

by Balakrishna Rao, Ph.D.

Why wait to fertilize?

Problem: When liming, why should you wait two weeks to fertilize when using an ammonium-based source of nitrogen in your fertilizer? (New York)

Solution: Reports indicate that it is important to delay fertilizing when applying lime because of the potential for burn. Richard G. Rathjens, senior agronomist at Davey Tree, indicates that when both hydrated lime and ammonium nitrate fertilizer are applied, they react and release ammonium gas, which can cause injury to turfgrass. This general rule is applied to any type of ammonium fertilizers mixed with lime.

Because ammonium is formed during conversion of nitrogen to plant-available forms, it is our practice to avoid applying lime with any quick-release fertilizer, such as urea, Formolene, Fluf, etc.

As an added precaution after liming, delay the fertilizer treatment until the lime is washed into the soil through post-watering and/or rain. This would help minimize the burn potential.

The general rule of thumb of waiting for two weeks may not be sufficient if there was no post-watering or rain to wash the lime and move it into the soil.

Micro-nutrient content important

Problem: A lot of research has been done on nitrogen fertilizer to cool-season turfgrass (amounts of N, timing). But what about phosphorus, potash and the micro-nutrients? After testing for these nutrients, do we correct the soil pH? Should we deep-place the nutrients after we aerify or do we top dress with a commercial fertilizer blend that comes close to the recommendation?

For example, we test golf course greens from 0 to 3 inches for micro-nutrients and from 3 to 6 inches for macro-nutrients. We then aerify and make corrective applications, starting with the pH and micro-nutrients, then the phosphorus and potash. During the season, we use a fertilizer with slow-grade release nitrogen, sulfur and potash. Foliar applications of iron are used to prolong the cosmetics of the greens between fertilizer applications.

I have heard that other superintendents use a starter fertilizer in May and in September. Their greens do have enough phosphorus, so why the starter fertilizer? (Minnesota)

Solution: Because of space limitations in this column, I will not be able to comment individually on several products you have been using in your program. Most everything that you are doing appears to be agronomically sound. If for any reason you are not pleased with the color, density or quality of turfgrass, then your best approach would be to consult with a professional agronomist familiar with golf course maintenance practices.

Fertilization and any nutrient correction should be based on soil test results. If the soil test results indicate adequate levels of micro-nutrients, there is no need to add those. If the soil test shows adequate

levels of phosphorus, it doesn't have to be routinely applied in maintenance programs. However, routine application of phosphorus can be done without causing any harm.

Starter fertilizers are low in nitrogen and high in potassium and phosphorus. Supplemental phosphorus is particularly helpful in newly-seeded areas since soil phosphorus does not move readily to the developing roots. For established turfgrass, consider applying phosphorus after aerifying for deeper movement.

Another point of concern is that sandy soils, because of their low chemical activity, have a greater potential for nutrient deficiency than most other soils. Therefore, follow the soil test recommendations and provide the deficient nutrient.

The source of palm rot

Problem: What is the best way to solve a scale infestation of palm rot in an interior landscape on retina palms—assuming water, temperature, humidity and soil check out? (California)

Solution: The first step in pest management is to identify the agent(s) responsible for the disorder. Sometimes stress factors and/or cultural factors may lead to pathological or insect problems. Therefore, first determine whether the problem of palm rot you are referring to is caused by scale alone or if it is a disorder complex.

If the problem was identified to be related to scale insect, you can use a number of insecticides to manage them. Ohio State University (OSU) recommends the following for scale management in general for indoor use:

- Bendiocarb (Ficam, Turcam 76WP): avoid over-spraying, as heavy runoff may injure the roots of some species.
- Kinoprene (Enstar 5E): an insect growth regulator.
- Oxamyl (Oxamyl 109): a systemic granular insecticide; woody stems may reduce uptake.

For best results OSU scientists suggest repeating applications at three to four week intervals for three months (three or four applications). Read and follow label specifications for best results. **LM**



Balakrishna Rao is Manager of 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.