

Pro Diamond*continued from page 10*

two weeks of arriving at Dodd Stadium, he hired Chris Powell for the assistant groundskeeper and stadium maintenance position. Soon Rick Izzo also joined the full-time staff. Both of these men had worked with Schnell for Vince Patterozzi at the Cleveland Browns. When, after the first year, Powell moved on to a position with the Kansas City Chiefs, Neal Pate, who had been an intern with the Browns when he was a student at the University of Missouri, moved into the assistant groundskeeper position. Pate has since taken a position with The Disney World Sports Complex in Florida and Izzo has moved back to Cleveland.

Kevin Johns now has head stadium-maintenance responsibilities. Tim Clapp is a seasonal full-time employee who is also taking turf classes, and Tim O'Connor, from the University of Massachusetts, is the seasonal intern.

The part-time crew rotates assignments, with two people coming in at 5 p.m. on game days to work through the end of the game. This crew includes: Tim McClaughlin, Pete Slocum, Pat Coleman, Ron Johnson, Bill Slocum, Brad Comeau, Mike Balsler, Frank Campbell, Ken Daniewicz, Tom Montgomery, and Zach Schnit.

Schnell praises the ability of this crew to keep the field in top condition for the packed schedule. In 1996, that included 93 games — 71 AA, 12 Big East and 10 high profile games for local teams. Added to this were three concerts — the Beach Boys, Sawyer Brown and Kids Jam — an "Octoberfest" celebration held in the stadium concourse and on the field, and the Sports Turf Managers Association of New England's hands-on field day.

"Although the field is our number one priority, my staff also is responsible for the upkeep and maintenance of a 7,000 capacity stadium, its 18 luxury skyboxes, a 2,500-space parking lot and the remaining 25 acres of this complex," says Schnell.

"Both the team and the city believe it's important to host extra events to promote the facility and enhance community good will. Communication between my staff, the coaches, players and front-office staff is essential."

Schnell adds, "Continuing employee

education, internships from local university turf programs and a genuine commitment to a scientific approach to field maintenance have helped us to maximize use and minimize damage to our field. A professional quality surface promotes player development and provides an ideal arena to showcase up-and-coming talent for the World Champion New York Yankees."

As the Beam Clay Award confirms, the field and Will Schnell's program are also a terrific "training ground" for sports turf managers. □

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

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This year's judges were (AL-EAST) Joe Mooney, Boston Red Sox; (AL-WEST) Tom Burns, Texas Rangers; (NL-CENTRAL) Barry Foley, Pittsburgh Pirates; (NL-CENTRAL) Steve Peeler, St. Louis Cardinals.

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Spring Training for Your Your



A high-pressure water hose can effectively blast sand/clay soil out of the edge of the turf. Photos courtesy: Jim Puhalla.

Baseball Diamond

By Jim Puhalla

The opening of spring training is one of the most encouraging signs of the end of winter, and that's especially true in the north, where cabin fever is an epidemic by February. But for those of us who manage baseball diamonds, news from the training camps serves as a kind of seasonal wake-up call. If we haven't given the diamond any attention since last fall, it's time to get started.

But how much can you do? With the season fast approaching, any major reconstruction is obviously out; the field would never be playable in time. But that still leaves a number of renovation operations that can help make the field more beautiful and playable when the fans show up.

Let's look at three categories of work: 1. things we can do before the season, 2. things that should wait until after the season, and 3. things we should never do.

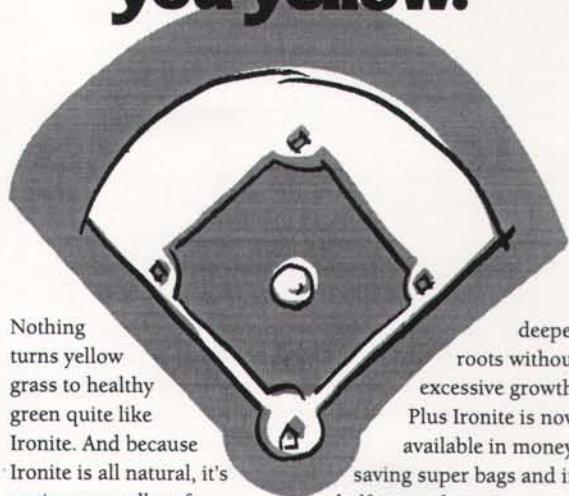
We'll focus most of our attention on the skinned areas, since those are the areas that normally need the most care. If a game is called because of field problems, the skinned area is usually the culprit. After all, most of the players use that area every inning.

What To Do Now

1. Lip Removal. One important process that can and should be done before each season is lip removal. Every season, dragging and weather conditions like wind and rain push lots of dirt into the grass at the arc of the infield and along the base lines. That dirt forms a lip that keeps rain from draining away into the grass the way it's supposed to. This lip also becomes a hazard to players because it causes erratic bounces of the ball, and because of the possibility of tripping. So getting rid of the lip is very important.

One way to prevent these lips from building up is to

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A standard sidewalk edger can be used to remove small lips and to straighten the grass outline.

The small grass hill on this field (visible at lower right) was treated by sod cutting, followed by re-grading the soil to provide positive surface drainage.



regularly blast the grass edge with a high-pressure water hose, washing skinned area soil back out of the grass edge and onto the skinned area. On most fields, this should be done at least once a year, and preferably twice. Just focus the stream on the two to four inches of grass along the edge of the skinned area.

If a small lip (one to three inches) has already built up, edging with a sidewalk edger will probably take care of it. Your field should be edged along the base lines, at home plate and the pitcher's mound, and along the outfield arc. If the lip is already 12 to 18 inches wide, you'll need to use a sod cutter.

On some fields, the lip has already grown into a grass hill that's visible to the naked eye and may be three to five feet wide. It's advisable to go ahead and sod cut away those hills and lower the grade now, then seed or sod after the season. The infield will be a little larger than usual, but the improved drainage will be worth it.

2. Surface Leveling. The skinned area should be pulverized to break up the compaction that forms over the winter. Pulverized infield soil is also easier to work with in making minor grade changes.

You can perform those grade adjustments by hand, but the work goes faster with a tractor and level bar. If you don't have a level bar, you can easily make one in your shop, and you'll get a much smoother skinned area surface.

There are those who rototill to loosen skinned area soil, but we steer clear of tilling unless we are adding conditioners. Even then, we try to till shallowly during the season, to reduce the time the soil takes to re-settle. A good rule of thumb is: for each inch deep that you till, it takes one week for the soil to fully settle after the first heavy

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Preparing Diamonds

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rain (e.g., after tilling two inches deep, the soil takes two weeks to settle).

3. Applying Additives. If your field tends to be too wet or too dry, a conditioner may be the answer. One effective conditioner is Agro-Tech 2000's Play Ball, which is one of the new generation of diatomaceous earth materials that soak up water when it rains and release it when the soil is dry. These can be added before the season, but should not be tilled-in too deeply if you plan to use the field right away.

Another good pre-season project is shaping the pitcher's mound and renovating the home plate area. They can be raked and filled to level out the wear and tear. Have a good look at the pitcher's plate to make sure it can withstand another season.

One possibility for the mound and batters' boxes is to install one of the new products, like Wessco's KLAWOG, which are designed to reinforce those much-abused areas. These are clay-based products that remain firmly bonded together, even in the face of



A pulverizer is a good tool for breaking up the top one inch of compacted soil; it also makes it easier to perform minor grade changes.

heavy rain and stress. After final grading, you dig out three to four inches of soil, install the material, then tamp it into place and cover it with skinned area soil. The result is a mound or box that doesn't cup out as badly or need as much maintenance.

4. Rolling and Dragging. Rolling the skinned areas with a standard garden roller helps to firm up the soil. Even when you do roll, it's a good policy to keep the team off the field after the first heavy rain until it has dried out completely. That cycle seals the soil into a good, consistent surface.

After one rain/dry cycle, you can begin regular dragging with a nail drag and mat drag and continue through the end of the season. Remember that poor dragging practices get soil into the grass and lead to lips. Start dragging six to twelve inches from the grass edge, keep dragging speed low, and lift the drag before you move off the skinned area onto the turf.

5. Turf Maintenance. Of course, there are also some steps that can be taken to get turf areas ready for play. As soon as possible, take soil samples and send them for testing. Use those results to plan your fertilization program for the year. Generally, you can start fertilization after 20 to 30 percent green-up of your desired species of turfgrass.

If you keep the grass longer during the off-season, begin to gradually work your height down as soon as you can begin mowing. Remember to cut off no more than one-third of the grass plants at any given mowing.

After the Season

Some processes should be deferred until after the season is over, unless you can count on a four-week period after the work to let the field settle. Remember that if you start a process and heavy rains delay you, the field might not be playable when the season starts.

- 1. Deep Tilling.** You'll probably need to wait until after the season for processes like deeply tilling the skinned area — especially tilling over two inches deep.
- 2. Adding Soil for Drainage.** Another post-season project should be adding soil to improve surface drainage. If drainage has been a problem, perform a survey to check the contours of the field, and plan to add soil to correct the grade once the season ends.
- 3. Seeding and Sodding.** Conduct your re-seeding or sodding operations on areas that were cut out to remove lips or hills before the season. Now you'll have time to till, plant and water correctly without concerns about game delays.
- 4. Aeration.** Core aeration of the field should be done after the season, unless you can remove the cores. Aeration should take place when the grass is actively growing — so if the season ends after growth has slowed dramatically (as in summer dormancy in the north), wait until

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Preparing Diamonds

continued from page 16

fall to aerate. If, for some reason, you must aerate during the season, solid-tine aeration is a better practice.

- 5. Post-Season Mowing.** Plan your mowing program in the post-season to slowly change the height to reach the off-season levels. Don't just cut your mowing frequency in half, because that leads you to end up cutting off more than one-third of the plants when you mow, and leaves the turf vulnerable to pests and other stresses.

Practices to Avoid

It's a waste of time and money to install internal drainage in the skinned areas of a baseball diamond. Water simply doesn't percolate fast enough through skinned area soil to make French drains or other internal drainage structures practical. Typically, water percolates at about .01 inch/hour, not fast enough to do any good.

If drainage is a concern, improve it



A level bar up to ten feet wide helps get a smooth, consistent surface. This one was easily made in the contractor's shop.

through contour planning to provide surface drainage. That's the only way to have a substantial positive effect on the problem.

The one exception to internal drainage is installing solid lines for catch basins outside the playing areas.

Rules of Thumb

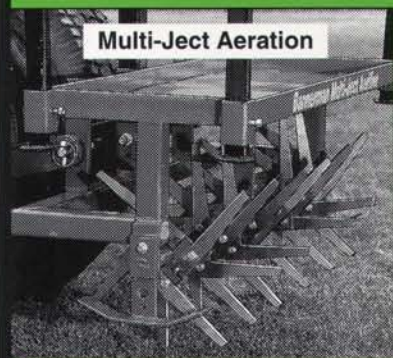
Two simple rules of thumb will help you determine whether to perform an operation now or wait until after the

season. The first rule is: cuts (soil removal) can be done now; fills (soil addition) should wait. The second rule is that each inch of skinned area soil disturbance takes one week to re-settle after the first heavy rain.

With a little planning and attention now, your baseball diamond can be more playable and attractive throughout the season. Remember that the field needs to recover from each process, and factor that recovery time into your planning, so your athletes will have the best possible field when competition starts. □

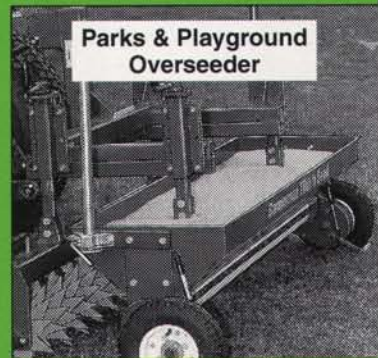
Jim Puhalla is the President of Sportscape International of Boardman, Ohio, and Dallas, Texas, and is the co-author, with Mississippi State University Professors Dr. Jeff Krans and Dr. Michael Goatley, of a forthcoming book, Sports Fields - A Manual for Design, Construction and Maintenance, to be published by Ann Arbor Press, Inc., Chelsea, Michigan.

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Spring Seeding

By Eugene Mayer

With the advent of spring and the assessment of our turf areas, we find in many cases that they are thin or even non-existent. This situation may occur on turfgrass areas devoted to aesthetic purposes, but is most often found on such high traffic areas as athletic fields.

The lack of turfgrass density may be attributed to disease or insect damage, poor fertility practices, use of incorrect turfgrass species, winter kill and, more than likely, to high traffic that caused excessive wear to the plant sward. No matter what the cause, the action plan is to correct the situation and re-establish the turf density that will provide beauty, utility and a good playing surface. This un-

doubtedly will involve either sodding or seeding.

While we all may know, through our educational background or own experience, that fall is the best time of the year to seed, we seldom have the luxury of waiting. The positive aspect is that spring is the second best time to seed cool season turfgrass species.

Why are the fall and spring months the best times to seed? Let's examine the process of seed germination for many of our turfgrass species.

Ideal Conditions

Using growth chambers, seed technologists have found the ideal conditions to germinate cool season turfgrass seeds. The primary conditions consist of moisture, light and temperature. Taking a closer look at each one

of these factors, we can utilize some of these points in actual field conditions to obtain better seed establishment.

Moisture should consist of a substratum (blotter paper in the laboratory — soil in the field) moist enough to supply needed moisture to the seeds at all times. Light conditions should consist of eight hours of light and sixteen hours of darkness. Temperatures should alternate on a daily basis from 60 degrees F for sixteen hours and 78 degrees F for eight hours. This alternating temperature should coincide with the light regime. Therefore, for best seed germination, the conditions would be eight hours of light at 78 degrees F and sixteen hours of darkness at 60 degrees F. For bermuda-

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How to Calculate Fertilizer Nutrient Application Rates

The "formula" listed on the fertilizer bags gives the percentage of the major nutrients contained in that bag. For example, in the bag of 19-26-5 starter fertilizer, 19 percent of the weight of the fertilizer is nitrogen; 26 percent of the weight of the fertilizer is phosphorous; and 5 percent of the weight of the fertilizer is potash.

To determine the actual amount of each nutrient in the bag of fertilizer, multiply the weight of the bag by the percentage of that nutrient in decimal form.

To determine the actual nutrient content in a 100 pound bag of 19-26-5 starter fertilizer:

100 (pounds) x .19 (percentage of Nitrogen) = 19 actual pounds of Nitrogen;

100 (pounds) x .26 (percentage of Phosphorous) = 26 actual pounds of Phosphorous;

100 (pounds) x .05 (percentage of Potash) = 5 actual pounds of Potash.

To determine how many pounds of a specific fertilizer are required to reach a specific amount of one nutrient, divide the percentage of that nutrient (in decimal form) contained in the bag into the desired number of pounds of that nutrient.

For example, in the 19-26-5 starter fertilizer, to determine how much fertilizer is needed to reach the desired rate of 1 pound of actual phosphorous:

1 divided by .26 = 3.85 pounds.

Therefore, 3.85 pounds of fertilizer must be applied to the designated area (in this case 1,000 square feet) to supply 1 actual pound of phosphorous.

To determine the actual amount of the other nutrients within a bag of fertilizer when applying that fertilizer at a specific rate to achieve a specific amount of actual material for another nutrient contained in the fertilizer, multiple the number of pounds applied by the percentage (in decimal form) of the nutrient in question.

For example, to determine the actual amount of the other nutrients within the bag of starter fertilizer with a 19-26-5 formula when applying 3.85 pounds of fertilizer per 1,000 square feet to achieve 1 actual pound of phosphorous, multiply the number of pounds applied (3.85) by the percentage (in decimal form) of the nutrient contained in the fertilizer:

3.85 (pounds of fertilizer) x .19 (percentage of Nitrogen) = .73 actual pounds of Nitrogen

3.85 (pounds of fertilizer) x .05 (percentage of potash) = .19 actual pounds of potash.