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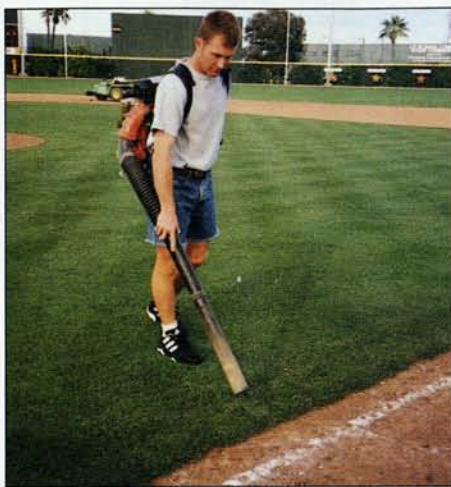
continued from page 10

The university's physical-plant staff is paid by the athletic department to mow the practice fields and the outfield of Packard Stadium with a ride-on reel mower. Johnson's staff mows the infield with a walk-behind greensmower.

Johnson says, "We use John Deere's field rake on skinned areas. We do have a hand drag and hand nail boards, and I do like the fine finish you can get with them, but the field-rake results are quite good and lots faster.

"We do a lot of prep work on the infield dirt. We rework the skinned areas when we rework the infield for overseeding. We add new dirt, rework the areas with a big leveling float board, water, and roll. I'm a big believer in keeping it nice and level. We may also have to rework the skinned areas half-way through the regular spring season, depending on the use schedule and field condition.

"I believe in a nice hard base layer top-dressed with a mixture of sand and Soil Master for a little fluff on top. That layer should be about a quarter inch so the



Jay Rapson blows dirt and clay chunks off the grass — which is done every post-game and every post-practice. No sprinkler water is ever run with dirt on the grass.

players' spikes get a good hold, but aren't taking out big chunks of the dirt. We build the mound with a straight mound mix. Daily and after every game we sweep out the mound and batters box,

mend any holes with mound mix and pack it all firmly. It bothers me when sports turf managers don't take the time to do that and the catcher and batter sit in holes. I want our players to play on top of the dirt, not down in it."

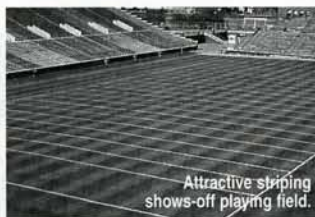
Johnson and crews do all the prep work after every practice and after every game, not the following morning. He says, "When it's hot out, we have to run the irrigation system. So we use a blower to blow off any skinned area material along basepaths and at all edges of the grass, then smooth the skinned area dirt, and then run the sprinklers. I don't want to water the skinned areas if the surface isn't in proper shape."

There are 11 sprinkler stations that cover the whole field. The few stations on the middle of the outfield that make full circles in the turf run approximately 45 to 50 minutes during an average May or June night. Those that are half circles, like those along the warning track, run a little less.

Johnson says, "The sprinklers are set to come on at pre-set intervals during the night. By spacing those intervals properly, we can have the turf slightly damp in the



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morning. By two in the afternoon, top evaporation will have created dry spots."

Johnson says, "We cover the field with a tarp as necessary in the spring when the game schedule is heaviest. But the tarp is old and has some leaks in it. So, if the tarp is going to be down for an extended period, with wet grass under it in our heat, we'll use a granular fungicide as a preventive. Otherwise, the air here is so dry we have no problem with diseases. Insects aren't a problem, either. We do have a fairly bad nutgrass infestation. The perennial ryegrass hangs on so long that the nutgrass only looks bad during part of the summer, so we haven't done much to control it. Don will be using Manage for control at Sun Devil Stadium this year, and we'll try it in Packard Stadium in May."

Constant Battle

Johnson always pictured himself "doing this." He attended college at Mankato State University, MN, and earned his bachelor of science degree in recreation. It was a flexible major, with many opportunities both in special projects (most of Johnson's focused on base-

ball and turf care) and in post-graduation positions. During his last semester, Johnson served his internship at ASU, working at the recreation facilities. He volunteered a lot of hours on the athletic fields. When a full-time position opened up at ASU a year later, Johnson says, "They tracked me down and offered it to me. I've been at ASU since 1985, 11 years."

He was assigned to the baseball area right away, working under Coach Jim Brock, who died last year. Brock had the reputation of being "kind of hard" to work for, so it was a sink or swim position with "lots of trial and error," but also a great opportunity for learning.

Coach Pat Murphy was hired to replace Coach Brock. This is his second season at ASU.

Johnson says, "Each coach has his own philosophy and way of using the field for practice, so with a new coach there will be different procedures and a lot of different things to learn. It's another reason sports turf managers need flexibility.

"I've been lucky to have worked with people who willingly share their expertise and tricks of the trade. Don's been a

great working partner. Alan Sigwardt, who is at Joe Robbie Stadium and was working with the Cardinals at the time of our field renovation, supervised the infield construction and was great to work with."

Another must for any sports turf manager is a personal support team. Johnson says, "I'm usually the first one here and the last to leave. My wife, Allison, has been extremely understanding and supportive, and so are my sons, Austin, who's six, and Travis, who's five."

Johnson understands that field care is a constant battle, a balancing act between use and maintenance. He says, "You work really hard to get the field looking great so the players have the best possible surface for play. Then they do play, which tears up the field, and you go right back to working hard to put it in great shape again. I guess either you love doing it or you don't last in this profession." □

Bob Tracinski is manager of public relations for the John Deere Company in Raleigh, NC, and public relations co-chair for the national Sports Turf Managers Association.

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Painting and Striping Athletic Fields

By Mike Hebrard

Congratulations! Because of your years of loyalty and your high degree of intellect, you have been selected to layout and stripe the athletic fields this season. Also, no one else knows how to do it. So it's up to you to educate yourself. For instance, you'll want to have on file drawings of dimensions for the sports that pertain to you. You'll be surprised how many other grounds persons are in the same predicament as you and need a quick reference source. You'll also want to have readily available some basic equipment and materials for the various tasks required.

String

I like to use a 1/8-inch nylon cord on a reel that I can wind up with a cordless electric drill. Cotton can be used, but it tends to lose its strength over a period of time and can break. Builders' string is good for marking short distances as it absorbs the paint better and is less likely to mark the grass when one moves the string. The string should be tight without any "slop" considering the conditions of the turf so that the holding pins won't pull out easily in soft ground.

It is a good idea to coat with bright paint any and all marking devices to make finding them easy. Otherwise, they

might be left on the field, causing either damage or injury.

By lifting the string, snapping it and rolling it off your fingers, you can get the string as straight as possible.

Marking

There are some products available to the grounds person for the ease of marking the field. I like to use the Mark Smart system from Marker Inc. to permanently mark the corner of the field as well as the corner and radius points for soccer.

Football pylons as well as soccer flags can be inserted into the markers as well. Along with Milburn's E-Z Right pre-marked cable, I can accurately get the correct measurements and insert a marker at the correct locale.

Paint

There are several paint manufacturers that specialize in paint for athletic fields. When you choose a supplier, cost is probably the biggest factor, but also be careful in what you specify. Make sure you buy paint, not 50 percent water with paint. Some paint adheres to the grass blades better, and others are brighter.

Availability and service support can also be a very valuable consideration. What good is it to receive paint on Monday if the game was on Friday? Consider what kind of assistance your supplier can provide regarding technical support or accessories. Sometimes

the company with the best price for white can't come close to matching another company's price for five gallons of red. Different colors can have drastic price differences depending on the quantity and ingredient.

Also, some colored paint can kill the grass if the formulation is not intended for that application. To ensure that you have purchased a high quality color paint, stay away from the brands that are made from a tint base. After a mild frost or rain, the painted turf will lose its brightness, and the grass leaves will have a white cast to them. Aerosol cans have their place for layout and quick striping but can't give the clarity for the cost as a mixed paint solution applied properly.

When possible, mix the paint with hot water to place some of the solids in suspension more easily and to obtain a quicker drying time, especially during cold fall and winter mornings. By using a weed-eater with a curved shaft (remove the shroud and line holder), you can mix the muckiest mess thoroughly in minutes. By removing the lids when mixing the paint, as opposed to unscrewing the little cap on top, you can more thoroughly inspect the paint and mix it. Other methods of mixing paint can be used, such as bucket to bucket, or a paint mixing paddle on an electric drill. But my favorite is still the weed-eater because of its high RPMs, which mixes the paint thoroughly.

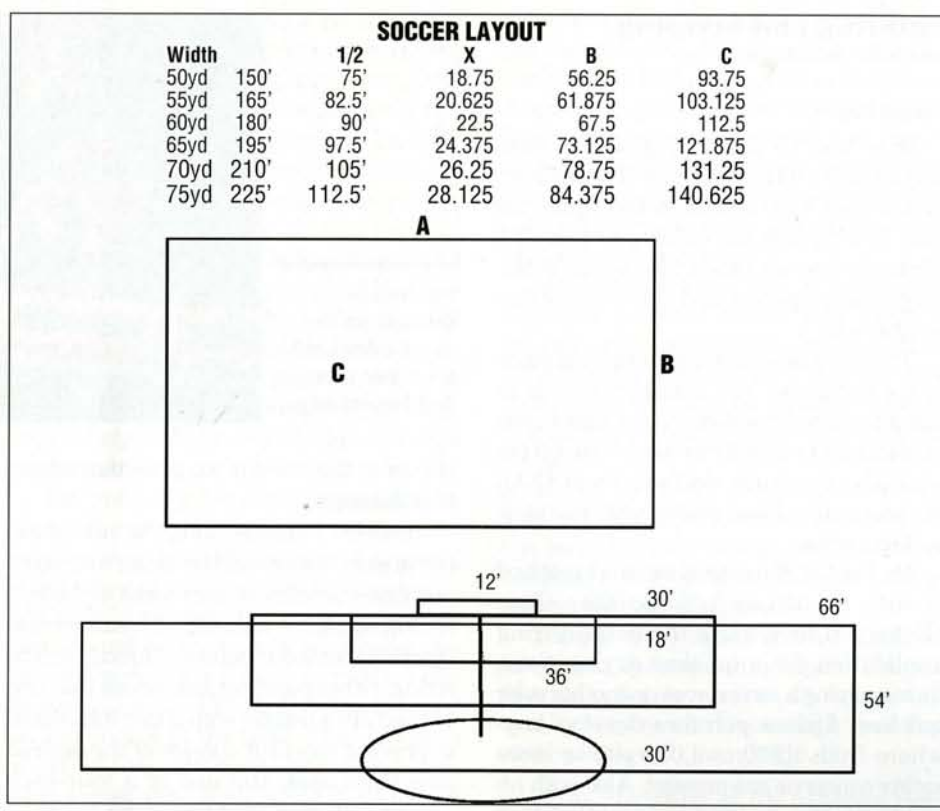
Be sure to have an MSDS on file for any paint or chemical that you apply to the field. Avoid using paint that is exposed to freezing. It turns to a cottage-cheese-looking sludge. It can be used in a pinch, but be prepared for a mess and clogged nozzles.

Wet Weather

If the grass is wet, there are a couple of last-minute techniques that can be used to ensure a better quality line. Use a gas-powered blower to remove the larger water droplets from the grass blades. When the paint makes contact with those heavy droplets, it will dilute the painted line. Also, you can whip a long 1/2-inch PVC pipe or a hose across the turf to knock the water off. Or you can use hot water to help a really wet surface dry faster. Plus, using a little heavier concentration of paint can help.

If the paint is applied properly *before* it rains, it has a better chance of lasting, so timing is of the essence. Yes, you might have to work through a scheduled break to beat the weather, but in the long run it will be worth it.

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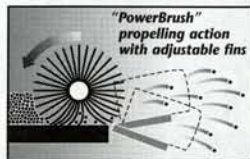


Using the table and diagrams here, anyone can layout any size of soccer field.

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Painting and Striping

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Painting

It is best to paint a light coat first and let it dry if time permits. This will act as a primer base and allow for a brighter line. Don't paint too quickly or you will dilute the line with the added water in the paint being applied and lose some of the brightness.

There are several ways of applying paint to the turfgrass. The standard way is to use a powered painter. A low pressured application is usually around 30 to 50 psi with the pressure derived from CO₂, electric pump, hand pump, gear pump or piston pump.

By far the most professional method is with an airless type painter. This allows you to atomize the paint during application for a quicker drying time, thus applying a second coat or another color quicker. Airless painters develop anywhere from 1,500 to 3,000 psi, so more safety concerns are present. Also with an airless painter, one can accidentally shoot the paint into the soil, leaving a sealed



Pre-made forms can be used over and over for many field markings.

barrier at the crown of the plant that causes turf damage.

It is best to paint along the side of the string so as not to soak the string with paint and cause painted string marks in the turf or drip marks — although the easiest and quickest method is painting directly on the string. Other painting techniques that can be used are a painter with a four-inch shield to prevent any drift outside of the desired line thickness, the use of a four-inch paint brush along a string (don't laugh — some grounds people swear by it), and a

20-foot-long aluminum stencil board for the most perfect four-inch line that can be painted. This is a method used by George Toma's Super Bowl grounds crew and several other stadium professionals.

Different spraying nozzles can be an option. Stay away from the cone type; they leave a hollow spot in the middle of the spray and don't offer good density. The fan tip nozzles are the most popular and can have several patterns and angles to choose from, so check with your local supplier.

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- Field Marking Concentrate
- Stencils

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Nozzles should be replaced when the spray pattern becomes distorted. Be sure to use a filter to prevent clogging, as one little grit can quickly alter a near perfect line. I have had some success with a twin type nozzle, which sprays out of two orifices, painting on both sides of the grass on one pass. A special tooth brush-looking brush can be purchased to aid in quickly cleaning the plugged nozzle.

Always remove the nozzle after painting, as some of the paint residue may still be in the line and settle into the lowest spot in the line, plugging it up. It is also advisable to have other nozzles available in case of a plug or if a different angle is needed.

Stencils

More and more stadiums are trying to let it be known they have the best marked field. However, with a little planning and some constructing, anyone can make a field look like that on the "Game of the Week."

Numbers can be made from scrap plywood or other materials. Be careful when using some of the plastic stencils during a drizzle or rain as they will re-dilute the paint and make for a messy job. It doesn't

take that much more time or paint so I recommend using the biggest numbers possible, which is six feet, and using the arrow pointing toward the goal from the 40's on in. The numbers can also be highlighted with the teams' colors, which can become very labor intensive and costly.

All of these marks on the football fields aren't just for looks; there are some underlying advantages. Besides building up an atmosphere and excitement for the players and student body, there are statisticians, announcers, coaches and game officials that value these markings to help with the overall administration of the game.

I'm not a big fan of painting logos in the end zones at the high school and small college level for a couple of reasons. First, most of the seats are in the middle of the field and not that high up; second, the amount of paint and area to cover can become very costly if done correctly. I like to use a standard football helmet stencil in the middle of the field. That is where most of the turf damage takes place, and sometimes with a big logo in the middle of the field, it can cover some of that wear.

By outlining any logo or letter with a pin-line to four-inch contrasting color, you can give the logo or letter more definition. Another highlight that will help your field stand out more, for not much money and time, is to paint on each side of the 20's and 50 yard lines with one of the school colors. This really gives you a perspective of where the ball is.

Be prepared to take a lot of photographs — what better way to dress up your office or school than a large picture of your hard work? There are now companies that can be hired to take air photos from a large blimp with a remote control.

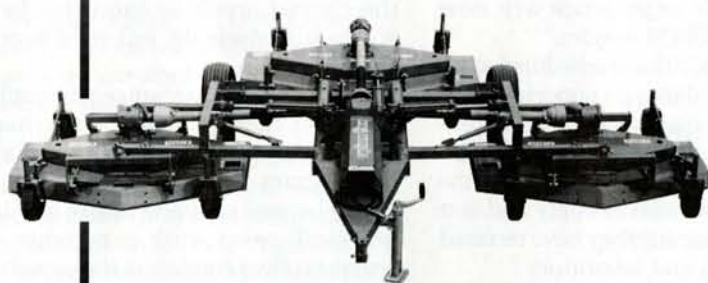
If you properly communicate with your athletic department or booster club, the labor force for moving stencils can be provided by the students while the coaches supervise your instructions.

I learn every time I mark a field. So, keep your eyes and mind open. There is always a better way to do something, and by staying alert, you might just find methods that fit your style. □

Mike Hebrard is an athletic field consultant with Athletic Design in Portland, OR.

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Mississippi State's Golf and Sports Turf Management Program



One Mississippi State golf and sports turf management student, Bart Prather, oversaw the conversion of War Memorial Stadium in Little Rock, AR, from Astroturf to a natural surface. Photos courtesy: Steve and Suz Trusty.

By Steve and Suz Trusty

Imagine the impact on the sports turf industry if "the real world" and the academic world interacted so positively that students entered the work force equipped with the educational background and the practical skills necessary to do the job. Employers, students and universities would all benefit.

That process has been put into action at several universities that have established an informal network with sports turf professionals at various facilities to provide input on the academic curriculum and to offer the opportunity for on-the-job training. One of the top educational programs in sports turf management is at Mississippi State University.

"Mississippi State University is presently the only school that offers a four-year agronomy-based degree in golf and sports turf management with an additional 12 months of experience required for graduation," says J.M. (Mike) Mathews, associate director for the Co-operative Education Program at Mississippi State. "For many years, MSU offered a Turfgrass Management Program in the department of plant and soil sciences. In 1993, we changed the program name to Golf and Sports Turf Management, added the mandatory co-op program, adjusted the curriculum and designated electives to address the special needs of students in the golf and sports turf areas. Students select their focus — either golf or sports turf."

Dr. Mike Goatley, associate professor in the department of plant and soil sciences,

who also serves as an academic advisor for the program, worked together with Dr. Jeff Krans to develop the curriculum. It consists of basic and applied courses in plant and soil sciences plus a core of courses in the humanities, social sciences and arts.

Scott Maynard, assistant director of the co-op education program, says, "Faculty members in the department had observed that students with experience prior to graduation were securing more competitive positions after graduation than those students without experience. Therefore, a minimum of three semesters of co-operative education work experience are now required of all GSTM majors."

Mathews adds, "These scheduled work periods allow students an opportunity to gain practical experience through productive employment under realistic, competitive circumstances. It also provides the students with a means to apply and test the theory and training they have received in the classroom and laboratory."

Only one semester of co-op work is required at some other time than the summer term, but to maximize experience, students may vary the timing of their co-op semesters, working over the entire calendar year. Semester time periods are spring (January to mid-May), summer (mid-May to mid-August), and fall (mid-August to December). Students may choose to work two back-to-back semesters, spring and summer (start of season to mid-August) or summer and fall (mid-May to end of season). Flexibility in the beginning and ending dates of the co-op semesters

allows the program to adjust to employers' needs.

Mississippi State University is always seeking employers who will provide students with a quality learning experience. Golf course superintendents have shown tremendous support. Sports turf managers have been slower to come along.

"Currently, the golf portion of the program is able to place students at co-op work sites in 37 states," says Mathews. "These students have the opportunity to work with different types of courses and with both warm-season and cool-season grasses. At present, the choices aren't as extensive for the sports turf students, but we'd sure like them to be."

In the MSU program, each employer evaluates each student and also has the opportunity to talk with the staff about the program — the curriculum, the practical labs, and past and future hands-on, practical, co-op work experience. The program offers employers the opportunity to fine-tune the academic and practical experience of potential future employees.

The current curriculum at MSU provides 20 hours of restricted electives. The courses that fill these slots are determined by the student and his or her advisor to fit specific needs or provide additional expertise in areas most closely related to the student's projected employment preferences.

Once employers agree to join in the MSU program, they have the opportunity to interview potential student employees. They can make contact with students