REEVES FIELD MAINTENANCE PROGRAM

All maintenance practices are based on the results of soil tests taken twice each year.

January-February

Turf blankets cover the goalmouths and center when the field is not in use for lacrosse

March

Apply 100 % organic fertilizer at the rate of 3/4 pound of N per thousand square feet (a dark granular product is selected to draw some heat from the sun)

April

Apply fertilizer balanced with a 1-1-1 ratio (10-10-10 or 17-17-17) at the rate of 1/2 pound of N per thousand square feet

Apply preemergent for goosegrass control

May

Core aerate, drag in cores

Apply urea at the rate of 3/4 pound of N per thousand square feet

Cut out and replace sod in goalmouths and at mid-field

Topdress with 80/20 sand peat mix

Apply growth regulator to control annual bluegrass and ease maintenance during renovation

June

Apply fertilizer balanced with a 1-1-1 ratio at the rate of 3/4 pound of N per thousand square feet

Core aerate, drag in cores

Spot apply postemergent for smooth crabgrass and yellow nutsedge if needed following standard IPM practices

July

Apply urea at the rate of 3/4 pound of N per thousand square feet making 3 applications 10 days apart

Apply calcium supplement/soil surfactant

Spot apply postemergent for smooth crabgrass and yellow nutsedge if needed following standard IPM practices

August

Apply urea at the rate of 1/2 pound of N per thousand square feet making applications every 5 days - but restricting N prior to practices or games if needed to prevent overly lush turf

Apply potassium sulfate at the rate of 1/2 pound per thousand square feet 2 days prior to games

September

Apply slow release, balanced fertilizer with 1-0-1 ratio at the rate of 1/2 pound of N per thousand square feet making applications every two weeks

Apply potassium sulfate at the rate of 1/2 pound per thousand square feet weekly

Core aerate, drag in cores

Overseed with perennial or intermediate ryegrass at rate of 12 pounds per thousand square feet

Topdress with 80/20-sand peat mix at 1/4-inch rate

Apply balanced fertilizer at the rate of 1 pound of P per thousand square feet

October

Apply 1/2 pound of K per thousand square feet weekly

Apply balanced starter fertilizer at the rate of 1/2 pound of P per thousand square feet

Overseed with perennial or intermediate ryegrass at rate of 3 pounds per thousand square feet each week

November

Apply 1/2 pound of K per thousand square feet every two weeks

Apply balanced starter fertilizer at the rate of 1/2 pound of P per thousand square feet

Overseed with perennial or intermediate ryegrass at rate of 4 pounds per thousand square feet each week

Cover goalmouths and center field with turf blankets at end of playing season

Mowing

1 inch height of cut in spring

Drop gradually to 3/4-inch height of cut at bermudagrass green-up in May

Drop gradually to 5/8-inch height of cut to transition out perennial or intermediate ryegrass

Raise gradually to 7/8-inch height of cut during summer

Raise gradually to 1-1/8 inch height of cut after fall overseeding

Insect Control

Monitor for insects; apply controls as needed following standard IPM practices

state's number one ag crop was turfgrass, so he figured he couldn't miss by going into turfgrass management. He earned a 2-year turfgrass degree from the University of Maryland. After stints in golf course management and production horticulture, he discovered his true niche first at Sidwell Friends School and now at American University. He also volunteers in taking care of the Washington, DC, street trees. The combination of turf and ornamental plant responsibilities allows him to use the full scope of his horticultural background.

Gammill says, "One of the goals of American University is to become one of the most distinctive urban campuses in the US. We want to be known for more than the historic buildings of our DC location. The turf areas, landscaping, and flower beds are an important part of achieving this goal. We have a great mass of flowers and unusual plantings. We try to use horticulture to attract people. One of the big reasons that students decide on a college is that they like the look of the campus, so we time the blooming period of our massive plantings of tulips to coincide with the students' spring campus visits."

Gammill says, "Reeves Field is unique because in 1963 President John F. Kennedy gave the Commencement address in which he stated, 'I have therefore chosen this time and this place to declare the most important topic on earth: World Peace. The United States will never start a war . . . this generation of Americans has already had enough of war and hate and oppression.' A monument and plaque now immortalize this spot. The monument is flanked by the American University flag and our nation's flag. When you read these words, overlooking the field, and you view the bright perennial flowers and ornamental grasses that gently encroach upon the bleachers, the expanse of green before you where young men and women emphasize their effectiveness on the playing field, you know this is really consecrated ground." **ST**

Suz Trusty is communications director for the Sports Turf Managers Association. She can be reached at 800-323-3875.

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BY **SAM FERRO**

MAKE YOUR SOIL SAMPLE COUNT

When you are having troubles with a field or doing some routine monitoring, it's probably time to send a sample into a laboratory for testing. Do you ever wonder if the testing results you get from the lab really represent what's present at your site? They may not if the sample wasn't taken correctly.

The most important role that the turf manager has in the testing process is insuring proper sample collection. Since all analyses and recommendations are based on the sample received in the lab, it is very important to take a representative sample. The ability to extrapolate the laboratory results to the field depends on how representative the sample is to the bulk material.

Sample collection procedures vary based on the location of the material during sampling (i.e. stockpiles, sports fields, etc.). Because of the variability in proper sampling techniques, the following outlines some general sampling techniques. For special issues not covered here, consult with your testing lab for advice.

The following sampling procedure is primarily for evaluation of existing sports fields, native soil, and turf areas in order to document the physical or chemical properties of the soil. Recommended tools for sample collection are a clean soil probe or shovel, a tarp or piece of canvas, and a plastic bucket.

Large areas should be divided into separate sampling units based on topography, vegetative cover, previous use, soil color and other visual differences. Small, non-uniform areas such as wet, rocky, or eroded spots should always be a separate sampling unit. One sample can be submitted from each sampling unit and should consist of a composite of numerous randomly collected subsamples. The subsamples can be collected with a soil probe or a shovel and combined in a plastic bucket.

While the whole bucket can be sent in, a better approach is to portion out and remove one gallon as follows. Dump the bucket out on a tarp or canvas and mix thoroughly. Split the material into quarters and discard opposing quarters. Mix thoroughly, split and discard again. Continue to do this until one gallon remains and bag it.

For physical testing procedures, the average sample depth is 12 inches, but in some cases, it may be necessary to sample deeper. For chemical tests the appropriate sample depth is usually 4-8 inches. Any time there is a difference observed in the soil layers, it should be noted and the layers divided into separate samples. Record the depth of sampling. Label each sample appropriately with a permanent marker, and maintain a record or map of sample locations.

Diagnostic or profile core

This sample procedure is primarily for evaluation of existing sand-based sports fields in order to document the profile and/or diagnose physical problems.

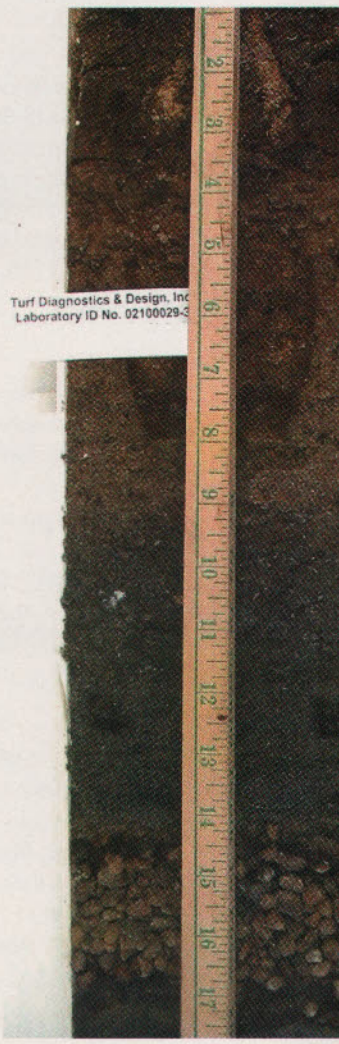
A 2-3 inch diameter schedule 40 PVC pipe should be cut about 24-30 inches long to extend down through the profile into the sub-grade. Bevel the outside of one edge to provide a sharper end to cut into the green. Drill two opposing holes into the other end into which a metal rod or rope can be inserted to help pull out the core.

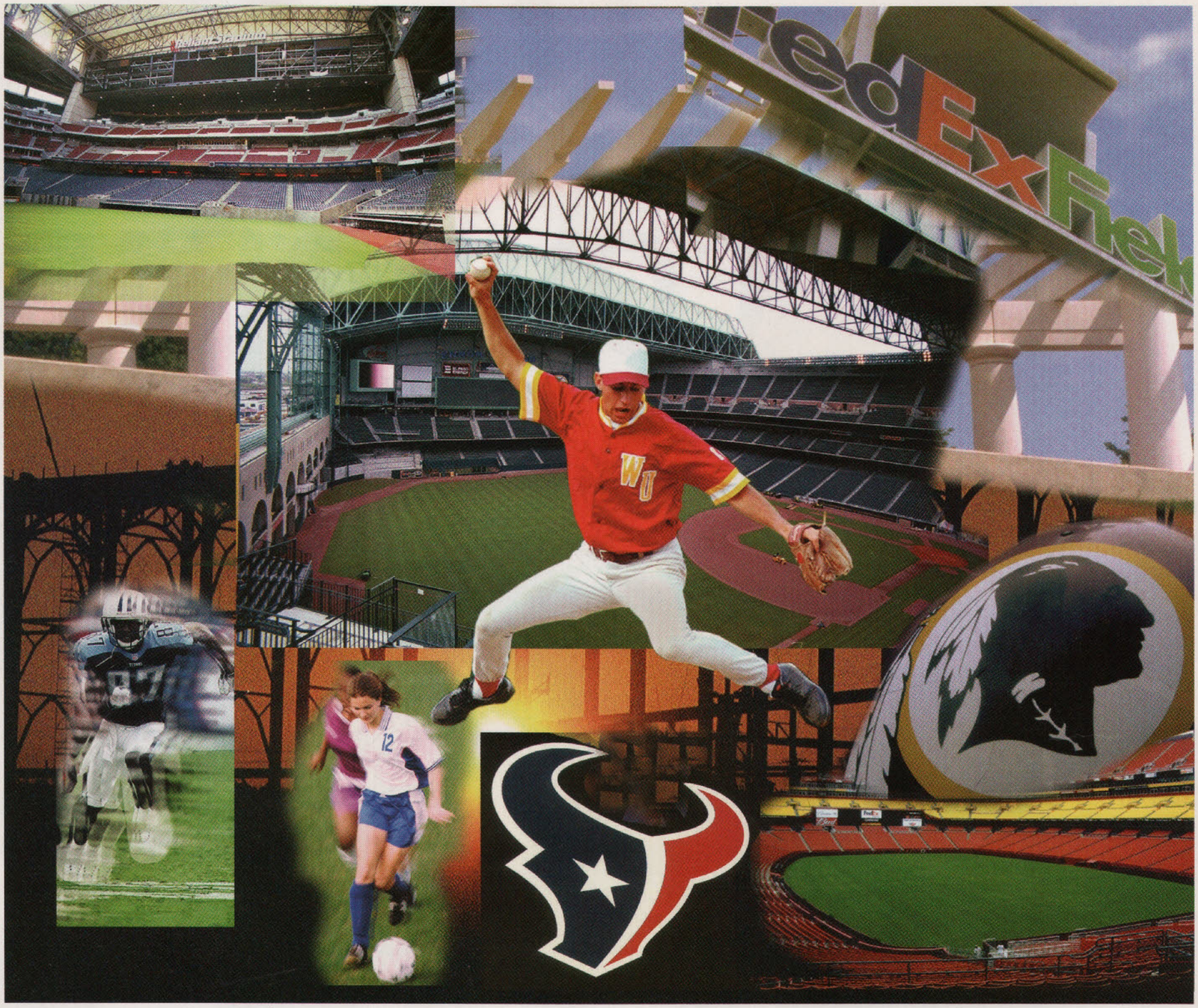
Drive the beveled end of the PVC pipe into the field far enough to reach sub-grade. Sub-grade is needed at the base of the core in order to hold in the gravel and/or choker layers. Pull the core out. Pack the ends with newspaper to prevent shifting and tape shut. Label the sample appropriately with a permanent marker.

Stockpiles

Stockpile sampling is performed during construction and renova-

(continued on page 27)





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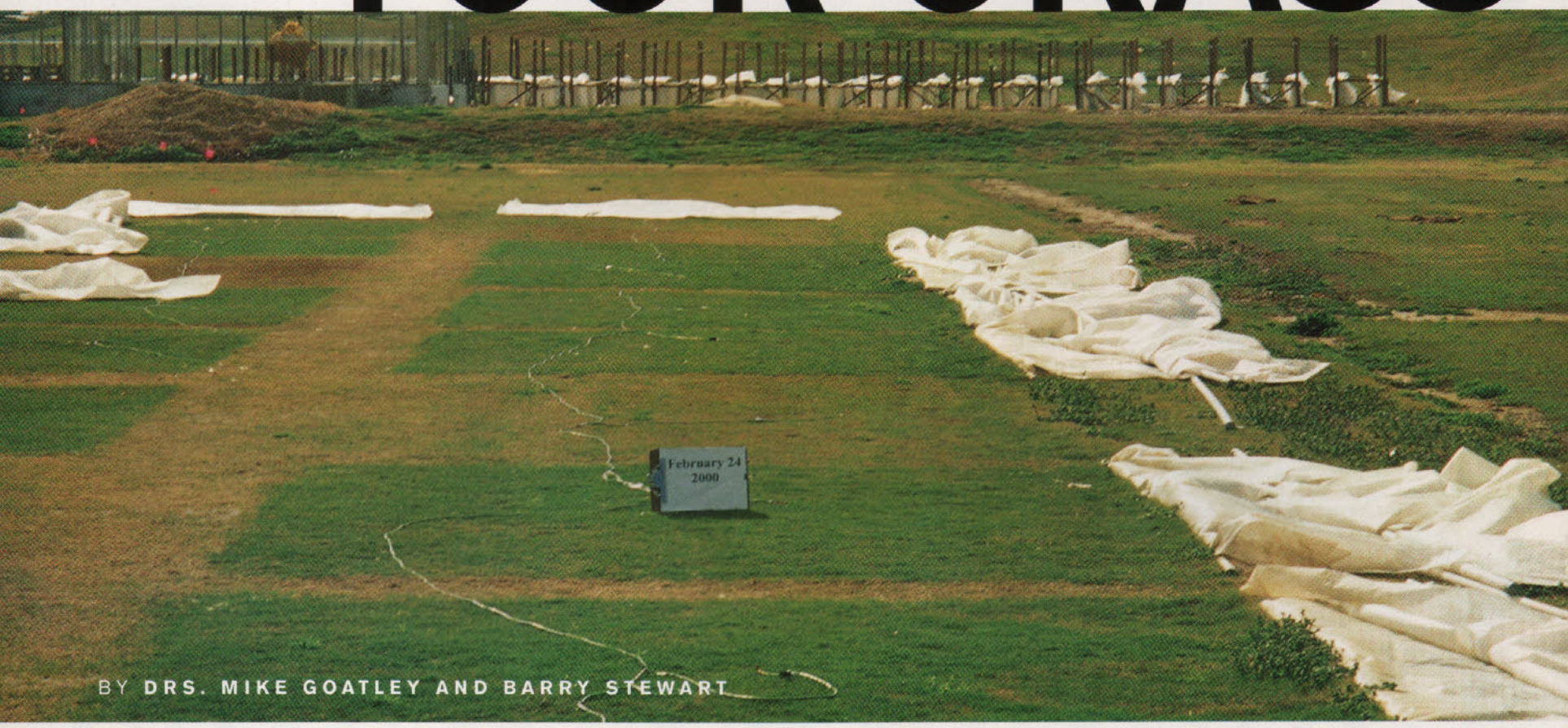

BY DRS. MIKE GOATLEY AND BARRY STEWART

Bermudagrass is an excellent choice for football fields in the warm climates of the United States. Yet a major concern is that the grass often loses color and enters dormancy well before the game season ends. To improve field appearance and playability, many bermudagrass turfs are overseeded with perennial ryegrass so that play continues on a green, actively growing turf. However, the competition between the ryegrass plants and the bermudagrass will at the very least lead to a severely weakened bermudagrass turf just before it enters winter dormancy.

The playing season for most football teams ends the first weekend in December. Therefore, the necessity of overseeding for possibly one or two late season games is a question that warrants careful consideration regarding the expense in establishing and maintaining the ryegrass and the competition it creates with the bermudagrass. Painting the bermudagrass is one alternative to gain color, but what about another approach? At Mississippi State we have researched the application of turf blankets on a temporary basis to maintain bermudagrass color through the end of the season.

Research method

A Tifway bermudagrass turf maintained at 0.75 inches represented our football field over the fall and winter months of 1998-2001. The grass was fertilized regularly throughout the growing season to promote density and desirable color. Beginning the first week of October, one-half of the turf area was sprayed with chelated iron at the level of 2.5 pounds Fe/A, and the applications continued on a weekly basis for that month. A non-woven turf blanket (white, spunbonded polypropylene #32N01) was used for the covering treatments based on predicted nighttime temperatures from the National Weather Service. The turf blankets were applied according to four temperature covering treatments: no covers applied, or covers applied when temperatures were predicted to be 59, 49, or 39 degrees F.

If daytime temperatures the following day were not predicted to reach at least 60 degrees F, the covers remained in place. When the temperatures finally got cold enough to result in killing frost under the blankets, the covers remained in place until complete green-up occurred next spring. Rhizomes were sampled from all plots in November, January, and April of the 1999-00 and 2000-01 seasons to determine what effect the use of turf blankets had on levels of stored total nonstructural carbohydrates (TNC).

Research results

The average date for a killing frost on the Mississippi State campus is November 6, and during the three years of our research the first killing frost dates were Nov. 5, Nov. 3, and October 24. All cover treatments prevented any visible frost damage on these dates. However, there were few differences in turf color between any of the covering temperature treatments, indicating application of the covers for frost protection was not necessary until the temperatures were forecast to be at least 39F. This is a very desirable aspect of a covering program due to the time and labor involved in blanket application. For climates similar to Mississippi's, night temperatures below 39F will

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not regularly occur until very late in the football season.

As expected, turf color was improved by foliar Fe applications. This micronutrient continues to be an excellent tool to promote late season bermudagrass color without a surge in shoot growth. However, the Fe treatment alone did not prevent killing frost damage, and resulted in no visible turf response the following spring.

We observed acceptable bermudagrass color under the temporary covers until nighttime air temperatures fell to approximately 22F. The dates when these temperatures occurred in the three years' trials were January 3, December 22, and December 12, respectively. In all trials, the turf color was acceptable for the duration of the fall football season (see photo on previous page).

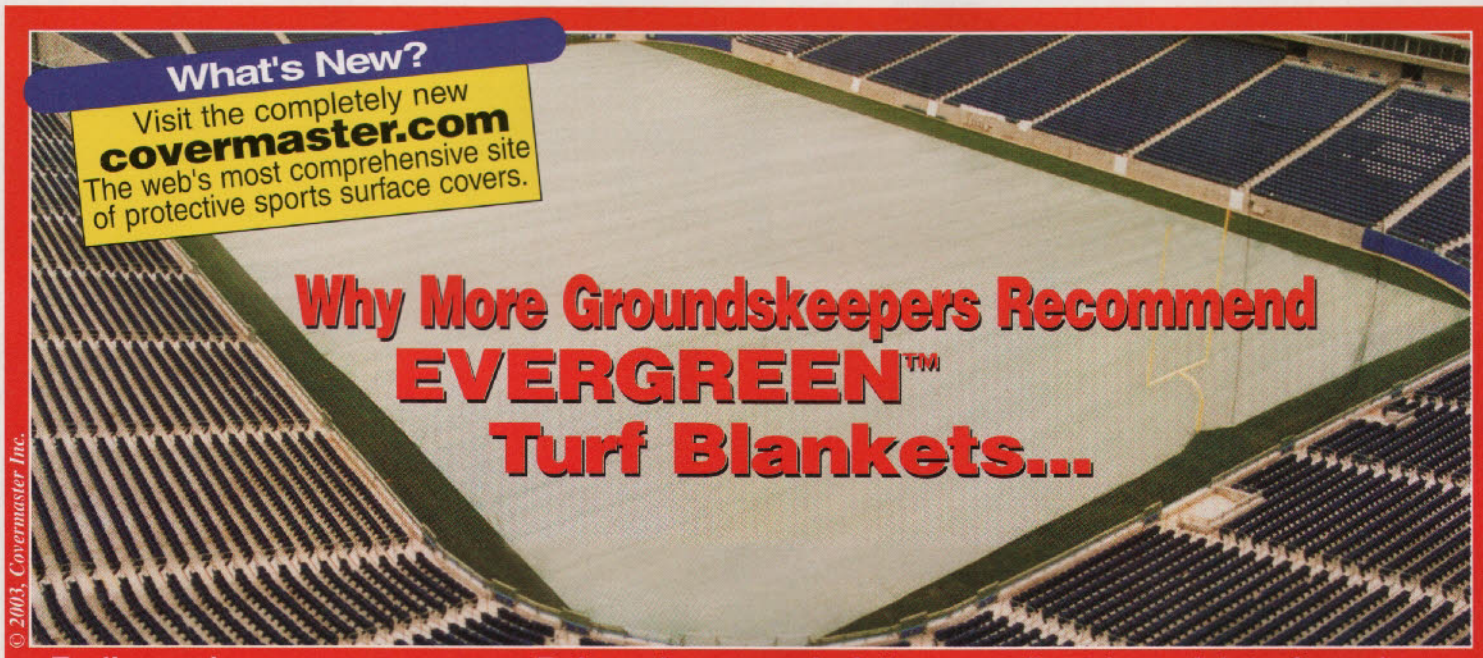
Keeping the covers on the plots during the winter months resulted in spring green-up 4-6 weeks earlier than uncovered turf the following spring. Completely green turf was observed in the covered plots by March 16, March 2, and April 2 from 1999-2001, respectively (see photo this page). The uncovered plots reached complete greenup by May 2, March 30, and May 5 over the same time frame.

The only negative covering responses that we observed were an increase in winter annual weed pressure and fire ant activity, both primarily because of the soil warming. There was no evidence of increased disease pressure, though we anticipate this could be a problem. We saw no visible evidence that bermudagrass survival was altered because the grass was not adequately hardened off. Instead, we found that the turf apparently benefited from the extension of the growing season in each year's trial. The TNC levels in bermudagrass rhizomes were actually higher in the covered turf plots in January and April of each year as compared to the uncovered turf, indicating that the maintenance of a photosynthetically active turf allowed the grass plant to store more food reserves.

Applications

The primary benefit of the turf blanket application was frost protection and maintenance of a green canopy. We are not suggesting that the use of temporary turf blankets can encourage enough bermudagrass regrowth to withstand heavy field use during the fall season. However, we do anticipate there is potential for some enhancement in turf recovery earlier in the season when both day length and temperatures are not quite so limiting. This must be further researched. Bermudagrass athletic fields in more northern climates will logically face earlier killing frost dates and anyone considering the use of blankets in these areas should carefully consider their average weather data to see how covers might fit their program.

What are some concerns of the temporary covering strategy? The cost of approximately 2 acres of turf blanket for a football field and the labor required to install the blanket(s) are very important. If handled and stored properly, most turf blankets tout minimal life expectancies of at least 7 years (many say they **(continued on page 27)**



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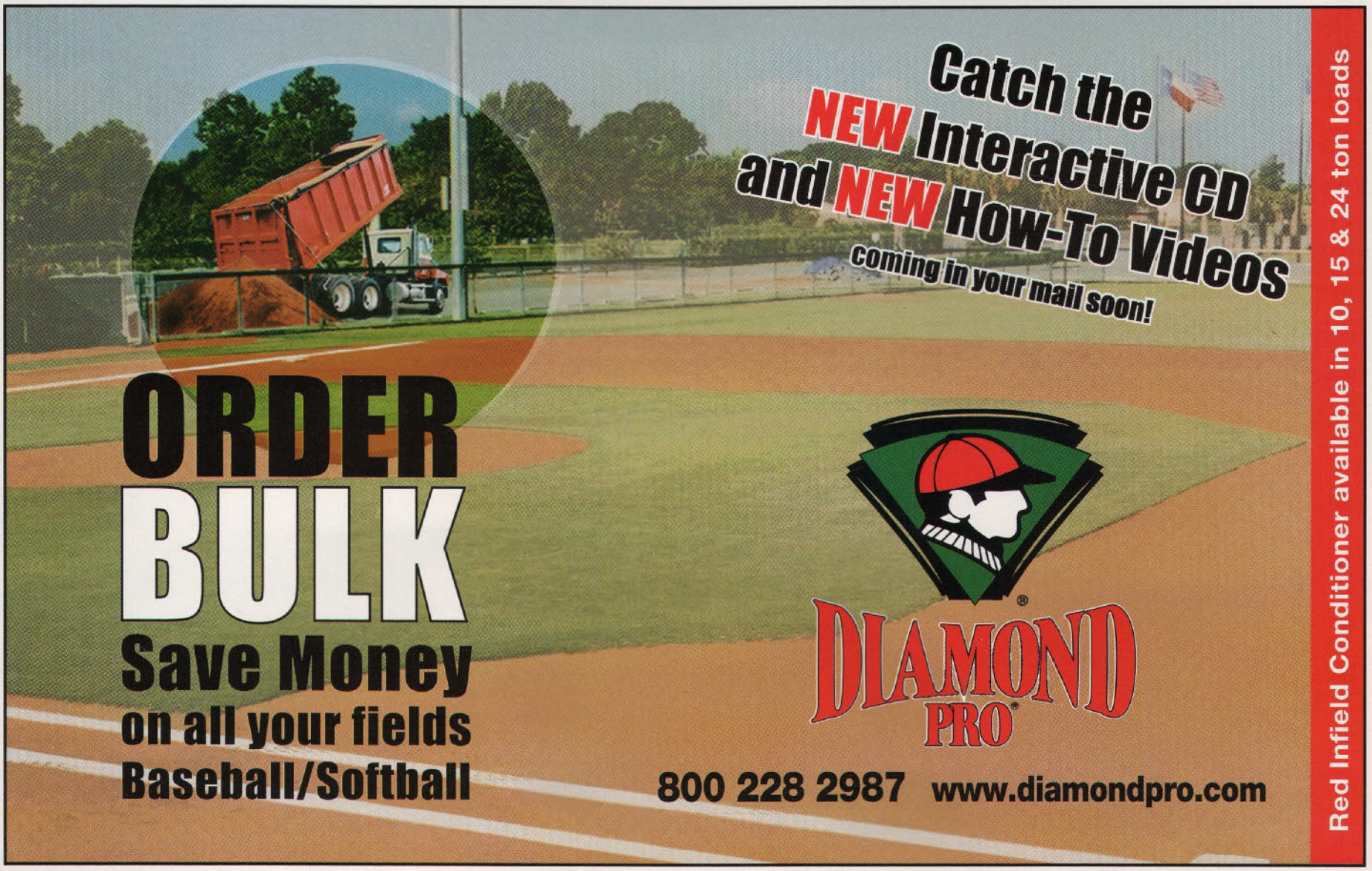

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