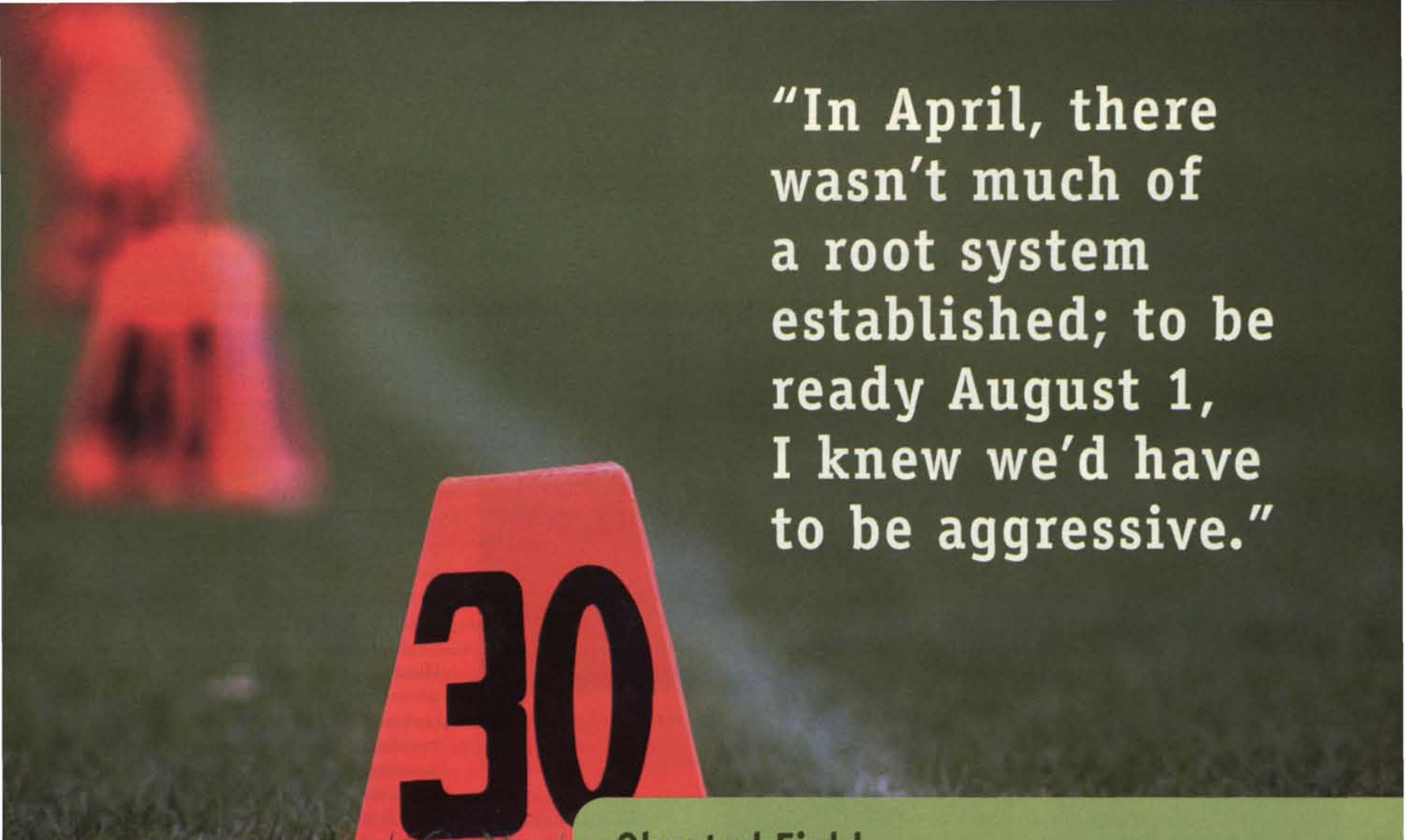




"In April, there wasn't much of a root system established; to be ready August 1, I knew we'd have to be aggressive."

Olmsted Field Maintenance Program

All that background was put to use at Westbrook. He says, "When I came on board in April, the upper level fields were completed, but had no turf. Olmsted Field, which had been hydroseeded approximately a year earlier, had about 90 percent turf cover, but didn't have much of a root system established. All the fields were scheduled for use by the first of August. I knew it was going to take a very aggressive program to make that happen."

Safety, playability

Tibbetts' prime focus then and now is providing safety and playability for the athletes while preserving and protecting the city's investment in its fields. He says, "In order for Olmsted Field to stand up to its first season of play, the practice fields would have to absorb the full load of pre-season and in-season practices. So initially we hit the maintenance on the upper level fields the hardest. We slice seeded with a mix of Kentucky bluegrass and perennial ryegrass, aerated as frequently as the young turf could handle, matched the fertilization program to the needs of each field, and kept pushing the turf. We used the same procedures on the game field, but there concentrated more on filling in and strengthening the existing turf so we'd have a good base for the full season of play."

The aggressive program paid off. All the fields were ready by August 1 and handled their first season well, despite heavy use. In subsequent seasons, Tibbetts has been able to focus greater attention on the varsity game field to produce and maintain a dense green carpet of turf throughout the football season. He schedules monthly fertilization for it and the other sand-based fields, compared to three fertilizations a year for the general use fields. The football field aeration program is aggressive, at least once a month during the growing season, generally in two

April

- Take soil samples for testing; analyze results
- Roll entire field
- Apply 24-5-11 fertilizer with pre-emergence weed control at 1-lb. of nitrogen (N) per 1,000 sq. ft.
- Put down lines for javelin, discus and shot-put
- Mow 1 to 2 times per week with rotary mower at 2-1/2-in. height of cut

May

- Apply 32-0-10 fertilizer at 1-lb. of nitrogen (N) per 1,000 sq. ft.
- Line field every Tuesday
- Mow 1 to 2 times per week with rotary mower at 2-1/2-in. height of cut
- Start up irrigation system; check system for leaks and other problems
- Core aerate in two directions, leave plugs

June

- Apply 32-0-10 fertilizer at 1-lb. of nitrogen (N) per 1,000 sq. ft.
- Line field every Tuesday
- Mow 3 times per week with reel mower at 1.78-in. height of cut
- Monitor for weeds following IPM practices, apply herbicide if needed
- Monitor for insects following IPM practices, apply insecticide if needed
- Core aerate in one direction, leave plugs
- Slice seed one direction, 40-ft. from edge of track into field

July

- Apply 32-0-10 fertilizer at 1-lb. of nitrogen (N) per 1,000 sq. ft.
- Line field every Tuesday
- Mow 3 times per week with reel mower at 1.78-in. height of cut
- Monitor for insects following IPM practices, apply insecticide if needed
- Core aerate in two directions, leave plugs

- Topdress with 45 tons of washed sand, drag in two directions
- Overseed with 50/50 mix of Kentucky Bluegrass/perennial ryegrass at 3 lb. per 1,000 sq. ft.
- Irrigate lightly each day to keep seed moist through germination; then irrigate deeply three days per week, or as weather conditions warrant

August

- Apply 18-0-18 fertilizer at 1-lb. of nitrogen (N) per 1,000 square ft.
- Mow 3 times per week with reel mower at 1.78-in. height of cut
- Install football goal posts
- Put down football grid; paint soccer lines in royal blue

September

- Apply 24-5-11 fertilizer at 1-lb. of nitrogen (N) per 1,000 sq. ft.
- Line field every Tuesday and Friday
- Mow 3 times per week with reel mower at 1.78-in. height of cut (or 1.5-in. if weather conditions allow)
- Slice aerate in one direction with shatter tines
- Apply 50/50 mix of Kentucky Bluegrass/perennial ryegrass to divots

October

- Apply 21-3-21 fertilizer at 1-lb. of nitrogen (N) per 1,000 sq. ft.
- Line field every Tuesday and Friday
- Mow 2 to 3 times per week with reel mower at 1.78-in. height of cut (or 1.5-in. if weather conditions allow)
- Late October - core aerate in two directions, leave plugs
- Late October - slice seed with 50/50 mix of Kentucky Bluegrass/perennial ryegrass
- Apply lime if needed according to soil test results

November

- Winterize irrigation system
- Remove goal posts
- Winterize equipment

Field of the Year



Olmsted Field, Westbrook, ME, hosts most of that town's biggest sporting events, and well over 115 events each spring through fall.

directions each time. The methods of aerification are varied to fit turf needs and the field use schedule. Cores are not collected on the football field unless they are especially heavy or the field will be topdressed. A rotary mower is used early in the season to help stand up the turf after the winter and to avoid any unexpected debris

that might damage the more expensive reel mower. Turf height is then maintained at 1-7/8-inches with the reel mower. When natural precipitation is good in the late summer and fall, the turf height will be lowered gradually to 1-1/2-inches during the playing season. The field is overseeded heavily in July with a 50/50 mix of Kentucky bluegrass and perennial ryegrass. Overseeding continues regularly through the end of the growing season.

Tibbetts works directly for the City Recreation Department and plans and implements the field maintenance programs for all of the athletic fields within the city, including those on school grounds. During the school season, primarily the student athletes use the fields on school sites, with other uses coordinated by Tibbetts. During the summer months, he coordinates the field use schedules for all the fields, spreading the usage to the school sites as well.

The "average" annual use schedule, just for Olmsted Field, follows. In the spring, it hosts 30 track practices and four two-school track meets, one regional track meet that pulls in 10 teams, and a corporate track meet for one of the city's major industries. All track meets use the football field for the discus and javelin events, and as the staging area for the on-track events.

During the summer months, the field is used for the track and field events of recreational programs. This involves another 36 practices and three meets.

Things step up a few notches in the fall. The varsity football team plays seven home games on the field. The girls' soccer team plays 10 games; the boys' soccer

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Rick Kerr, Assistant Director of Maintenance.

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Olmsted Field's condition is more remarkable because Tibbetts is the only full-time, all-season employee responsible for its care.

team plays 12 games. Tuffy Football plays their All-Star game under the lights one night. The Youth Soccer Program takes over the field another night, allowing several different teams to play. There's also one regional band competition that brings from 10 to 15 bands to the field.

Tibbetts says, "This kind of scheduling is typical for our fields. All of the field use programs start as early as possible in the spring. Traditionally, it takes between 2-3 weeks after snow melt for the playing surfaces of the native soil fields to firm up enough for activity. We can get on the sand-based fields sooner. We'll schedule field use as late in the season as necessary to complete the school and recreational program sports events. General recreational use of the fields takes place whenever weather permits. To preserve field quality, we'll rotate specific fields out of play temporarily to allow them to recuperate or to perform the more disruptive maintenance procedures."

Maytag man

Tibbetts credits the dedication of his staff for keeping the fields in top condition to support all this activity. Doing so is even more remarkable because Tibbetts is the only full-time, full season individual for field maintenance. Tom Pollis has worked with him for 3 years as a full-time employee from April through August and on a part-time basis from September through March. Kevin McCrillis and Mike Didonato are in their second season of working full-time from April through August. Recreation maintenance worker Norman Kinney handles trash detail on all of the fields, which gives Tibbetts and staff more time to focus on field maintenance. Tibbetts says, "These fellows make an excellent team. They'll do whatever it takes to get the job done and give the community's kids the kind of fields they deserve to play on."

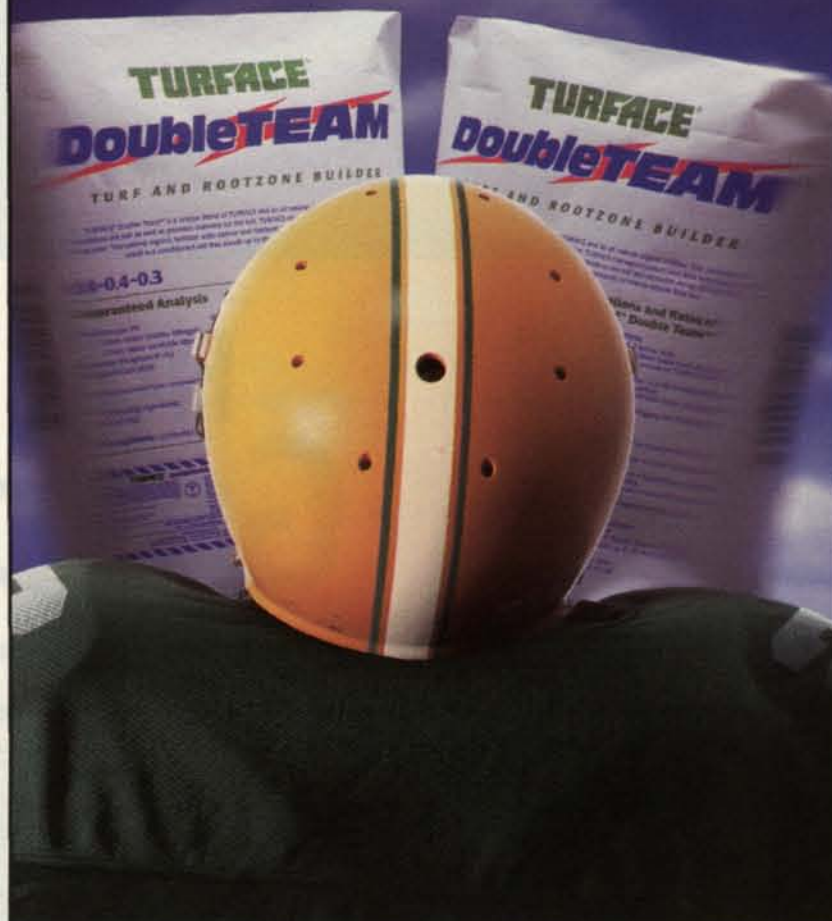
As with most parks and recreation systems, public use of open fields can become a maintenance issue. Tibbetts designates a couple of fields each year to be kept at a minimal maintenance level, yet within the safe zone, for general public recreational use. These fields become the prime sites for pick-up ball games, rocket launchings, and just about anything else one can imagine.

Preserving field quality at the high school site requires extra vigilance because of a walking trail, open to the public and heavily used, that not only winds through the property, but also even connects to the track surrounding Olmsted Field. The open field has great appeal for the weekend warriors that have a hard time letting go of the football fantasies of their youth. There's also the issue of those dog walkers who allow their dogs to run unleashed. Tibbetts and his staff members will drive by the fields periodically to check for unauthorized usage and direct the abusers to the general use fields.

Tibbetts notes, "The support and cooperation from the city have been excellent. They've provided the tools and equipment that let us get the job done. My supervisor, recreation director Randy Peters, is tremendous. He personally handled the mowing of Olmsted Field before my arrival to keep the turf in shape during the post-grow-in transition from the contractor to the city maintenance program. He'll still pitch in, if needed, to help with a maintenance procedure. Our athletic director, Matt Nelson, and our coaches also are committed to excellence in field conditions and are dedicated to their role in preserving the fields. Watching the reactions of the young athletes to playing on a premium field makes the effort worthwhile for all of us."

ST

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Maintaining the Grounds



A grading tractor equipped with a laser controlled box blade can easily grade to within 1/4 of an inch.

How Grading by laser works

Using an automatic laser controlled box blade and a tractor, you can accurately grade sports fields



Laser leveling is not just a term, it's a process that sports turf contractors and managers are learning can improve productivity and accuracy when grading sports fields and golf tee boxes.

"Laser leveling" or "laser grading" is used to refer to the grading process, which combines the use of a laser system and a grading tractor, bulldozer, or skid steer loader to control finish or sub grade elevation.

The laser system consists of a laser transmitter, which provides a 360-degree reference plane of laser light similar to an airport beacon, a 360-degree sensor mounted on a box blade or bulldozer blade to receive the laser light, and a control panel located on the tractor or in the cab of a bulldozer.

An operator can grade with a box blade or a bulldozer using the laser system as an "Indicate Only" manual reference, or the system can be installed to automatically control the cutting edge of the machine. When the operator uses the system in the manual mode, changes in elevation are displayed on the control panel as "High, Low, or On Grade", which allows the operator to make corrections.

Autopilot

However, many operators prefer to have the laser system automatically control the cutting edge of the box blade or the machine. The laser system sends a signal to the hydraulic system to automatically correct elevation of the blade, which follows the laser light set at a predetermined grade. Automatic machine control allows the operator to concentrate on operating the machine, while the laser system makes corrections automatically. This results in more efficient, and accurate fine grading.

A laser controlled box blade is commonly used with grading tractors for finish grading. A hydraulic valve mounted on the tractor plugs directly into the remote hydraulics of the tractor. A 3-point hitch allows workers to install the box blade on a Class I or II tractor in just a few minutes. The trailing wheels of the box blade are controlled by the hydraulic valve and raise or lower the blade on the 3-point hitch to maintain grade.

Benefits

Improved accuracy. In general, laser leveling is more accurate than any other grade control method commonly used in the turf industry. A grading tractor and a box blade can precisely grade to a predetermined elevation, which is preset in the laser system. Accuracy to within 1/4 of an inch is possible using automatic laser control.

Improved playing field. Athletes enjoy a smooth, accurate field; dips and valleys in the playing surface are eliminated and drainage is enhanced.

Increased productivity. Using a laser controlled box blade and grading tractor, you might finish grading an infield in 40% less time, according to one manufacturer.

Versatility. Level only, single, dual, or a cone grade can be achieved utilizing a laser controlled box blade grading system, and bulldozer or skid steer machine. Mounted on a bulldozer blade, sub grade can be controlled to a specified elevation. Select material can be added to the field in specified lifts and laser leveled between lifts to required specifications.

Cost control. Laser leveling helps control the cost of material and provides better control of select material. An initial grade check with a laser system allows you to calculate existing grades and establish the best profile for an existing field.

What to look for

It is important to focus on what you want to accomplish on your project.

- Do your grading jobs require level only, single, dual, or a cone grade?
- Will the laser system serve you well in future projects?
- How easy is the system to set up and use?
- Is your dealer knowledgeable enough to help you with set-up and grade questions?
- Inquire about warranty and service support.
- See if there's an advantage to leasing.

ST

This article was provided by Laser Leveling, Tampa, FL, 800-622-5777.

GRADE TO PERFECTION

Southern Laser's Diamond Series laser system emits a conical plane of light that allows users to grade athletic fields to perfection in a fraction of the time of conventional means. The dial, located in the aperture of the laser, allows users to dial in the amount of slope wanted for each particular job. The laser will automatically level itself. The variable speed head motor offers additional flexibility and convenience. Southern Laser also offers products such as SkidMaster, GradeMaster and CourtMaster. GradeMaster is a three-point hitch grading system. The blade is compatible with most tractors. GradeMaster can be used for golf course tees, subgrade finishing, final grade finishing and numerous other applications. The SkidMaster blade has been designed specifically for skid-steer loaders. The design allows for bi-directional movement of material. SkidMaster can be used wherever conventional box blade attachments can be applied. CourtMaster is a versatile grading system. The rolling axle ensures the wheels stay in contact with the ground, and a four-tire setup offers maximum flotation. The portable hydraulic unit allows the CourtMaster to operate completely independent of a tractor's hydraulic system, greatly decreasing the minimum tractor capabilities.

800-622-5777

For information, circle 141



CONSTRUCTION, RENOVATION USING LASERS

Carolina Green Corp. is a licensed general contractor specializing in design, construction and renovation of native, modified soil and sand-based sports fields. Carolina Green uses laser technology in many aspects of its construction and renovation work. The company's equipment is state of the art and adaptable for heavy grading, fine grading, topdress/leveling and drain line trenching. All laser-guided equipment is fully automated and adjustable to within 1/100 of an inch. Many of the fine grading implements are custom fabricated to provide an exceptional finish with minimal footprint, allowing Carolina Green to "float" over fields without damaging the turf or subgrade. The staff of agronomists and construction specialists at Carolina Green has the experience and expertise to operate the equipment in any grade configuration. In addition to laser leveling services, Carolina Green provides renovation and construction services, including sod stripping and installation, infield refurbishment, custom soil amendments and blending, aeration, sprigging, and topdressing. Carolina Green's premier service has been the design and construction of modified native soil fields with sand slit drainage, which couples the stability of native soil with drainage characteristics similar to sand based fields.

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Maintaining the Grounds



DEEP DE-THATCHER

SISIS Inc. has introduced a deep de-thatcher for use on all fine turf. The Rotorake 600 has a 13-hp engine, a 24-in. working width, and will work to a maximum 2-in. depth while leaving a clean-cut groove, says the company. At a shallow setting it is perfect for routine use and has a range of interchangeable reels for use year-round.

You can choose from front or rear discharge and opt for the large collector box.

The model incorporates the SISIS Rotorake contra-rotation principle developed in the UK, whereby the reel rotates at high speed against the direction you're travelling. Thus the blades cut upwards continuously throwing fiber forward rather than pushing it into the surface. This also helps hold the machine to the ground.

The 600 also contributes to aeration; the clean, continuous slits assist water and air absorption through a heavy thatch layer, and your topdressings can integrate better, says the company.

Neil Metcalf, course manager at the Royal St. George's Golf Club in Kent, tested the 600 extensively and says "The machine's depth was impressive and achieved without loss of power; it is a robust machine and good for courses with severe thatch problems."

864-261-6218

For more information, circle 139



PROFESSIONAL BACKPACK BLOWER

RedMax's EB4400 backpack blower is rugged, quiet and light. The 19.4-lb. EB4400 moves up to 565 CFM of air at a speed of up to 160 mph. Yet the sound from air movement and RedMax's 41.5cc two-cycle engine is just 69 decibels. RedMax's EB4400 backpack blower carries the company's 1-year commercial warranty. An optional 2-year warranty is available.

800-291-8251

For information, circle 146

BRILLION'S OVERSEEDER

The new Overseeder from Brillion delivers precise seed placement with optimum seed-to-soil contact for vigorous over-seeded stands, says the company. The unit delivers new stands of overseeded turfgrass into existing seasonal, outdated or less desirable varieties, and bare spots.

"The knives on the front cutter create a groove, seed is placed directly into the groove, and the fully aligned rear wheel closes the groove for ideal seed placement with excellent seed to soil contact," says Tim Geary of Brillion.

Brillion Overseeders come with a choice of curved fairway knives for minimal disturbance in existing turf or straight knives for a more aggressive, dethatching cut. Both feature 3/16-in. high-carbon heat-treated knives set on two 9/32-in. spacings that can be adjusted to cut grooves at depths from 0 to 1.5 in.

The Overseeder uses Brillion's well-known seed metering system; the larger Turfmaker II Micro-Meter feed cups have precision fluted feed rolls to meter tall fescue seeds at rates from 24-462 lbs. an acre, and when the standard speed-up kit is installed, up to 924 lbs. per acre.

800-409-9749

For information, circle 140



OUTFRONT MOWER

Gravely, an Ariens company, has introduced their new PM-310 outfront mower. Features include an adjustable high back seat with arm rests for comfort, a hydraulic deck tilt for quick clearance, six anti-scalp wheels, and 10-gauge welded deck construction with 7-gauge top plate. The 7.5-gal. fuel tank allows you to mow longer without refueling stops.

The PM-310 is available with a Kohler 25-hp Command Pro engine and your choice of 50-, 60-, or 72-in. deck. Ground speeds are 0-9.5 mph forward and 0-4.5 mph in reverse. The maintenance-free Gravely XL spindles reduce time spent greasing spindles and sharpening blades.

920-756-2141

For more information, circle 148



AGILE MOWER

The Bob-Cat 218ES zero-turn ride-on rotary features compact size, zero turn radius and lever-type steering. An 18-hp Briggs & Stratton Intek V-Twin engine and 52-in., side-discharge cutting deck combine for a mowing capacity of up to 34 acres per day. Refueling stops are infrequent because of a 9.5 gal. fuel tank. On rough terrain the 218ES maintains solid traction while 3-inch antiscalp rollers protect delicate turf. The 218ES features a hinged foot plate that allows access to the deck drive belts. The foam-padded seat tilts forward to allow linkage adjustments and battery and fluid level inspection. A manual deck lift adjusts the cutting height from 1.5 to 4.5 inches. Armrests, electronic ignition, engine hourmeter, neutral safety switches, traction levers, a key switch and a PTO clutch are all standard features. Two-post rollover protection, knobby-tread rear tires and an ecoplate mulching kit are all optional. The formed and welded steel frame is backed by a full, 1-year commercial warranty.

888-922-8873

For information, circle 145



TWO-IN-ONE

In the early 90's a small Indiana commercial lawn cutter was tired of trailering and maintaining a zero-turn rider and a walk behind. The zero-turn rider offered speed, comfort, and less fatigue; the walk behind was needed for areas the rider couldn't reach. So even though both machines were needed for his business, he was wasting money always having one unit sitting on the trailer. By using his business as a test bed, he developed a zero-turn rider that could convert to a walk behind, which now features a patented swing arm control. The conversion requires no tools and can be done in seconds.

Rich Manufacturing started building these 2-in-1 machines in 1996 under the name "Convertible," to offer the comfort of a rider with the flexibility of a hydro walk behind. One machine can handle a hillside, low-hanging object areas, or hard to reach areas while reducing trim time and equipment cost.

The current model Convertible features a 17-hp Kawasaki engine or the V-twin Kohler 17-, 20-, 22-, and 25-hp engines. The formed floating deck is made of 10 gauge steel with a 1/2-in. reinforcement plate on the front for durability. The model also can become a powered aerator, wheelbarrow, dethatcher, spreader, and sprayer.

RICH MANUFACTURING

For more information, circle 138

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At LaserLeveling, we pride ourselves in manufacturing the most advanced, efficient grading systems available on the market today. Our box scrapers, when coupled with laser guided machine control, are completely automatic. Simply setup the laser, adjust the blade's sensor, and you are ready to grade, all while achieving a remarkable 1/4" grade tolerance.

Our systems also feature the revolutionary PILOT hydraulic system. This unique valve actually allows you to adjust the hydraulic speed of your grading system from the seat of your tractor or loader, greatly reducing finishing time and material waste.

For over 20 years, LaserLeveling has been forging the future of the grading industry. We offer a complete line of grading systems for pull-type, 3-point hitch, and skid-steer tractors. Our unmatched experience in this field also enables us to provide you with custom grading solutions for your specific needs. If you would like more information on how LaserLeveling can help you, click on www.laserleveling.com.

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Circle 109 on Inquiry Card.

Field marking paints:

Characteristics and composition

BY MARK A. WHITLAM

Field marking has come a long way from the days of lime, chalks, and oil-based paints used to mark the lines on sports fields. Today, painting with latex-based field paints has become the choice method for lining and decorating fields. Using latex paints has a distinct advantage over its predecessors being safe for the environment, non-damaging to the turf, having relatively low cost per application, and being easy to clean up.

Today's field marking paints are derived from a mixture of a vehicle, the liquid portion of the paint, and pigments, the solid portion of the paint. Within each of these segments, the paint derives its own characteristics. In field marking paints the vehicle contains three primary ingredients: the solvent (water), the binder (latex resin), and wetting or dispersing agents (the same liquids used in dish soap).

The pigments include titanium dioxide (the whitest pigment available) used as a primary pigment and filler pigments such as calcium carbonates, silicates, talc, and Kaolin (clay). All of these materials are combined and ground to form a coating desirable for decoration or identification of boundaries.

Latex is king

Latex has become the binder most used in field marking paints due to its unique structure and ability to be reduced with water. Once latex has dried, it forms a complex polymer structure of lattices (hence latex) much like latticework in construction. However, these lattices build layer upon layer in all directions to produce a paint film. This allows the substrate, in this case the grass, the ability to "breathe." This structure also allows for evaporation of very small water molecules leaving the blade of grass, fueling the grass for continued growth.

Pigments give the paint its color and are generally organic for field marking paints. Nontoxic organic pigments have been used since man first began drawing on cave walls; organic pigment colors, however, have changed significantly in the past 100 years.

Only recently have organic pigments become popular; earlier problems included their relatively high cost compared with leaded pigments. Today, organic pigments can now be synthetically manufactured, offering you stronger tint strengths, better light fastness (ability to keep its color), and in a



Only recently have organic pigments become popular; earlier problems included their relatively high cost compared with leaded pigments.

few cases, new pigment types or color shades allowing for a larger range of colors. With these recent advancements, organics have offered increased value.

Surfactants or "wetting agents" and dispersants are the smallest part of field marking paints. Typically only 1-2 percent of the total paint consists of these agents. Surfactants and dispersing agents get their name from how they perform. Surfactants are "surface active agents." Most dry pigments are "hydrophobic" in nature, meaning they fear water. Therefore, these surfactants allow the latex and water to combine with the pigments and stay "wet" in solution. Depending on its nature, surfactants will also aid in the wetting of the substrate or grass. The dispersing agents keep all the ingredients mentioned above in solution and prevent settling out.

Painting on multi-purpose fields

Permanent paint on the turf presents a problem to turf managers when their field is used for several different sporting events. The only available way to remove the paint is to wait for the lines and logos to wear out or use the old standby, chalk.

Several years ago our company, Whitlam Paint, with the assistance of David Frey, former field director of Cleveland Stadium, developed a temporary field marking paint named Temp-Stripe for multi-purpose natural turf fields. The idea was to produce a paint that could be applied like normal field marking paints, but could easily be removed from the field with the use of minimal water pressure.

One concern and probably the most critical, was how the temporary paint would hold up to foul weather, so what a better place to test it than at Cleveland Stadium, being known for its harsh and extreme weather. The paint proved effective and held through 3 days of rain before the event. When it came time to remove the paint from the field, water pressure was applied with a spray hose hooked to the sprinkler system and a light brush with a broom removed the paint effectively. It is possible to change a field over from football to baseball or football to soccer without having unsightly lines and logos cluttering up the field.

No longer can field-marking paints be considered a paint companies' scrap or reworked material. The manufacture and use of field marking paints has changed and advanced considerably in the past several years. Field marking paints have become more technologically advanced to provide for easier application, brighter, cleaner colors, and greater compatibility with the environment.

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Mark Whitlam is president of Whitlam Paint, 800-321-8358.



No longer can field-marking paints be considered a paint companies' scrap or reworked material.