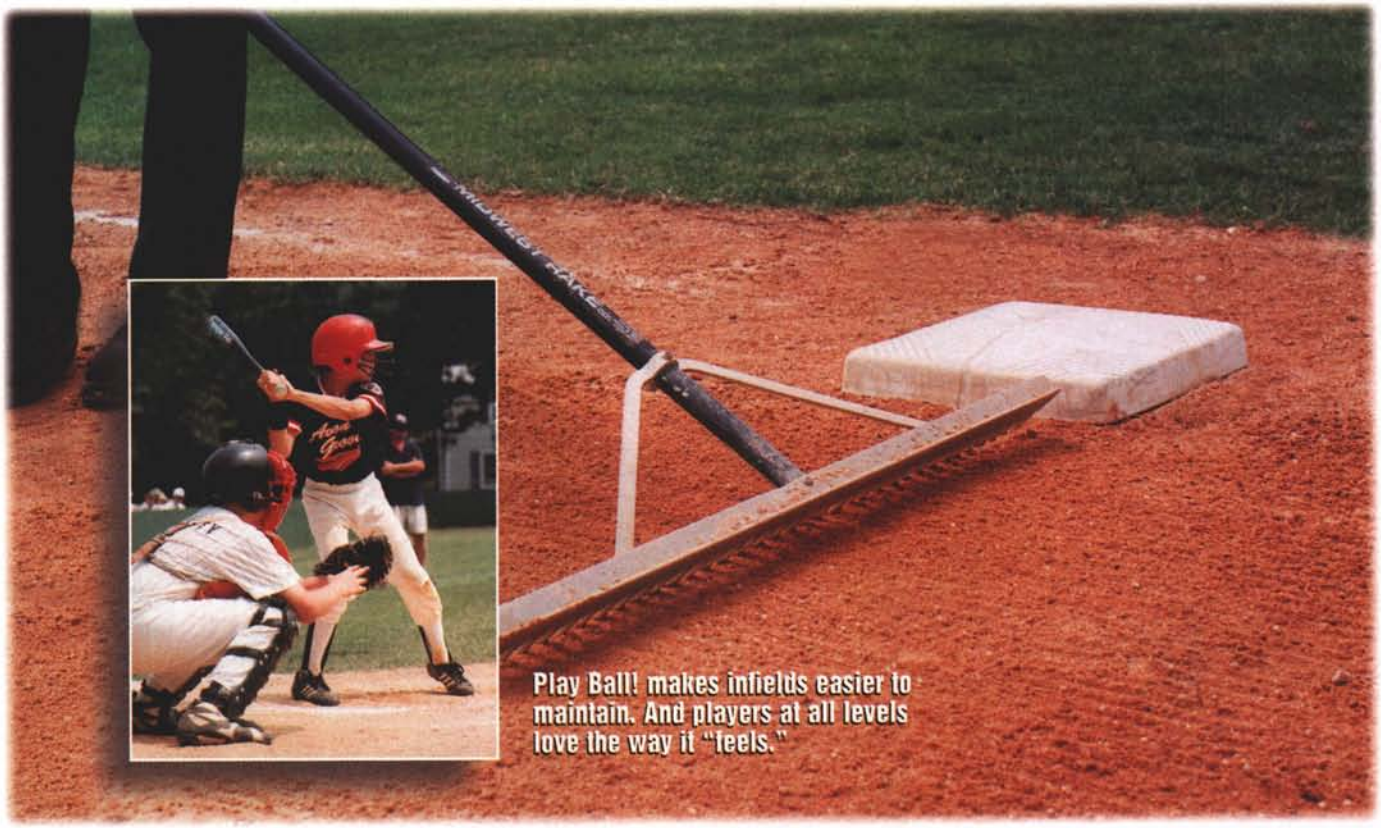

"Play Ball! Infield Conditioner gives us the best results in all types of weather."

Jim Puhalla, Sportscape International, Boardman, Ohio

"We've installed hundreds of fields. This is the first conditioner I've seen that makes a noticeable difference."

Play Ball! comes in two types: REGULAR for conditioning, FINE for puddle control.

Faster play following rain

"After a hard rain, Play Ball! lets us get games started twice as fast. It supports tractor weight better, giving us quicker access for dragging. Plus, it absorbs excess water better than other conditioners we've tried. And we've tried them all."

Easier to work with

"It's the only conditioner we've ever used that gets positive comments from everyone from the maintenance staff to players. Crews like how easily Play Ball! incorporates with sand and clay to make the whole infield smoother and more resilient. Players love the feel of it"

Play Ball! is different

New Play Ball! is more effective at reducing compaction and increasing infiltration because it's made from calcined (kiln-fired) diatomaceous earth, DE for short. Calcined DE is one of the world's most highly absorbent minerals. It holds up to 130% of its weight in water, yet is strong enough to resist crushing under foot.

Play Ball! stands up to repeated wet/dry cycles without breaking down.

Play Ball! keeps on working

Play Ball! makes a lasting improvement to infields. It stands up to repeated wet / dry cycles without breaking down and turning to dust and mud.

Lightweight bags are easier on the back

Now you can carry less weight into the field to do the same job. Play Ball! comes in 25 pound bags, about half the weight of traditional conditioners. This helps reduce the potential for back injury.

Play Ball! is surprisingly lightweight.

Why wait?

Get ready now. Call today for a trial order. See for yourself how new Play Ball! makes it easier to create a better infield.

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INFIELD CONDITIONER

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AGRO-TECH 2000 Inc.
Norristown, PA 1(800) 270-TURF

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can work like a charm on *turf* areas of the baseball diamond, they typically work poorly in the skinned area. Water percolates through most skinned area soils at just 1/100 inch per hour, so it doesn't reach drain structures quickly enough to make a difference. Proper positive surface drainage is the only way to prevent standing water on the skinned area.

3. Adding Conditioners. The post-season is a good time to add conditioners, especially since correct addition of conditioners requires tilling. A good rule of thumb is that, for each inch of disturbed soil, the skinned area takes one week to settle. So tilling 3 to 4 inches deep would mean waiting 3 to 4 weeks before using the field. Adding conditioners after the season allows plenty of time for settling.

There are many conditioners on the market, but the most effective are made of calcined clay or calcined diatomaceous earth. Organic products like those made from corn cobs are not marketed as conditioners — they can be used to soak up standing water in the short run, but they should be removed after use to prevent gummy soil in the long run. My own preference is the diatomaceous earth conditioners, because the required volume is half that of clay products.

Step 1: To remove a mounded ridge or lip at the edge of the grass, begin by removing the sod using an edger or sod cutter.

Step 2: Once the sod has been removed, lower the grade to bring the area into the proper contours.

Step 3: With the lip removed, seed or sod to restore the turf. The skinned area can drain itself into the grass and remain playable under a wider variety of conditions.

continued on page 24

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Renovation

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Before installing a conditioner, make any grade changes needed for positive surface drainage. Making grade changes first avoids cutting and filling conditioned soil, which results in an uneven layer. For uniform performance, you need a consistent depth of conditioned soil over the entire skinned area.

Place the recommended amount of product evenly over the entire skinned area. Till it in to a depth of 3 to 4 inches. Then go over the skinned area with a pulverizer, a level bar and a roller. The process takes about 40 man-hours for a full-size field.

4. Renovating the Pitcher's Mound and Batter's Boxes. Take time to fill holes on the mound and in batter's boxes instead of leaving them until next year. Holes in these areas get worse if water stands in them, and casual use of the field in the off-season makes the holes deeper, continuing the cycle.

Consider installing one of the new materials designed for pitcher's mounds and batter's boxes. These materials have a clay base with special additives, to resist cupping out. They are installed by excavating the batter's boxes and the cupped-out part of the mound, then refilling the excavated spot with the batter's box and mound material. This is a new material on the market, but initial field trials are promising.

Turfgrass Improvements

1. Seeding and Sodding. After the season is a good time to seed areas without full turf coverage, or to reseed or sod areas that were cut out to remove lips or hills. Now you have time to till, plant and water correctly without concerns about game delays.

Soil preparation is crucial to successful seeding or sodding. Loosen the soil about six inches deep to let the roots of the plants develop. The most common way to loosen the soil is by tilling, but tilling displaces the soil particles. They re-settle in a denser mass, leaving the soil harder. A better way to loosen soil is with an agricultural cultivator (a "scarifier," or an "earthcavator" in some parts of the country). While you're preparing the soil, don't forget to add any nutrients that may be required.

With preparation steps done, it's time to install the turfgrass.

If you're **seeding,** use a drop spreader to apply the seed on the infield and around the edges of the skinned area and warning track. A rotary spreader can be used for the outfield unless it's windy. Rake the seed into the soil using a leaf rake, then go over the area with a light roller to improve seed-to-soil contact. Mulching allows faster germination.

When **sodding,** lay the sod with the seams tight, but *don't pull* the sections into place. That stretches the sod, and it eventually shrinks back to its original size, causing gaps between pieces.

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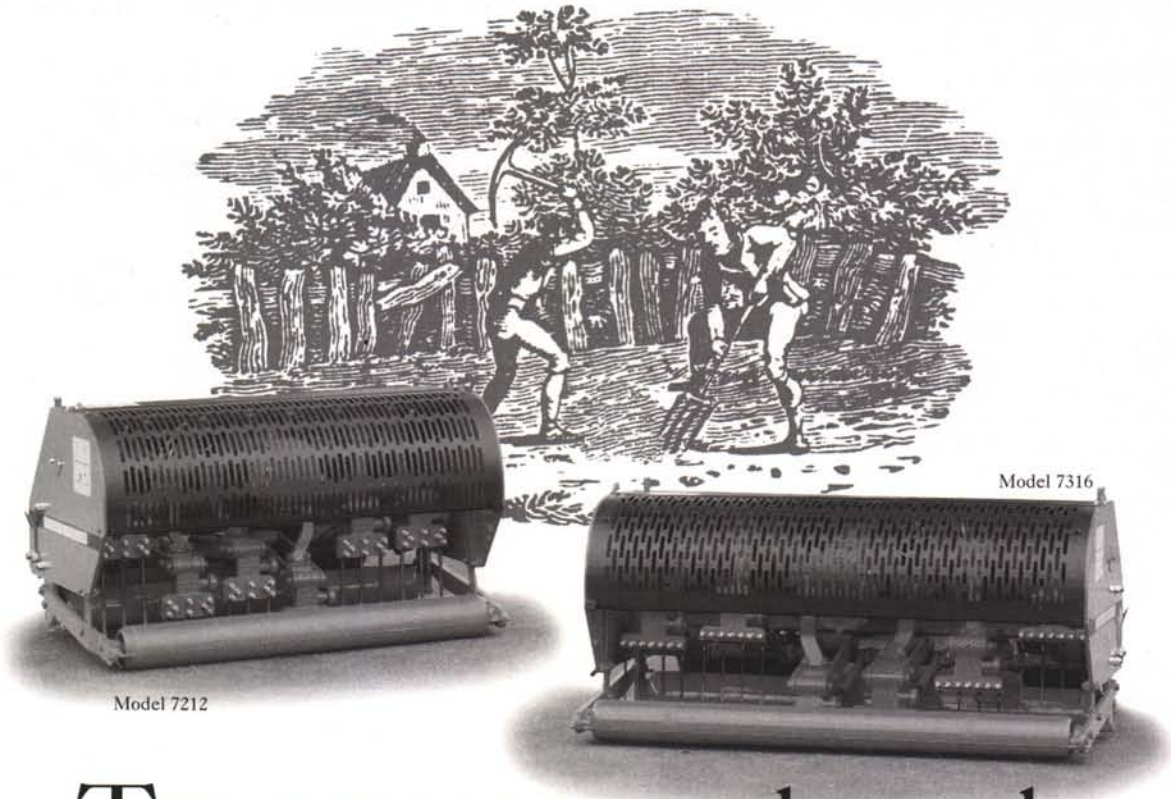


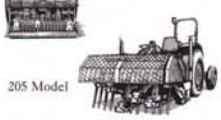
Two new aerators that make your job 70% easier.

Do up to 70% more aerating in the same amount of time it used to take. Now you can deep-tine more turf faster or spend less time and labor to do the same job you've always done before.

The new high-speed 7212 and 7316 Verti-Drain® models are lighter with fewer moving parts and they still have that unique pitchforking action patented by Verti-Drain.

The 7316 is wider than its counterpart 7212 and it goes deeper. Each offers you the option of coring or solid tining and both can use the new needle tines for minimal disruption. The new, sleek cover design is representative of many maintenance-saving features that have been added like sealed bearings. Every change helps make the new generation more user-friendly. Each model has that characteristic construction durability that you've come to expect from Verti-Drain and because they're lighter, lower horsepower tractors can be used with them.

So if you've been looking to aerate more often or spend less time aerating with even less disruption of play, Verti-Drain's new generation of aerators is the only solution that's 70% better. Ask your dealer for more details today.



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continued from page 24

Choose a sod grown on a soil that is similar to that of the field. Otherwise, you'll have constant maintenance headaches, due to the layering effect of the different soils. The layering inhibits water infiltration and percolation.

2. Core Aeration and Topdressing. Aeration should take place when the grass is actively growing. If the growth has slowed dramatically before the baseball season ends (as in summer dormancy in the North), you'll need to wait until fall to aerate.

When you aerate, consider topdressing to level the surface and improve the quality of the soil. First core aerate the field. Then topdress by spreading matching soil or sand over the entire surface. We like to add about 3/8 inch of material over the field — which normally takes about 135 cubic yards of soil or sand for a full-size field. Then use a level bar to get the surface as smooth as possible.

3. Drainage Improvements. After the games end, tackle those spot-drainage problems that drove you crazy all season. Of course, you could install a complete drain system on turf areas — a good idea if you can afford it.

Most of the time, though, you won't want to get into a project quite that drastic. One effective but less costly answer is "strip drains." These are fiber-wrapped polyethylene structures designed to be laid in problem areas. Strip drains are about 6 inches high and 1 inch thick, and you install them by digging a trench 4 inches wide and 12 inches deep from the problem area to a catch basin. (Don't forget to check the trench to make sure it runs downhill.) Place the strip drains in the trench and fill to the surface with coarse sand.

Procedures That Must Be Performed Year-Round

1. Skinned Area Maintenance. To have the kind of diamond you want, give the skinned area some attention in the off-season. At least once a month, use a pulverizer, nail drag and a mat drag to discourage weeds and cut down on compaction between seasons.

2. Turfgrass Maintenance. It's not uncommon to find fields that are carefully maintained during the season, then ignored until practices begin the next spring. That's a bad idea. If you mow according to the 1/3 rule (removing no more than 1/3 of the plant) and make a point to aerate and fertilize during the off-season, each year the quality of your diamond should improve. If you let the grass get too high and then cut off half of it or more, you'll weaken the plants and leave too many clippings on the turf. Gradually, the quality of the facility will decline.

No good athlete lies on the couch all year, then rises to start getting in shape the first day of practice. Conditioning is a year-round process. And that's true of the field, just as it is of the players.

Trying to whip a field into shape in the last two weeks before the first game is an exercise in futility. But performing the most intrusive processes after the season allows time for the skinned area soil to settle, the turfgrass culture to establish itself, and the overall health and stability of the diamond to stabilize.

This year, do yourself a favor and start working on the baseball diamond when the games are still months in the future. ❐

Jim Puhalla is president of Sportscape International of Boardman, Ohio, and Dallas and is 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, Mich.*

Selecting Skinned Area Soils

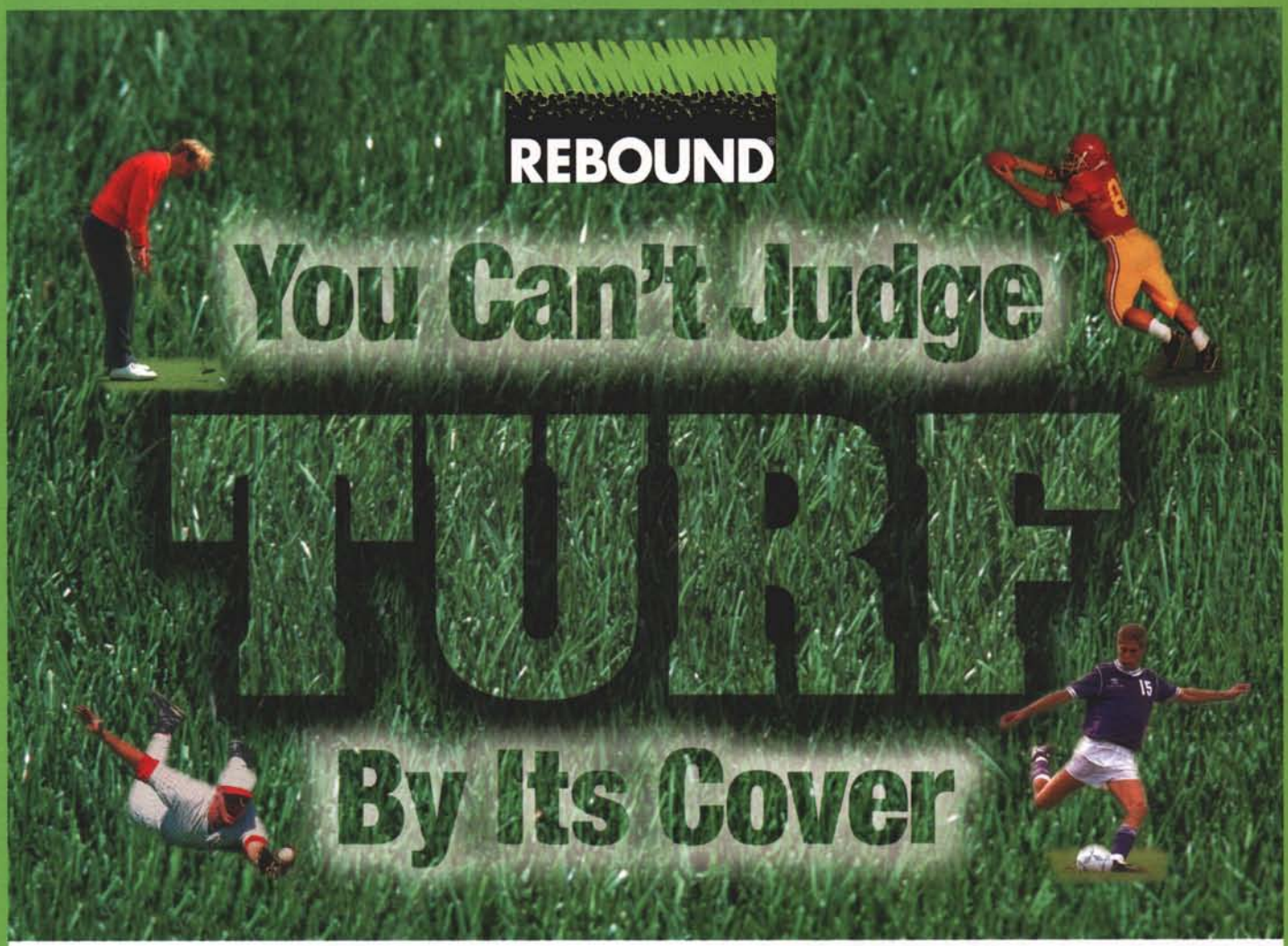
One of the most important factors in the playability of any baseball diamond is the quality of the skinned area material. We recommend a mixture of 60% sand, 20% silt and 20% clay.

All of the material should pass through a 3/8-inch sieve screen. A minimum of 97% should pass through a number-8 sieve, and at least 60% should pass through a number-140 sieve.

Cup test for performance of skinned area soil samples.

Sending out samples for particle-size analysis is a good idea before you install any skinned area soil, but even that analysis won't tell you everything you need to know. It's a good idea to compare different soils with similar particle sizes by doing a couple of simple tests.

- One test is to punch four or five 1/8-inch holes in the bottom of 9-ounce plastic cups, and then fill the cups 3/4 full with samples of the soils. Add water until it reaches the top of the cup, then allow it to drain, and see how long it takes the various samples to become firm enough to offer some resistance when you try to push a finger into the soil. The soil that firms up quickest will return to a playable condition faster.
- Another test is a visual one. Before you accept skinned area soil, visit the stock yard and look at undisturbed piles of the material. Check the size of the gravel that is present in the material. Choose the soil with the smallest gravel. (This works best if you can visit the stock yard shortly after a rain, which exposes the gravel.)



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INDUSTRY HAPPENINGS

First Sod to Oakland

Greg Dunn

West Coast Turf (WCT) kicked off the opening of its new northern California facility with its first sod harvest — 120,000 square feet of sand-based blue/rye sod — going to the Oakland Coliseum. The sod was grown at the company's new farm in Stevinson, California, and installed by WCT crews.

"The sod looked perfect," commented **Greg Dunn**, WCT's northern California farm manager. "We are in an ideal growing location ... so we can grow a premium quality product, and can assure our customers a timely delivery of the freshest sod around."

Along with the new Stevinson farm, WCT has farms in Bermuda Dunes and Winchester, California; and Las Vegas.

Duke Digs USGA Drainage

Duke University officials are installing a new $200,000 field drainage system, which is being built entirely of Hancor Hi-Q corrugated high density polyethylene (HDPE) drainage pipe.

Once completed, the Wallace Wade Stadium field will meet the United States Golf Association (USGA) standards for drainage. The standards represent state-of-the-art playing field conditions.

According to project consultant **Ross Fowler**, who has used Hancor pipe for more than 30 years, "This pipe is slick inside, so it allows for faster drainage — it gets the water off the field quicker."

Turf Students Look at Future

A group of more than 30 top graduating turf students from colleges and universities throughout the U.S., Canada, Australia and New Zealand attended Jacobsen's Future Turf Managers Seminar, which was held in May. Since its inception in 1968, more than 900 students have attended the seminars.

"This is our way of giving something back to the industry," said Jacobsen president **Phil Tralies**. "We call on our many friends who are experts in the field to help make it possible."

The three-day event included presentations and panel discussions dealing with current and future issues of importance to golf course superintendents. The students visited several area golf courses, and toured Jacobsen's manufacturing facility in

Racine, Wis., where they had the opportunity to operate Jacobsen equipment.

Southern Cal Turf Program

UC-Riverside Extension's two-week Intensive Turfgrass Management Program runs September 8-19 and will:

- focus on the needs of the managers of golf courses and parks;
- help managers make decisions to protect their investments;
- promote environmentally sensitive turfgrass management practices;
- consist of over 60 hours of instruction and related activities.

The program sessions include Turfgrass Species and Applications; Turfgrass Cultural Practices; Irrigation Equipment; Irrigation Design and Operation; a Tour of a Turfgrass Management Facility; Fertilizer; Turfgrass Pest Control I; Research Symposium and a Tour of UCR Agricultural Experiment Station; Turfgrass Pest Control II; and Soils.

The cost is $2,100. For more information, call the Extension at (909) 787-5804, or fax at (909) 787-2456.

Courtesy of Jacobsen, 30 students from around the world had a chance to visit U.S. facilities.

Fall Equipment Maintenance

By Eli Luster

Turf growth patterns change dramatically as weather patterns make the transition from summer to fall. In many areas and at many levels of play, sports activity accelerates. All too often, new field construction and renovation of existing fields kick in at the same time. Demands on equipment frequently rival the intensity of the spring rush.

A comprehensive equipment preventive maintenance program can ensure machines are ready to work and curtail costly downtime.

Tap Operator Expertise

No one knows a machine as well as the person who operates it day after day. Schedule short, one-on-one meetings with equipment operators and your service technicians to discuss machine performance. Big problems can be avoided by tracking down the cause of those seemingly little things, like a change in the sound or feel of the machine in certain conditions: a part that sticks, slips or hesitates before or while functioning; or slight changes in efficiency levels.

These meetings should result in a detailed list of things to check and services to perform.

These one-on-one sessions are an excellent time to introduce equipment performance and maintenance tracking programs. Something as simple as a label attached over the hour meter noting the next scheduled service interval will help the operators become more aware of their role in the maintenance program. Technicians also can encourage operators to provide input on the units at any time. For example, an operator's report of a machine's need for additional fuel or oil can be the warning signal of a developing problem.

Their observations on equipment performance during actual working conditions can save considerable diagnostic hours and dollars.

Prioritize and Schedule

Once equipment performance data has been gathered, technicians can prioritize service requirements. Obviously, some conditions will need immediate attention; some may be placed on a "first available time" slot; some will be added to that

Utility Vehicles Maintenance Checklist

- Perform regular preventive maintenance on utility vehicles.
- Check the little things, including those that affect operator comfort.
- Examine the unit's carrying surfaces and repair any damage.

Power Systems Maintenance Checklist

Preventive maintenance procedures need to be performed before the start and at the end of the fall season:

- Clear air passage routes.
- Replace air filters as necessary on all powered units, following the air restriction indicator, if the machine is so equipped. On machines without indicators, check maintenance records, factor in the extra hours of operation and degree of dust, and change the air filter if close to the replacement period. *Note*: Removing the air filter and shaking or tapping it to remove dust only loosens particles, which may then work their way into the engine and cause damage.
- Check all fuel, oil and hydraulic filters, making replacements as required.
- Perform normal oil maintenance, changing the weight of oil as necessary to accommodate dropping temperatures.
- Check fuels. In regions where summer and winter fuel blends vary, plan to use all summer-fuel supplies before the switch is made.
- Change the antifreeze on liquid-cooled engines, especially those with an aluminum head or block.
- Clean the battery and battery terminals and check electrolyte levels. Charge the battery. Make sure the charging system is operating properly.
- Check for leaks.
- Check all belts and chains.
- Lubricate all parts that need lubrication.
- Replace spark plugs.
- Clean electrical connections.
- Make sure all safety devices are in place and operating properly.