

ask the expert

BY BALAKRISHNA RAO

Multiple stress syndrome

A number of ash, sugar maple and oak trees with thin crowns are showing decline at a campground. Walkways there contain small gravel which we think is crushed limestone. There also appears to be a lot of soil compaction. Most of the trees were planted about four years ago. Grass is growing close to the trunks. We haven't seen any rodents or other means of bark injury. Any idea what may be wrong?

— CANADA

Based on your description of the growing site and plant decline, it appears the problem is related to a combination of stress factors that I call "multiple stress syndrome." A stress factor such as compaction can limit air and water infiltration to the rootzone, and crushed limestone can raise the soil pH level and adversely affect nutrient uptake. This can lead to nutrient deficiency and chlorosis disorder. Check for the possibility of a high pH-related problem. Also, consider that these trees are newly transplanted and experiencing transplant shock. Check for problems such as deep planting or left-over nylon threads, which can cause girdling roots at the soil line and prevent water and nutrient uptake. After transplanting, it takes several years for the plant to establish. During this recovery period, exposure to moisture and/or temperature extremes can induce lots of stress on plants. Lack of moisture during drought can particularly affect overall tree health. Without proper water and air, roots cannot grow. Without a good root system, the above ground plant parts also stop growing.

To manage this problem, consider vertical mulching or radial trenching and filling

with compost to improve air circulation. Recovery from decline is a slow process. Proper watering, mulching, fertilizing and pest management as needed would improve the plant health. If the soil pH has been elevated above 7.5, remove the limestone if possible and replace with pea gravel or other material that's not alkaline.

Alternative options

With some organophosphate and carbamate insecticides slowly disappearing, we need to find comparable alternative pesticides to use. In our insect control program, we've used Dursban, Sevin, Orthene, etc. to control caterpillars feeding on trees and shrubs. What alternative insecticides would be good to use in this situation?

— MD

To manage destructive caterpillars, consider using Talstar, Tempo, Deltagard, Scimitar, Astro, Conserve, Merit, Meridian (Flagship), Bt, insecticidal soap, and oil.

Some of the alternative pesticides won't have long residual effects like many traditional insecticides. Therefore, it's important to periodically monitor and know the insect's biology to provide good management of specific pests as needed. Once you know your key target pests, treat them as needed using the multiple target principle. In this approach, provide the treatment at the optimum time to obtain management of multiple pests of different species at a given time from that particular treatment. Because of shorter residual of some of the alternative pesticides, multiple applications at shorter intervals may be needed.

Dollar weed dilemma

How do we get rid of dollar weed from centipedegrass? Also, since the centipede lawn is thin, how can we improve the turf?

— FL

Dollar weed requires a lot of water for good growth, so cut down the amount of water you provide to reduce growth. Second, centipedegrass doesn't need too much nitrogen per year.

To manage the dollar weed using herbicides, consider using Atrazine. Atrazine can be applied as a liquid or in granular formulation. Reportedly, granular Atrazine with fertilizer performs better. Consider using fertilizer products such as 20-0-20 with Atrazine or 0-0-7 with Atrazine. Generally, one time per year is sufficient.

If the centipedegrass becomes yellow and shows evidence of nutrient deficiency, treat with iron products. Iron starvation can weaken the turf, turf density and growth.

By using Atrazine herbicide once, dollar weed might begin to disappear. Your existing centipedegrass should fill in open areas, and the lawn should become more dense. If it doesn't fill in the empty areas, consider either vegetative sprigging or sodding as needed. Both of these operations are labor intensive and expensive, so only consider them if your cultural approaches plus herbicide management don't provide satisfactory results. Generally, overseeding isn't done with centipedegrass.

Sprigging or sodding can be done in spring in northern Florida and any time in other areas in Florida.

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SEND YOUR QUESTIONS TO: "Ask the Expert" Landscape Management; 7500 Old Oak Blvd.; Cleveland, OH 44130, or email: jstahl@advanstar.com. Please allow two to three months for an answer to appear.

