

PROBLEM MANAGEMENT

by Balakrishna Rao, Ph.D.

For early green-up...

Problem: At our University in New York State, we have two problems with the spring fertilizer application for athletic fields. One problem is that our groundcrew's workload in April and May is extremely heavy with preparations for Commencement and other spring activities. The second problem is one of wet conditions in certain areas of our athletic fields which we cannot, at this time, afford to drain. As a result, I would like to apply our spring granular fertilization while the ground is still frozen. We use a granular blend with a 50 percent slow-release nitrogen. What is the earliest date of application that could still be effective?

Solution: One solution to your problem is to consider applying fertilizers in the fall. If your late fall fertilization coincides with the last mowing, which is ideal timing, we have seen response from that application the following spring until the first of June. Similar observations have been reported from several universities and several other green industry personnel.

For early green-up, enhanced root development and density in the spring, it would be necessary to apply at least 1¼ lbs. of nitrogen per 1000 sq. ft. during the late fall fertilization. Since late fall fertilization may hold color response through the month of May, ideally it would be necessary to treat again in late May to maintain turf quality. Reports also indicate that a light application of fertilizer in very early spring would help recuperation from winter injury and/or injury from low-temperature diseases.

From your comment, I understand that it would be difficult to fertilize in early spring due to spring school activities. Therefore, your planned approach of applying fertilizers in early spring with a slow-release fertilizer would be an alternative choice. Assuming that you will continue to get green-up response from your late fall fertilization, an application of slow-release fertilizer in early spring (February/March) should help maintain turf quality.

In my opinion, since you would be applying in early spring, it would be necessary to apply at least 50 percent or higher of slow-release nitrogen to obtain sufficient residual. If late fall fertilization was made last year, consider using 50 percent slow-release nitrogen with 50 percent or less of quick-release in February/March to get some immediate green-up response.

Remember that soil type and exposure to extremes in moisture and temperature can also partially contribute to turf color, density and overall quality.

Concerning your wet areas, installing drainage tiles is the most effective remedy, although the system is time-consuming and expensive. If this is too expensive or impractical, consider installing vertical drainage systems. Drill vertical holes two to three ft. deep with a post-hole digger or an augur, and fill them with pea gravel, covering the top with soil and turf. It would be necessary to drill holes beyond hard

pan in order to drain the excess moisture out of the surface area.

Pruning elm trees

Problem: We have an American elm in need of pruning. When is the best time of year to do this? Are disease-carrying elm bark beetles attracted to pruning wounds? When is the best time to spray for these pests?

Solution: The best time for pruning elms would be in the late fall or winter. Reports indicate that elms pruned during July, August or September are more apt to get Dutch elm disease which is spread by elm bark beetles. Beetle emergence and number of brood per year may vary from one geographic location to another.

In general, adults emerge in late spring and may have two to three broods. Therefore, it is best not to prune during beetle activity period which may be from May to September, depending upon the region.

The answer to your second question is yes: the beetles are attracted to pruning wounds. As far as the timing for managing these pests, an understanding of beetle life history and their activity would be helpful. The European elm bark beetle and the native bark beetle are the two most important vectors in transmitting Dutch elm disease through their feeding activity. European elm bark beetles feed primarily on smaller branches on the upper crown. They overwinter as larvae in dead or dying trees and stumps, pupate in the spring and emerge as adults in late spring. Native bark beetles primarily feed on larger branch crotches, overwinter as an adult in dead or dying plants or stumps and emerge in spring.

It is important to provide target sprays where these beetles are feeding on the tree. A good coverage is very important.

Reports suggest that severely infected trees should be removed by May 1 and the remaining healthy trees should be protected by spraying for bark beetles and providing fungicide injections. Insecticide sprays should be applied prior to beetle emergence in spring. This would be before May 15 in most places. In addition, repeat applications may be necessary to manage the future broods (generally around July). 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.