

normally applied in extremely dilute solutions rather than in concentrated forms. Processes such as volatilization, photodegradation, hydrolysis and microbial decay often act to break down existing residues. And finally, the dense canopy of a well-maintained turf and highly adsorptive thatch minimize runoff and potential leaching.

The pesticide-binding capacity of a turf is strongly related to plant density, thatch development and rooting, which are improved through proper fertilization and pest management. Rather than threatening environmental quality, improved turf quality achieved through judicious use of pesticides can protect the quality of water emanating from a turf area compared to a poorly maintained area or other land uses.

While the evidence is strong that the use of turfgrass pesticides does not appear to threaten groundwater, one should not take this as a license to apply pesticides excessively or without due caution. Cultural and biological approaches to pest control need to be more fully integrated into management plans, with an eye toward reducing pesticide application. There is little doubt that, in numerous cases, pesticide use could be reduced substantially by employing primarily curative spray programs for non-lethal pest problems and by increased adherence to integrated pest management practices. ▲

*\*Dr. Richard J. Cooper works at the Department of Plant and Soil Sciences within the University of Massachusetts. This article is reprinted from the University of Massachusetts Cooperative Extension System publication, Planting and Maintaining Sustainable Landscapes: A Guide for Public Officials and the Green Industry and Sports Turf, November/December 1995.*

characteristic helps to insure the continuation of the species.

From late spring thru later summer the sole purpose of turf is to reproduce. How does it reproduce, through the production of seed heads? This is why top growth is so vigorous at this time of year. The turf will produce top growth at the expense of its own lifeline or root system to insure the continuation of the species. Excessive nitrogen fertilizer at this time of year will help to cause the depletion of existing nutrient reserves and only serve to increase the production of top growth. A light application of nitrogen fertilizer should only be applied at this time to correct visual signs of poor turf health and vigor.

Although not normally desired in a lawn or athletic field situation, seed heads appear in cool season turf in the late spring to early summer. Once seed heads have been produced the parent plant can then concentrate its efforts on building its own health and nutrient reserves in preparation for the next seasons seed production. In the late summer, early fall as the nighttime temperatures start to lower there is an increase in the root development and lateral growth of the turf. Top growth starts to decline in relation to these events. A healthy application of nitrogen fertilizer at this time will help the turf to thicken, develop a deeper root system and produce and store the carbohydrates necessary to help guarantee its survival through the following season. As always, a soil test should be utilized to determine what nutrients in addition to nitrogen are required.

From late summer up until the ground freezes the turf slowly redirects its energy from vertical top growth to lateral shoot growth and root development.

A fertilizer application made just prior to dormancy is termed late season fertilization. The application of nitrogen should be minimized at this time so as not to over stimulate new succulent top growth. Too much stimulation through over nitrogen fertilization just prior to dormancy may cause the turf to be more susceptible to disease.



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## “Fertilize Your Turf as if its Very Survival Depends on it”

*By Jim Hermann, CSFM*

Every animal and every plant has one priority. This priority is reproduction. The cost of ineffective reproduction is extinction.

Cool season turf is no different. Nature has programmed turf to concentrate its energy on reproduction. As is the general rule, nature will favor the next generation at the expense of the parent. This Sports Field Managers Association of New Jersey

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Turf survived for centuries on organic nutrients. These organic nutrients become less and less available as the soil temperatures cool.

Continued on next page



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Supplemental fertilization should be utilized to enhance rather than to interfere with the natural growth tendencies of the plant. Understand that top growth wants to slow down at this time so there is not much benefit in over fertilizing in an attempt to push more shoot growth. A visual inspection of the turf quality and color at this time is a good indicator of the need for additional nitrogen fertilization; off color turf is a good indicator that some nitrogen fertilizer would be beneficial.

Late season fertilization is sometimes confused with dormant fertilization. Dormant fertilization is just that. It is fertilizer applied after top growth has ceased and the turf has gone dormant. The benefits of this application are generally realized in the spring when the turf begins to green up. Caution should be exercised when making dormant applications just as with any other application. Although volatilization into the air is less likely at this time due to cooler temperatures, surface runoff and leaching of soluble nutrients are typically more likely with this application than with other applications. It is important from an environmental standpoint to use solely slowly available nitrogen products because the turf is not active enough for uptake of water-soluble sources

Turf that has not received a dormant application should be fertilized early in the spring at or prior to spring green up while soil temperatures are still cool and root production is still the priority to the plant.

Throughout the execution of your fertility program, aeration and compaction relief of the soil should receive

as much or more attention. **The more intense the usage of your field, the more frequent and intense your aeration program should be.** Without oxygen the turf cannot hope to efficiently utilize the nutrients you provide.

Its not rocket science, its only natural.

Not unlike turf, the sports field manager needs to plant his roots in a growth medium that will allow for his development and success. He too needs to cultivate and perpetuate his survival in the industry. An active membership in the Sports Field Managers Association of New Jersey provides this opportunity to its members. ▲

## “Caveat Emptor” Buyer Beware

*By Jim Hermann, CSFM*

What is a quality product? A quality product is a product that accomplishes the purpose for which it is designed and does this in a manner, which conforms to the product description or label. A quality product is a true representation of the label description. If the product does not carry a label it should be a true representation of the manufacturer or supplier’s written or verbal description.

As an educated consumer, it is the responsibility of every person involved in purchasing to gain the knowledge necessary to make educated decisions on the purchase of products used in his or her profession

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