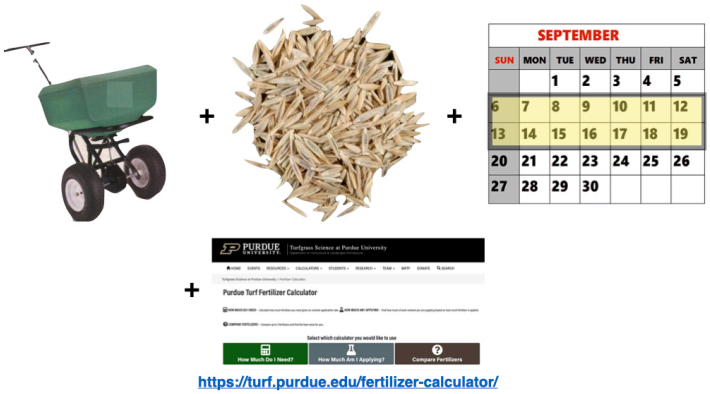
The final month of summer is here, meaning children are returning to school and pools will be closing soon. The end of summer also signifies shorter days, cooler temperatures and a nearing finish line for the long marathon run by our cool season lawns. Summer is tough on the fescues, Kentucky bluegrass, and perennial ryegrass with the impacts of drought, heat, insects and disease often opening the door for bare spots and weed encroachment.

The quality of a lawn is most often judged by color, which can be fickle depending on the environment and doesn't always indicate the long-term sustainability of the sward. Most grasses have a fairly good drought dormancy mechanism, can turn brown for a few weeks and still come back strong in the fall. Density, or the number of desired plants in the yard, is perhaps a more appropriate measure of quality. Plants come from seed, and fortunately for cool season lawns, we have the ability to use that seed to restore the density that may be lost during the summer grind.

Many of our troublesome weeds seed every year, so why wouldn't we overseed a lawn every few years to restore density? Unless pre-treated, seed is organic, pesticide free, and requires little specialized equipment. Other recommended fall practices, such as aerification, verticutting and fertilization, provide a perfect seedbed and nutritive launchpad for new seedlings. Seeding open areas or even a slightly compromised lawn can also introduce newer, more adapted, cultivars that may have increased stress and pest tolerance. At this late point in the season, instead of devoting inputs into controlling a persistent disease issue, perhaps investing in seeding during the September recovery period is a wiser choice.

"SSSS"

Spread Seed in September with Sustenance



https://turf.purdue.edu/fertilizer-calculator/

A few additional tips for successful fall seeding are below. Another helpful reference article from the Purdue and U of Illinois turfgrass team can be found here – Lawn Improvement Programs: AY-13-W. For more information on home lawn care, see https://turf.purdue.edu/homeowner-publications/.

1. Choose seed wisely. Annual ryegrass, commonly seen in a "contractor's mixture", is not a good choice since as an annual will not persist. Inspect the seed tag carefully. Turf-type tall fescue is most often suggested for this region, along with Kentucky bluegrass or fine fescue species. If using tall fescue, try to choose younger bags that are more likely to have viable endophytes (symbiotic fungi that improve plant health). For a deeper dive into tested cultivars in this region, see the National Turfgrass Evaluation Program database.
2. Consider if weed control is needed prior to overseeding. If using a herbicide, read the label thoroughly and adhere to the post-application reseeding interval or risk injuring your newly planted seedlings.
3. Prior to seeding, reduce the mowing height to 1.5 – 2 inches to reduce competition from other grasses. This is the only instance that reducing mowing height to this level on lawns is recommended. Mow low until new seedlings are being cut and return back to 3 – 4 inches.
4. Ensure good seed-soil contact with aerification and/or verticutting (a.k.a. power raking).
5. Apply seed at appropriate rate (e.g. 6-9 lbs/1000 sq ft for turf-type tall fescue). Split the rate and seed in two directions to ensure good coverage.
6. After germination, apply a starter fertilizer at 1.0 lbs of N/1000 sq ft. For assistance with fertilizer calibration, see the Purdue Turfgrass Fertilizer Calculator.
7. During the first few weeks, irrigate lightly and frequently. A good adage is to keep the soil dark, but don't water enough that it floods and glistens.

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