



which also affects the nutrient dispersion.

Quick-release nitrogen sources are soluble in water; can be used immediately by the plant (thus plants show a rapid initial response); have high potential for foliar burn; require applications at low rates and frequent intervals to sustain growth; and leach readily. Urea is an example of one of today's most widely used nitrogen products which is water soluble. Overall, quick-release nitrogen fertilizers are not highly efficient.

Coated slow-release sources of nitrogen are slowly soluble in water; can be applied less frequently; reduce fertilizer losses from leaching; produce a more uniform growth response; are economically sound for general turf applications but are susceptible to breaking/damage with handling. Two common types of slow-release fertilizers are sulfur-coated urea and polymer/resin-coated urea. The granules have pinhole sections that wear down the coating which means nitrogen is released in the form of ammonia and hydrolyzed. Different coatings vary the length of time to release the nitrogen.

Reacted, controlled-release nitrogen sources have controlled solubility in water; supply nitrogen gradually; result in little fertilizer loss through leaching; have a low salt index and produce little burning and their performance is not affected by a coating. No matter the size of granule, these fertilizers will still release over a longer period of time. The release pattern on Nitroform (produced by Nu-Gro) can be from 12-16 months. Control release

products are pricier but more consistent, particularly for fine turf areas.

Nitrogen sources can be used alone or in mixed fertilizers, or even in combinations of quick- and slower-release sources. By understanding each source and its benefits and drawbacks, turf managers can adjust their fertilizer application programs to get the most benefit out of each turfgrass treatment.

### Topdressing

Dr. R.W. (Bob) Sheard, STA

Bob was the last to speak and the program was running late so he decided to be brief in his remarks on topdressing. Some of the reasons for topdressing are to help control thatch, to modify soils, to level a sports field, and for covering seed during overseeding practices. He explained that the most important rule is to always topdress with the same material as was used in the original construction of the field or green. Experiments in the past have shown that by taking a profile of a golf green, it could be observed through the different soil layers what materials each superintendent used and how many years he stayed at the course. Particle size is also very important to retain the same type and size of sands. Otherwise it is impossible to predict water transmission and retention values that may develop with the addition of different soil/sand mix builds. ♦

— summarized by Michael Bladon

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### Words of Wisdom

The great things you intend to do some time must have a beginning if they are ever to be done, so begin to do something worthwhile today. — Grenville Kleiser