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ORTHENE®
TURF, TREE &
ORNAMENTAL SPRAY

PROBLEM MANAGEMENT

by Balakrishna Rao, Ph.D.

Manganese deficiency

Problem: You talked recently about manganese deficiency in maples. Where can I get leaves tested? My extension agent doesn't do this, at least to my knowledge. We have been applying iron sulfate, but it doesn't always work. We usually apply to the soil at the drip line. This is a major problem. (Kansas)

Solution: You are right in your understanding that extension agents do not perform nutrient deficiency tests. However, in most states, they send the samples to state testing labs and can help that way. Check with your county agent for this possibility. We send our samples to Ohio State University or to several other private labs such as A&L Great Lakes Agricultural Laboratories Inc., 5011 Decatur Road, Fort Wayne, IN 46806-3085, telephone (219) 456-3545.

As far as your concern about iron sulfate treatment and poor results, from your questions it is not clear whether you are dealing with a chlorosis problem on maples or other plants. If you are dealing with chlorosis on maples, most likely it is due to manganese deficiency. This may be the reason why you are experiencing variable results with iron sulfate treatments. This is what we are finding in our area.

However, it may be different in your soil type and geographical location. To determine the exact micronutrient deficiency, the best thing to do is to have the soil and foliage tested for nutrient content. Based on these results, provide corrective measures.

With manganese deficiency, the treatments should be applied in early spring before bud break. Manganese doesn't green up leaves that are already chlorotic. It greens the newer leaves.

Generally, with an iron deficiency problem, timing is not very critical. Therefore, trees can be treated any time, except during moisture stress, with good results. If the trees are already showing severe chlorosis, first try to correct this problem by trunk injections. Then follow it up with soil injections to maintain the nutrient level. We have had variable results with the use of iron sulfate as a trunk injection for iron chlorosis as compared to ferrous ammonium citrate. Therefore, for iron problem, use the latter.

Managing grubs

Problem: How can I control grubs (black aetenius and Japanese beetle) in roughs without any irrigation available? (West Virginia)

Solution: Grub problems and their management presents a major problem to the lawn care industry. The basic problem is to get the material to the target. It is important to apply treatments during vulnerable stages of insect development. The grubs feed on roots and can cause extensive damage to turfgrass. Success in pest management depends upon proper identification, using proper materials, method and timing of control.

As you may be aware, the currently registered grub control insecticides all have short residual and some of them will have greater affinity to bind to thatch than others. Therefore, watering after treatment can definitely improve the efficacy. With some insecticides, watering may be very critical. Some manufacturers indicate watering within 24 hours after treatment. Read and follow label specifications for further details.

For Japanese beetle grubs, late summer/early fall generally is the best time for treatment and early spring would be the next best time. When you are dealing with black turfgrass aetienus (BTA), like the Japanese grub control, timing and placement of insecticides is very important. The preventive approach would be to apply insecticides to kill the egg-laying population of adults. Overwintered adults become active in April-May, which coincides with the time when the Vanhoutte spiraea and horse chestnut will be in full bloom in Ohio. Egg laying for the second generation coincides with the blooming of Rose of Sharon. These indicator plants can be checked periodically along with monitoring for adults in spring.

With the preventive approach, it is important to post-water to move the insecticides to the first 1/2 inch of thatch—so that adults can be killed as they burrow down for egg laying.

Although it is difficult to manage treatment for larva it can be applied when larva first appear. For larva control in Ohio, applications are made around June. Without watering, it is difficult to manage either Japanese beetle grubs or black turfgrass aetienus (BTA).

If watering is not possible, however, the following suggestions might be useful to improve results:

- Try to apply insecticides when rain is predicted.
- Apply materials uniformly at the proper time when grubs are small and easy to manage.
- Study the life cycle and apply during the most vulnerable stage of insect development.
- Proper insecticide placement at or near the soil surface (below thatch).
- Read and follow label specifications for best results.



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Questions should be mailed to Problem Management, LANDSCAPE MANAGEMENT, 7500 Old Oak Boulevard, Cleveland, OH 44130. Please allow 2-3 months for an answer to appear in the magazine.

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