

## Spring Nitrogen Fertilization

The timing and amount of nitrogen fertilization to be applied in the spring can vary greatly depending on the turf condition and on a diversity of environmental and usage considerations. In addition, the approach is different between warm- and cool-season grasses. Thus, this discussion will be separated into these two species groupings.


**Cool-Season Turfgrasses.** Ornamental turfs that are in good condition in terms of shoot density and color usually need minimal early spring nitrogen fertilization. Such turfs may either be fertilized with a very light rate of nitrogen, or in many cases it may be best to delay the spring nitrogen fertilization until after the major flush of shoot growth associated with the optimum spring temperatures. A major nitrogen application during this peak shoot growth period further accentuates growth, thereby resulting in a depletion of carbohydrate reserves and associated root loss just prior to the progressive increase in temperatures leading to heat stress, which further accentuates the negative affects of root loss.

On the other hand, weakened turfs coming out of the winter, such as a result of (a) extensive autumn usage for sports or (b) injury during the winter period, should receive a significant complete analysis (NPK) fertilizer application to enhanced tillering, lateral stem development, and recovery of shoot density. Spring sports that cause significant damage to the turf also should receive a significant complete analysis fertilization. If the opening of the spring sports schedule is quite early, then an early nitrogen application can stimulate earlier shoot greenup in the order of two weeks.

Situations have occurred where the turf manager has made an application of water-soluble, quick-release nitrogen in early spring and gotten no response. Then another application was made in 7 to 10 days, gotten no response, and in some cases even a third application was made. Subsequently, there was a sudden tremendous flush

in shoot growth, which required a very high mowing frequency, exhausted the carbohydrate reserves, and caused root loss. What happened? The problem was that although the air temperatures were relatively warm on certain days, the turf manager failed to take into consideration the actual soil temperature. Somewhat warm air temperatures can cause greening of the turf, but any significant shoot growth can still be delayed if the soil temperatures are not sufficiently high. In other words, one should not expect to see a significant response from a water-soluble nitrogen application until soil temperatures have reached the range of 46 to 54°F (8–12°C), with the specific threshold temperature varying with individual turfgrass species and/or cultivars.

**Warm-Season Turfgrasses.** Spring greenup of winter-dormant warm-season turfgrasses typically occurs when the soil temperature at a 4-in. (100-mm) depth rises to 64°F (18°C). If temperatures rise very rapidly following greenup, the potential for spring root decline (SRD) to occur is high. If SRD is confirmed by root profile examinations, nitrogen fertilization should be delayed for at least 2 to 3 weeks. It also is common in certain regions for a yellowish chlorosis of bermudagrass (*Cynodon* spp.) to occur during the spring, which typically can be corrected with an application of iron. It is especially important that this be done if SRD has occurred in order to facilitate maximum chlorophyll levels for carbohydrate synthesis and supply for root regrowth.

There are situations in which spring greenup of warm-season grasses occurs, but very little shoot growth occurs for 2 to as long as 4 weeks. Consequently, minimal mowing is required. This is caused by a very slow warming trend and resultant persistence in cool soil temperatures, which limit the amount of shoot growth that will occur. Consequently, nitrogen applications during this period will give a minimal shoot growth response in turfs where thinning has occurred during the winter period. 

## ...Metsulfuron and Chlorsulfuron...

Continued from page 2

Use rates of Corsair range from 1.0 to 5.33 oz/ac. One to two ounces/acre will control annual or perennial ryegrass. The highest labeled rate (2.76 to 5.33 oz/ac) will be needed to remove tall fescue. Repeat applications may be necessary for tall fescue control. Like Manor, Corsair will control wild garlic (*Allium canadense*) and wild onion (*Allium vineale*) but the highest labeled rates will need to be used. A total of 48 weeds are listed on the Corsair label. **Several troublesome annual and perennial weeds are controlled. Common and mouseear chickweed, henbit, buttercup, filaree, groundsel, prostrate knot-**

**weed, and white clover,** just to name a few, are species that can be controlled with Corsair.

Corsair application should include a nonionic surfactant at 0.25% volume/volume of spray solution. As with Manor, Corsair is moderately mobile in soils and should not be applied up-slope of sensitive turf or ornamental species.

The return of metsulfuron and chlorsulfuron as Manor and Corsair, respectively, is certainly good news for both cool-season and warm-season turf managers. Their use will provide control of many troublesome weedy pests in highly maintained turf. 