

Recently, materials combining sulfur-coating and resin-coating technology have been marketed. The resin coating of this sulfur/resin-coated material is much thinner than a typical resin-coated urea and acts primarily as a sealant over the sulfur coat. The resin sealant reduces the rapid release of urea that can occur when cracks or flaws are present in the sulfur coat.

#### Nitrification and Urease Inhibitors

Nitrification and urease inhibitors modify nitrogen transformation processes in the soil and are intended to maintain nitrogen in a form that minimizes leaching and volatilization losses, thus improving the efficiency of nitrogen fertilizers. Nitrification inhibitors inhibit the conversion of ammonium-nitrogen in the soil to nitrate-nitrogen. This is useful because nitrate-nitrogen is susceptible to leaching, whereas ammonium-nitrogen is retained by the soil. Two products that inhibit nitrification, N-Serve (nitrapyrin) and DCD (dicyandiamide), have been studied on turf. N-Serve has not been effective on turf systems most likely because the compound is highly volatile. Although DCD is a low volatility nitrification inhibitor, most research indicates that its effectiveness on turf is also limited.

Following application, urea should be carried into the soil by thorough irrigation or by rainfall. Otherwise, surface-applied urea will hydrolyze and release ammonia to the atmosphere. Research has shown that up to half of surface-applied urea can be lost in this manner. Initial research has shown that urease inhibitors can be effective in reducing this type of nitrogen loss. Phenylphosphorodiamidate (PPD) and N-butyl phosphorothiaic triamid (NBPT) are two urease inhibitors shown to be effective in reducing ammonia volatilization losses from urea fertilizer. ▲

**DID YOU KNOW?** Rutgers is "plotting" to develop higher quality turf. Check out the turf research plots. Come see the finest programs in the nation. Visit Rutgers Landscape Research Turf Field Day on July 31<sup>st</sup>. It's not only for Landscapers. Sports Field Managers can enhance their knowledge too. SEE CALENDAR on page 8.

## Always Consider the Environment

by Jim Hermann

As students of the turf industry we try to read as many articles as we can find on the subject of turf management. We use the information we receive from these articles to help formulate the management programs we implement on the fields we maintain. These articles often times include topics such as aeration technique, selection of topdressing materials, yearly maintenance programs, athletic field renovation etc.

When you evaluate an article, always make sure you are considering the similarities and differences in the **environment** of the field you are reading about and the **environment** of your own field.

I trust that many of you have found yourselves in the following situation. You are trying to decide how to deal with a problem on your field. Not having had personal experience with this particular problem, you base your decision on an article that was written about a similar situation, or so it would seem.

Let's assume your soccer field is constructed on heavy textured native soil. The chemical soil analysis has determined that you have an acceptable Ph of 6.5 along with adequate amounts of available Phosphorous and Potassium.

It's September and the soccer league is tearing your field up and you're in a quandary over what to do first. You go to your mailbox and what do you find but the new issue of Sports Turf. By sheer coincidence the main article is written about how some facilities management company maintains a world-class soccer field. After you finish reading the article, you commit to a fertilizer program consisting of 8 lbs. of Nitrogen a year along with an obscene amount of Potassium and Phosphorous and micronutrients you never heard of before. In addition to this you purchase a trailer load of sand from the local supply house to use as a topdressing material. What's wrong with this picture?

The field you are reading about is more than likely constructed on a sand based root zone. Water is most certainly supplied by an automatic irrigation system. It is more than likely mowed every other day with a reel mower. It has a slit drainage system and employs a maintenance crew the size of a small town. *Cont. next page*

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# Athletic Field

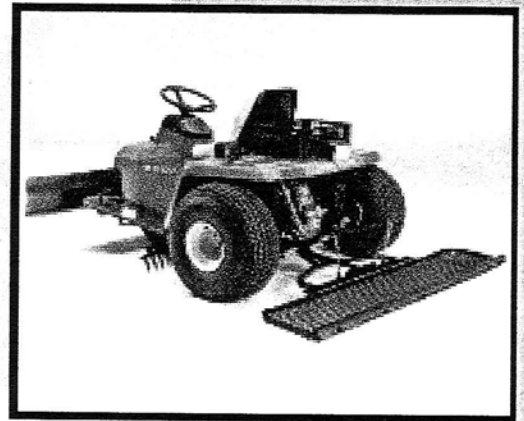
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continued from page 6 "Always Consider."

Sand based root zones have relatively low water and nutrient holding capacity as compared to heavy clay root zones. A more complete and intensive fertilizer program typically including micronutrients is necessary to supply the turf with what it needs. Nutrients are typically supplied at lower rates and at more frequent intervals than are most heavy textured native soil New Jersey fields.

The sand topdressing is supplied with a sieve analysis "**compatible**" (the key word when discussing topdressing) with the root zone. Although sand may be indicated as a topdressing material for many fields, its use should never be contemplated without first consulting an agronomist well versed in soil science. The risk of causing more harm than good is extremely high.

If the **environment** of the field you are reading about differs greatly from your own, the maintenance program is going to differ from your own.

As you enter into decisions concerning maintenance and renovation procedures of your sports turf always ask yourself this question, "What am I trying to accomplish?" Here is an example. Modification of heavy textured soil with sand is often times recommended as a means of increasing the drainage qualities. What many fail to realize is that in order for drainage to occur, there needs to be a place for the water to go. If your field is not equipped with drainage, this procedure may not work.

Whenever making maintenance decisions, "always consider the **environment**". ▲

\*\*\* If you are looking for suggestions to improve your fields and have questions for the professionals attend the Sports Field Managers Association of New Jersey's field day on August 8. SEE CALENDAR ON PAGE 8.

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