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THE PURDUE LANDSCAPE REPORT

In This Issue

Diplodia Tip Blight

(Tom Creswell, creswell@purdue.edu)

The dead lower branches in these Austrian pines (Fig. 1) are due to Diplodia (= Sphaeropsis) tip blight. The causal fungus infects newly elongating shoots, in late spring, resulting in stunting and death of the new growth (Fig. 2). Black spore-bearing structures of the causal fungus are formed at the base of the stunted brown needles and on infected cones (Figs 3 and 4). Austrian pines are very susceptible to the disease, and infected trees often lose ornamental value as twigs are killed year after year. For more information on this disease, refer to BP-24-W, which can be found at: https://www.purduelandscapereport.org/resource/diplodia-tip-blight-of-two-needle-pines/

Figure 1. Mature Austrian pine trees with dead lower branches due to Diplodia tip blight.

Figure 2. An elongating shoot which was killed by Diplodia tip blight (Note stunted, dead needles).

Figure 3. Spore bearing structures (black dots) of Diplodia on pine cone scales.

Figure 4. Black spore bearing structures of Diplodia on an infected pine needle.

Proper Watering Prevents Problems with Fungus Gnats

(Cliff Sadof, csadof@purdue.edu)

When houseplants and garden seedlings are kept too wet, roots can rot and the fungus that grows in the soil can feed fungus gnats. For houseplants, fungus gnats are usually just a nuisance. When growing seedlings or in a greenhouse adults can spread fungal diseases to flowers. Larvae can spread fungal diseases when they feed on roots.

Figure 1. Adult gnats are attracted to fungus in the soil, Photo by

Whitney Cranshaw, Colorado State University, Bugwood.org.

Figure 2. Eggs laid by fungus gnats hatch into long translucent maggots with black heads that thrive in moist soil.

Figure 3. When abundant, larvae will feed on plant roots and can spread disease. Photo by Penn State University Dept Plant Pathology Bugwood.org.

Where do fungus gnats come from? Fungus gnats can get in the home when plants are brought in from outside, or when transplanting plants with infested potting soil.

How do you manage fungus gnats? Avoid over-watering your plants. Plants need less water in cloudy days in winter and spring. As such, it is easy to over-water plants if you water by the calendar. It is better to check you plants to see if they need water by touching the surface to see if it is dry. After you water, do not let plants sit in a pan of water. Letting the soil dry between watering will reduce fungus and the rate of population growth. Insecticides are rarely needed for houseplants. Numerous options are available for greenhouse professionals.

Reference for Professionals

Massachusetts Greenhouse Pest Guide
https://greenhousepestguide.umass.edu

Early Spring=Earlier Germinating Weeds

(Kyle Daniel, daniel38@purdue.edu)

This winter has been very mild, especially compared to last year. With the mild temperatures throughout the season, most plants have accumulated enough growing degree days to start bud break when temperatures become favorable. Utilizing the Spring Leaf Index, via the United States National Phenology Network (USNPN), spring has been trending 10-20+ days early this year from south to north (Fig. 1).

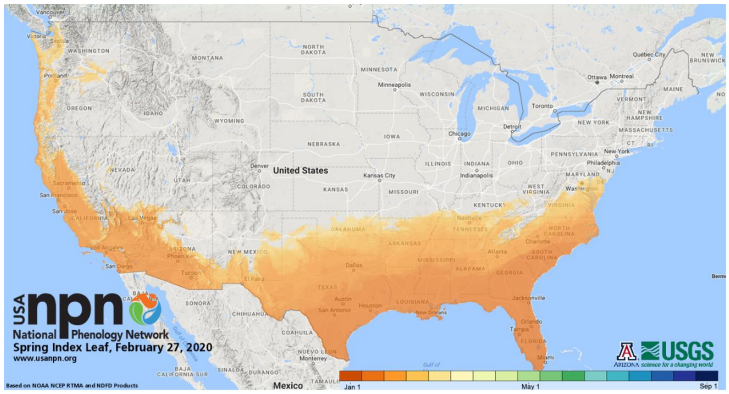

Figure 1. Spring Leaf Index, via the United States National Phenology Network (USNPN).

In most areas of the southeast, progression of this earliness of spring typically occurs every one to five years (Fig. 2). At this time, it appears the trend of warming early will continue as the season progresses. We discussed using phenology to time preemergence herbicide applications previously: https://www.purduelandscapereport.org/article/early-season-predictions-methods-predict-weed-emergence/. Monitoring various ornamental species will indicate the progression of weed species germination.

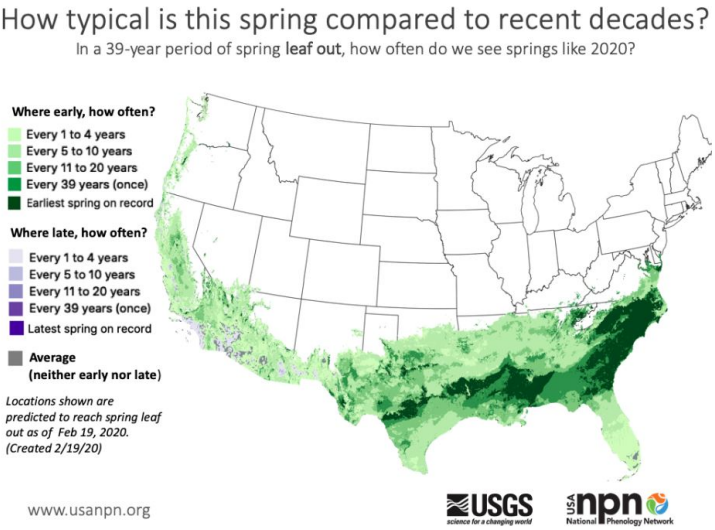

Figure 2 . In most areas of the southeast, progression of this earliness of spring typically occurs every one to five years, via the United States National Phenology Network (USNPN),.

Due to the likelihood of an early arriving spring, it's important to consider applying preemergence products earlier. Applications should be made before germination to ensure efficacy of your preemergence program. If irrigation is not available, remember to apply preemergence herbicide prior to a rainfall event so that the herbicide will be incorporated into the top couple of inches in the soil.

Growing degree days plays an integral role in bud break, weed emergence, and insect emergence. The southern portions of the Midwest are starting to break bud on the early species (i.e. silver maple) (Fig. 3). In addition to following the USNPN, a tool from Michigan State is useful for monitoring growing degree days as it

relates to crabgrass germination, Japanese beetle emergence, spring broadleaf, and more. The site can be found at http://www.gddtracker.net/.

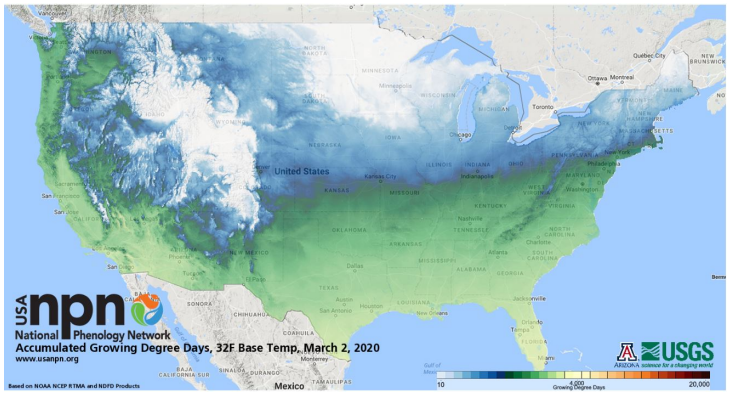

Figure 3. The southern portions of the Midwest are starting to break bud on the early species via the United States National Phenology Network (USNPN).

Depending on your situation, a split application in the spring will increase the longevity of the efficacy of your preemergence herbicide. Since different weed species will germinate at different times throughout the season, the split application will provide coverage for most summer annuals.

If you have any questions about your weed control program, feel free to contact me at daniel38@purdue.edu.

Sources:

Michigan State University GDD Tracker:
http://www.gddtracker.net/

United States National Phenology Network:
https://www.usanpn.org/usa-national-phenology-network

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