

ASK THE EXPERT

DR. BALAKRISHNA RAO



Controlling Dutch elm disease

Problem: What progress has been made in controlling Dutch Elm disease? (Minn.)

Solution: There is no major new information that I am familiar with on Dutch elm disease management. The current most popular approach is to monitor for disease activity, bark beetle insect activity and management; sanitation; and systemic trunk injection of Arbotect fungicide.

Monitoring for early flagging symptoms on the crown and selectively pruning at least 10 feet into the clear wood without vascular discoloration is recommended for sanitation purposes. Trees showing more than 20 percent crown infection need to be removed promptly. Reports also indicate that elms should not be pruned during insect vector, the elm bark beetle flight period.

Insecticide treatment is recommended for managing elm bark beetles which transmit the fungus during feeding in the crotch area. However, insecticidal treatments are now being questioned because of the difficulty in providing thorough coverage, potential drift problems (chemical trespass), and the need for several treatments (for multiple insect generations). An alternative management approach which involves Arbotect fungicide treatments in place of bark beetle treatments is now being researched.

University of New York researchers reported that several pyrethroids provided better protection from twig feeding than methoxychlor insecticide in laboratory studies.

Reports indicate that a three-year injection rate of Arbotect fungicide at or slightly below the root flare would give better distribution of fungicide and protect the susceptible elm from Dutch elm disease infection. Root flare treatment is found to be better than injecting elsewhere on the trunk.

Do sulfur-coated fertilizers affect pH?

Problem: What is the effect of sulfur-coated fertilizers on soil pH? Should this be a consideration in their application? (Pa.)

Solution: Richard Rathjens, senior agronomist on our staff, made the following comments regarding your question:

Sulfur-coated ureas used for turfgrass fertilization can range from 32 to 37 percent nitrogen and 12 to 18 percent sulfur. One-half pound of sulfur would be applied if a sulfur-coated urea containing 37 percent N and 18 percent S was used at a rate of 1.0 lb. of N per 1,000 sq.ft. If sulfur coated urea was the only source of N used, and four applications were made throughout the year, then 2.0 lbs. of sulfur would be applied annually.

If the objective is to lower the soil pH, 2.0 lbs. of sulfur would be applied annually. If the objective is to lower the soil pH, applying 2.0 lbs. of sulfur would be helpful. However, depending on pH and soil type, as much as 50 lbs. of S per 1000 sq.ft. may be need-

ed to lower the pH to 6.5. Rather than using sulfur-coated urea, a better approach would be to use elemental sulfur which contains 85 to 99 percent sulfur.

Our soil testing laboratory does not recommend using elemental S to acidify alkaline soils for these reasons:

- many soils in the eastern U.S. are alkaline because they are derived from calcium containing rock which resists acidification;
- unless turfgrasses fail to respond to normal fertilization practices and elements like iron are deficient, the benefit of acidifying the soil is questionable; and
- when added to the soil, sulfur forms sulfuric acid, which can be toxic to plants. For this reason, extreme caution must be used when applying concentrated forms of sulfur, such as elemental sulfur.

Bentgrass injury related to weed control?

Problem: Last summer we experienced quite a bit of injury on bentgrass after we made a broadleaf weed control application. We have used the herbicide as suggested using a liquid spray system. We feel that part of the problem is drought related. Could it be chemical related, too? (Pa.)

Solution: You mention that the injury symptoms became evident after the broadleaf herbicide application. This would suggest that either the herbicide alone could have been responsible and the appearance of injury symptoms was coincidental with the herbicide application. It may help to inspect other lawns with bentgrass in the immediate vicinity to determine if injury occurred and, if so, what combination of factors was involved.

Bentgrass requires relatively short mowing and plenty of water for good growth. The turf is often stressed in the summer as the temperature increases and moisture decreases. Turf which is drought stressed is more susceptible to injury from herbicides. Broadleaf herbicides containing 2,4-D are particularly injurious to bentgrass. Review and follow label specifications for best results.

Dr. Balakrishna Rao is Manager of Technical Resources for the Davey Tree Co., Kent, Ohio.

Mail questions to "Ask the Expert," LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, OH 44130. Please allow two to three months for an answer to appear in the magazine.