CULTIVATION STRATEGIES:

Five From the Field

By Matthew Trulio

Aeration, aerification, cultivation — by any name you care to call it, the practice of penetrating and loosening the soil is vital to maintaining healthy turf. Few if any turf management techniques have a greater impact. Cultivation benefits include reduced compaction, thatch control, and improved percolation rates.

Regular aerification is something to build into your turf management routine. Unfortunately, there is no single aerification strategy. Each must be tailor-made, taking into account the field conditions including its schedule of events, construction (sand-based or native soil), turf conditions, and special problems (compaction, thatch, etc.), as well as the year-round weather conditions and the maintenance budget. Aerification timing, frequency, and depth, what to do with cores and when topdressing is appropriate, and a host of other decisions must be based on the individual field.

Successful sports turf managers stay flexible and constantly reevaluate their cultivation strategies. Here are five tales of successful aerification programs, and a bit of the thinking behind them.

Shallow and Deep at Notre Dame

At the University of Notre Dame Stadium, home of the Fighting Irish, athletic facilities manager Dale Getz and his crew aerify no less than five times a year between the last home football game of the season and the first home game of the next season.

Getz and his crew core aerify with a Toro walking aerifier and a Ryan Greensaire II. They use 5/8-inch tines and topdress with USGA Green Spec sand three out of the five times they aerify.

The Notre Dame crew will aerify and topdress more frequently if it is necessary *and* possible. For example, between the end of the 1991 season and the beginning of the 1992 season, they cultivated and topdressed the field seven times.

"We adjust the program according to the weather," Getz explains. "If we have a hot, dry summer, we're reluctant to do any aerifying because the grass is under enough stress.

"I've been on this aerification program for four years now, and more than anything I've noticed a big change in the amount of Poa [annual bluegrass] I have to manage in our field — it's one of a number of practices I use to keep Poa under control," he continues. "Last year, for the first time I used a Floyd-McKay deep tine aerator. The machine drills a number of hole simultaneously, moves forward, and drills them again. We used 12-inch carbide-tipped tines.

Getz plans to use the machine again. "I think it improved my drainage, and it breaks up deep layers that can form from aerifying at one depth for a number of years," he concludes.

Desert Cultivation Menu

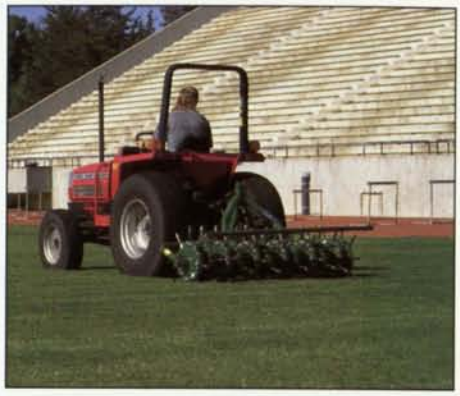
Cultivation is a critical aspect at the University of Arizona's Arizona Stadium in Tucson, AZ. The field, which was named the 1992 STMA Football Field of the Year, is aerified six to eights times a year with a Ryan aerifier, with 3/4-inch tines, towed behind a tractor.

"We usually start aerifying right after the Copper Bowl around January 1," says Chuck Raetzman, assistant director of operations services for the university. "After that aerification, we'll go ahead and topdress with sand and drag everything in — we let the cores lay there for a day or two so they dry out before dragging them in, and we topdress with sand twice a year. We aerify again in March, right before football practice starts in the spring. Normally, they're off the field in April. We aerify again in the middle of May and topdress again with washed mortar sand, which is part of our field's construction profile.

Raetzman and his crew aerify again in mid-June and mid-July, if the events schedule will allow it. Once the football season begins, they don't aerify again until after the Copper Bowl in late December.

"Our feeling is that unless there are some extraordinary circumstances, we won't aerify until the season has ended," he says. "The field is getting pretty well aerified by the players' cleats."

One of those extraordinary circumstance is "Band Day," where marching bands fill the field for an entire day. To break up the resulting compaction, the maintenance team uses a slicer to cut the turf vertically, in combination with a soil penetrant.



Successful sports turf managers stay flexible and constantly reevaluate their cultivation strategies, both in shallow and deep aerification applications. Photo courtesy: Ransomes America Corporation.

Staying Ahead at Camden Yards

Despite the relative newness of Oriole Park at Camden Yards, home of the Baltimore Orioles and site of the 1993 STMA Conference and Exhibition, head groundskeeper Paul Zwaska has implemented an aggressive aerification strategy. Zwaska and his crew aerify once in March, April, May, June, and July. He skips aerifying in August because of the summer heat, and then aerifies once in September. In October, he "double aerifies," running his aerifiers over the field twice.

While compaction has not been a problem, he says, he double aerifies in October to facilitate overseeding.

"By double aerating in October, we bring up a lot of soil so that when we overseed there isn't a lot of competition," he says. "We bring up enough soil so that we don't have to topdress, but when we do topdress we do it twice a year with a sand-peat mix."

Zwaska uses two Toro green aerifiers. For the double aerification, he borrows a third. In all his aerification procedures, he cultivates to a depth of three inches. "With our P.A.T. [Prescription Athletic Turf] field, we really don't see a need to go much deeper," he notes.

Zwaska has implemented the program for two years. "It's worked well so far," he says. "One of the main things we're doing with our aerification program is keeping our thatch down, rather than relieving compaction which isn't a problem for us. But thatch could affect our percolation rate."

continued on page 24

CULTIVATION STRATEGIES

continued from page 22

Going Deep in Colorado Springs

The public parks and athletic fields of Fort Collins, CO, are well-used by the community. Compaction, explains Bill Whirty, supervisor of parks and recreation for the City of Fort Collins, can be a problem, particularly with the area's native clay soils.

"We aerify our athletic facilities two to three times a year — we shoot for three at least and get no less than two," Whirty explains. "We also have park sites to aerify. We had always operated with small aerators, but this year we bought a big Verti-Drain deep tine aerator. We're going down 10 inches.

Aerification is generally scheduled for the spring and fall. Although the Verti-Drain will be used for the bulk of the procedures, Whirty and his crew will use a Ryan Greensaire for spot aerification prior to overseeding.

With the deep tine aeration, says Whirty, they've been able to relieve compaction and improve percolation rates. In fact, he reports that on some fields they've actually been able to reduce irrigation rates.

Whirty began the deep aerification program in the spring of 1993. "We had rented the machine the year prior, and that gets pretty expensive, so we decided to buy one," he says, then laughs. "Now all the local golf courses want to borrow it.

"The deep aerification program is helping out immensely," he concludes. "We're seeing a lot better soil and rooting conditions, and our athletic fields are holding up better than ever."

Multi-Front Attack in Texas

At Texas A&M University in College Station the aerification challenge is two-fold. First, the area has what Eugene Ray, deputy director of physical plant calls "a very difficult, compacted soil." Second, the area's water supply has a high sodium content.

"That can be particularly difficult when you go through a summer like we had this year," says Ray. "We had an inch of rain two weeks ago, but it was the first measurable precipitation since June 25. Plus, when you put the type of water we have on the type of soil we have, it's almost self-defeating."

The aerification solution at Texas A&M is a combination of conventional and not so conventional methods. Most of his turf is bermudagrass.

"I'm convinced that there needs to be a couple of different techniques to solve the problem," Ray explains. "We use spoon-type aerification in the fall and winter months because it's fast. That could be as many as three or four times in an athletic area.

"For the summer months, I've become quite a believer in shatter aerification and we've tried two or three different types.

A third form of soil cultivation which Ray has tried with success is "vibratory" aerification. A Yeager-Twose machine was used for this method. It slices into the turf and vibrates as it moves forward, loosening the soil with little disturbance of the surface.

"Aerification is one of the things that people too often overlook," Ray concludes. "We have 500 acres of irrigated landscape and almost 43,000 students. We have to keep it green and growing. Aerification helps us meet this goal." ❑