

PROBLEM MANAGEMENT

by Balakrishna Rao, Ph.D.

Iron for turf

Problem: Is there any real advantage in using iron on turfgrass? If so, what would be the proper timing and amounts? (Pennsylvania)

Solution: Depending upon the soil properties, turfgrass species and geographic locations, there may be some advantage in using iron on turfgrass. Reports indicate that iron can improve the color and can possibly reduce the need for using high rates of nitrogen. There are a number of iron-containing products on the market. The product literature may suggest using iron three to four times a year to get maximum benefit.

Unpublished reports suggest that the results obtained from iron-containing products are quite variable. Some have had more success than others. Non-chelated iron products appear to be better than the chelated products. We have not seen any appreciable color difference over untreated Kentucky blue, rye and fescue mix turfgrass using several iron products on the market, even after applying four times a year. Some iron sources can be phytotoxic and a few can stain non-targeted areas.

So, as far as your question concerning "real advantages," the best thing to do is to try different products on a small scale in your area. Read and follow label specifications for details on rates, etc.

Soil compaction and trees

Problem: Older trees on the town commons are suffering from years of soil compaction. How can we help these trees recover? (Massachusetts)

Solution: Soil compaction is one of the major problems in heavy traffic areas like school grounds. There are only a few things that can be done to relieve compaction.

Where practical, try to correct compaction with hydraulic pressure. Soil-injecting root-feeding tools can be used. The key is to get the water pressure deep into the root zone to break the compacted soil. In most situations, the active roots of plants will be in the top 18 to 24 inches.

Another approach is to drill vertical holes in the ground using a soil auger and filling them with loose amendments like mulch or peat moss. If poor drainage appears to be a problem, filling these holes with pea gravel would be useful.

The most ideal way to handle these problems is to recognize the potential for compaction from traffic or construction, fill damage, etc. prior to its happening. Then, start providing corrective measures and treatments before the anticipated compaction occurs.

In situations dealing with fills or construction, installing dry wells around valuable trees is beneficial. Make sure to allow enough room for the tree trunk to grow. For the problems you are currently experiencing, apply water pressure using root-feeding injecting needles and/or the auger drilling method for the most practical solution. If prac-

tical, use a mulch over heavily-trafficked areas to minimize compaction.

Needle-dropping spruces

Problem: Spruce plants in our area are showing severe dieback and needle drop from lower branches. The problem appears to be progressing from the lower branches upwards. We thought that it might be *Cytospora* canker, but there is no bluish white pitching. We sprayed for mites and spruce gall aphids without much luck with this needle problem. Any idea what this problem might be and how do we manage it? (Pennsylvania)

Solution: Based on your description of the symptoms, the problem appears to be most likely related to fungal disease. Probably it is not *Cytospora* because you have not seen the bluish white resinous pitching on the trunk or branches which is typical of *Cytospora* canker disease.

Needlecast fungal disease caused by *Rhizosphaera kalkhoffii* appears to be the next best possibility. This disease is known to progress from the lower branches upward. Infected two-year-old needles drop usually in the second summer. Current-year needles may become infected in May/June months but symptoms don't occur until fall or next spring. At this time, the fungus produces small black fruiting bodies on the surface of needles—almost in a row—near the stomata. Healthy needles will have whitish stomatal opening. Infected two-year-old needles turn yellow in July and then change to purple by late August-early September and finally drop by late summer or fall.

Check the needles periodically for fruiting bodies of this fungus. Plant disease-free trees. Send in fresh representative samples to your county extension agents and verify the possibility of *Rhizosphaera kalkhoffii* before using fungicides. Application of benomyl, Daconil or Bordeaux mixtures when new growth begins or around early June and repeated again in late June is recommended to manage this disease. Continue the pest management you were providing thus far. Fertilization and watering as needed will improve plant vitality and maintains plant health.



Balakrishna Rao is Director of Lawn Care Technical Resources for The Davey Tree Co., Kent, Ohio.

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.