



Nu-Gro Technologies: Healthy Microbes = Healthy Soil = Healthy Turf

**So, how do we get
to healthy turf?
The answer...
create a healthy soil.**

No matter what fertilizer product you're using for turf care, you're not really fertilizing the grass. What you're fertilizing is the soil, and the grass plant is the beneficiary.

"Getting the most out of your fertilizer involves nurturing the soil microorganisms that convert organic matter to humus. This builds a healthy soil layer within the turf root zone," explains Dr. Eliot Roberts, soil microbiology expert, turf scientist, and adviser to Nu-Gro Technologies, Inc.

The overall goal is healthy, green turf that is a pleasure to enjoy—turf that requires only a reasonable amount of maintenance to keep it that way.

"Without a good fertilization program, no soil has sufficient nutrients to produce turf that can withstand heavy use and regular close mowing," Roberts says. "For turfgrass to be properly fertilized, it is important to consider the needs of both roots and top growth. Mowing restricts root development by continually forcing plants to re-grow foliage rather than putting the plant energies into root growth."

Why do you need to be concerned about roots if the top looks good? Healthy roots, and the healthy plants they support, make it possible for turf to survive stress more easily. Stress results from heavy use, extreme heat, cold snaps, drought, excess moisture and the added pressure from insects and disease organisms. A fine, healthy turf will have a dense, green, even surface.

So, how do we get to healthy turf? The answer... create a healthy soil.

"Healthy soil is rich in humus, which is formed by decomposer microorganisms," Roberts explains. "These microorganisms consist of bacteria, fungi and actinomycetes, together with lesser numbers of other species that use carbon for energy to produce humus, using—then releasing—nitrogen back to the soil in a form that plants can use."

"Microbes, like all living organisms, need carbon to survive," Roberts says. "While plants get carbon from the atmosphere and use it through photosynthesis, microbes live in the dark soil and don't even contain chlorophyll. Microbes need an alternate source of carbon, and they get it from either naturally occurring sources in the soil—which are often not sufficient—or from an organic fertilizer," he says.

That's where Nitroform® ureaform comes in. As a nitrogen source, Nitroform 38-0-0 consists of carbon:nitrogen-linked polymers of methylene urea having a C:N ratio of approximately one to one. Because more than 70 percent of the nitrogen in the product is water-insoluble, it is released only gradually through microorganism activity. In other words, as the microbes feed on Nitroform to get carbon, they release nitrogen and make it available to the plants. Hence, a consistent, slow release of nitrogen makes your job easy.

You know the grass will get the nitrogen it needs—when it needs it, over many months of growing season, without concern about burning or nitrogen deficiency. Nitroform is resistant to leaching, which means it will stay in place regardless of watering practices.

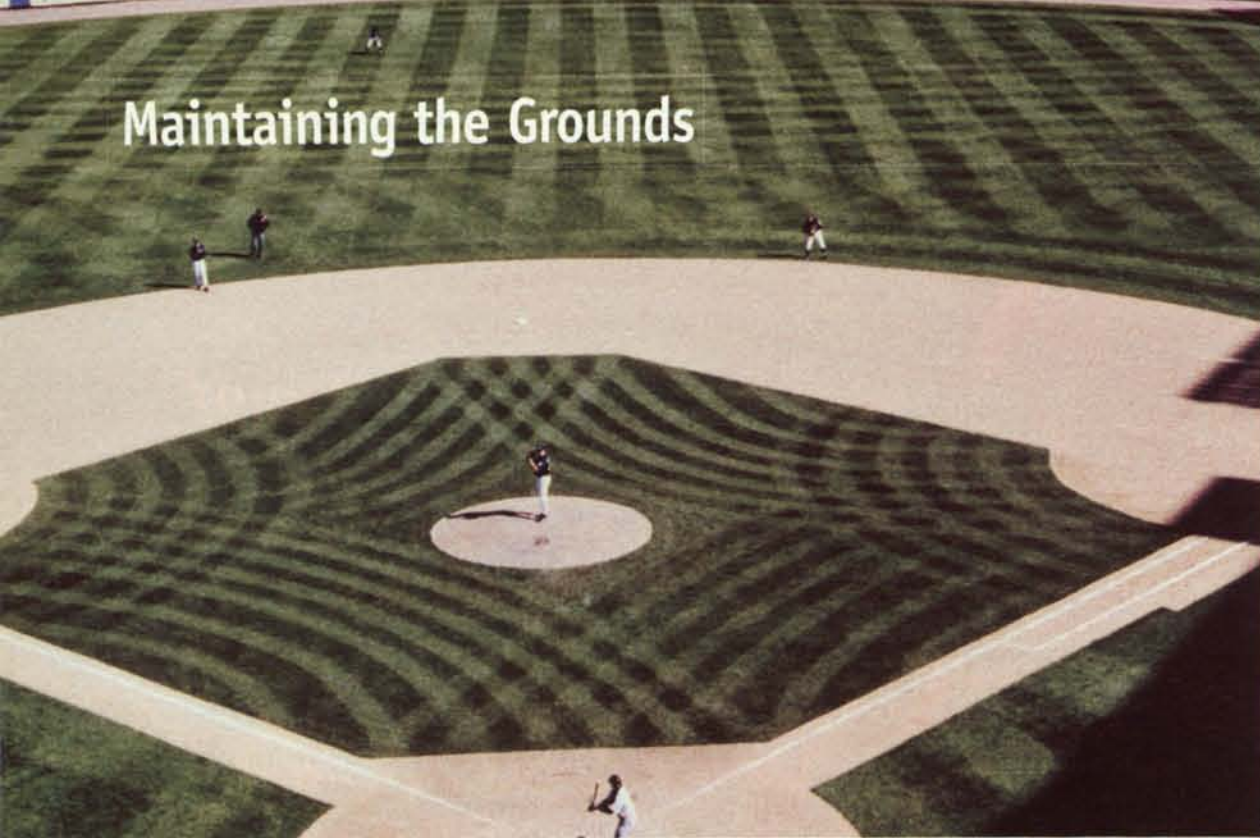
Do you have a problem soil, perhaps one that's very thatchy or subject to severe leaching or compaction? Nitroform ureaform, along with mechanical and other soil-corrective measures, may quickly reverse a troublesome situation and increase microbial activity at the same time.

Nu-Gro Technologies, Inc., 2680 Horizon Drive SE, Suite F5,
Grand Rapids, MI 49546 1-888-370-1874
www.nugrotech.com

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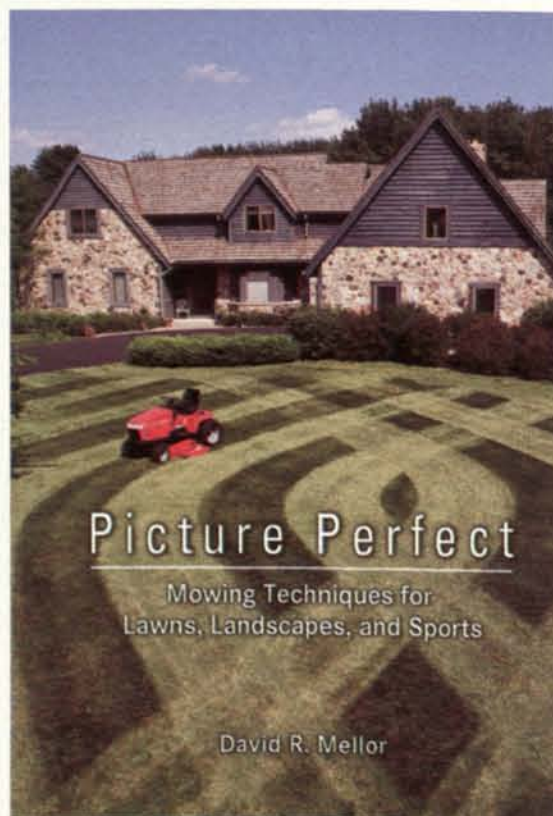
Maintaining the Grounds



Big League innovator a "Rembrandt of groundskeeping" from every row

STMA members' discount

David Mellor's book, *Picture Perfect*, is available through www.industrybooks.com or from Adams Book Guild (see page 9). Sports Turf Managers Association members can buy it at a reduced price through the association, 800-323-3875.



David Mellor changed the way America watches baseball with his innovative waves, diamonds, and other designs mowed into the field at Boston's Fenway Park and other ballparks. In his new book, *Picture Perfect: Mowing Techniques for Lawns, Landscapes, and Sports*, Mellor explains how anyone can turn his or her turf into a showpiece.

Mellor, now the director of grounds for the Boston Red Sox, first came up with the idea of eye-catching designs in grass in 1993 after a Paul McCartney concert in Milwaukee's County Stadium greatly damaged the field. (Maybe "Junior's Farm" really got to the Cheeseheads!)

To draw the crowd's attention away from the worn parts of the field, Mellor, then an assistant at that facility, created a striking design in the ballpark's infield. His innovation quickly caught on in ballparks and fields across the nation, and soon he was crafting patterns of greater and greater complexity.

Now Mellor has literally written the book on the subject.

Picture Perfect gives professional groundskeepers as well as weekend warriors detailed instruction on how to design and create intricate patterns in their grass using any lawn mower and a roller.

"This artwork applies the simple fact that blades of grass that point away from you look light and blades pointing toward you look dark," Mellor says. "*Picture Perfect* gives readers simple, easy-to-follow instructions on how to make their field or fairway, or lawn, an attraction that leaves admirers wondering, 'How'd he do that?'"

Looks neat from ANY row

Broadcaster and former major league player Bob Uecker said of Mellor, "Some artists use canvas to create a work of art. David Mellor uses a baseball field. His patterns are so precise and imaginative, I call him the Rembrandt of groundskeeping. He's a cut above the rest."

Picture Perfect gives you first-hand, step-by-step guidance on creating your own unique patterns. The author says it's easy to do, and requires no special equipment in many cases. You'll learn the basic patterns—checkerboard, stripes, diamonds, waves, arches and circles—in simple step-by-step instructions, along with practical advice on equipment selection and use.

Picture Perfect also teaches the basics of turfgrass management—everything from grass selection to fertilizers and mowing—to help keep private lawns healthy. Patterns are demonstrated in simple instructions followed by dozens of detailed photographs.

Mellor has become a media darling with the release of his book. After *Picture Perfect* was launched in Boston, NBC, CBS, Fox, and some cable networks featured his work. USA Today featured the book on the front page of the sports section in June, shortly after his debut with Bryant Gumbel on The Early Show.

The book includes step-by-step instructions for pattern making; 75 color photographs of elaborate patterns for sports, lawns and landscapes; guidance on seeding, fertilization, irrigation, and mowing; and equipment recommendations and examples.

ST



EXMARK'S ULTRAVAC™

The Exmark UltraVac Commercial Collection System, avail-

able for all Lazer Z®, Lazer Z HP, and Lazer Z XP models, features the multiple-bag collection system. Available with two or three bags, the UltraVac system is balanced to maintain the recognized stability of the Lazer Z units, and its compact size takes up minimal trailer space and makes it easier to work around trees, flower beds, etc.

Other features include: Quick-Attach, which allows you to switch from bagging to side-discharge in minutes without tools; a spindle-driven blower system, which has no auxiliary engine and thus runs more quietly, as well as a five-blade impeller for better collection; large diameter discharge tube to handle large loads with less clogging; and two 32-gal. collection bags (8 bushels total) on the 52-in. Lazer Z models and all Lazer Z HP models, and three 32-gal. (13.5 bushels total) on the 60- and 72-in. Lazer Z XP models.

EXMARK

For more information, circle 152



FAST MACHINE

Hustler® Turf Equipment says its Super Z™ is the fastest Z-rider on the market with a top speed of 15 mph, courtesy of a 25-hp Kawasaki engine, Hydro-Gear BDP21 hydraulic pumps and White CE 18 wheel motors. The unit includes a hydraulic oil cooler to extend its life. And a standard spoiler is included!

Either 60-in. or 72-in. side discharge deck can be purchased; a rear-mounted 9-bushel BAC-VAC™ catcher and mulch kits offer versatility, and 12.2 gal. of fuel keeps it mowing for more than a day without refueling, says Hustler. The Super Z also has all the other features of the Hustler Z-foot-operated deck-lift system, tough frame, deck, and front caster forks, good slope-handling, and a park brake system that's integrated into the steering levers.

HUSTLER TURF EQUIPMENT

For more information, circle 142



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NATIONAL MOWER

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MID-MOUNT MOWER

Bush Hog's mid-mount Zero Turn mowers feature maneuverability in a compact size. The ZT's have a pivoting front axle that follows ground contours, large caster wheels to reduce soil compaction, and a 18,500 fpm blade tip speed for clean cutting and even clipping distribution.

A "quick foot" height adjustment system quickly goes from 1 1/2 in. to 5 in. in 1/4-in. increments, while the dual caliper parking brake locks both drive wheels for secure transportation. These machines are available in your choice of four different engines and three decks (54, 60 & 72 in.) and cover ground speeds up to 10 mph. All models have a 2-year limited warranty.

BUSH HOG

For more information, circle 140



CUB CADET COMMERCIAL™ M60 TANK

Cub Cadet Commercial™ offers the M60 Tank mid-mount zero-turn mower with a 23-hp Kawasaki V-Twin OHV engine and a 60-in. Command Cut System deck. Cub Cadet Commercial also offers the M48 and M54 Tank models to handle a variety of tough landscaping jobs. Among the many features all of the Cub Cadet Commercial Tanks offer include:

Command Cut System™—Floating, fabricated cutting deck allows operator to achieve a better looking, quality cut. A 7-gauge skirt with welded steel bars for strength and protection, and 10-gauge top double reinforced at spindle area.

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CUB CADET COMMERCIAL™

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Maintaining the Grounds

STEINER OFFERS ENGINE CHOICE

The Steiner 2-Wheel Drive model 230 tractor features three engine options—a 20-hp Linamar, 28-hp Kubota diesel, and 25-hp Kubota gas. It also has a hydrostatic transmission, hydrostatic foot control, power steering, and auxiliary hydraulics. The front wheel drive machine has a low profile and features a 14-in. turning radius. The front-mount two-point Quick-Hitch allows you to connect attachments quickly.

The MD472 is a full-floating, 3-blade rotary mower with tapered roller bearing spindle assemblies, single lever cutting height adjustment, and high capacity discharge chute. Front caster wheels and a full-length rear roller assure smooth, even cutting. The flip-up deck can be safely serviced and cleaned while still attached to the tractor; handles enable the deck to be lifted vertically over 90 degrees so blades are fully exposed.

STEINER

For more information, circle 144



DEERE 1400 SERIES FRONT MOWERS

The John Deere 1400 Series mowers deliver traction, maneuverability, and productivity for all commercial applications, says the company. This line of mowers, powered by liquid-cooled Yanmar engines, includes the 28-hp, gas 1420; the 24-hp, diesel 1435; and the 31-hp, diesel 1445. The high-torque engines provide increased fuel economy, quieter operation, lower exhaust emission levels, and quicker starting.

Made to withstand a lot of wear and tear, the 1400s have high-strength, tubular steel frames; heat-treated, nodular cast-iron front and rear axles; heavy-duty, dual hydraulic cylinders; cast-iron rear bumpers; and composite hoods.

Each model features a patent-pending air intake system that allows air to enter from the rear and side of the mower, making for lower sound levels at the operator station and less debris buildup.

JOHN DEERE

For more information, circle 143

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BUNTON EXPANDS BZT 2000 SERIES

Textron Golf, Turf & Specialty Products has launched its new, expanded Bunton® BZT 2000 Series of zero-turn ride-on rotary mowers, with diesel, gas and fuel-injected versions for lawn care professionals. Established models in the line have updated engines and cutting widths of up to 72 in.

The entire line boasts sleeker looks. All-day productivity is enhanced by a fuel capacity of 12 gal. and new comfort features. The repositionable, high-backed, foam-padded seat includes standard armrests. The foot plate has been redesigned for greater operator comfort. Controls are more visible and easily accessible. All models feature an electric deck lift for climbing curbs and a headlight for working through dusk.

Bunton 2180ES

Inch for inch, the new Bunton 2180ES outperforms many larger zero-turn rotary mowers, says Textron. An 18-hp Briggs & Stratton Intek V-Twin engine powers it through tough mowing jobs. Its unique, compact design and true zero-turning radius enhance maneuverability. A 52-in.-wide, side-discharge deck and a top mowing speed of 8 mph allow the 2180ES to cut up to 3.5 acres per hour.

BZT 2200D

Bunton introduces the newest zero-turn diesel machine on the market, with the addition of a 20-hp Yanmar diesel engine. Diesels conserve fuel by almost 50 percent, produce higher torque and last longer, compared to gas engines. The BZT 2200D is available with a choice of 52- or 61-in. cutting decks.

BUNTON

For more information, circle 146



SWING HITCH SAVES TIME

First Products is offering its Verti-Cutter VC60 model for heavy-duty use on fairways, tees, etc. The unit has a swing hitch that allows you to turn while verticutting without tearing the turf. Adjustable depth guides make it easier to change cutting depths in the field without using any tools.

FIRST PRODUCTS

For more information, circle 147

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4-WHEEL INDEPENDENT SUSPENSION

Ferris Industries has a new line of mid-mount zero-turn mowers, the IS 4000Z, IS 3000Z, and IS 1000Z; the units offer two independent suspension options, including a new four-wheel independent suspension on the IS 4000Z model.

Instead of a pivoting axle, the front wheels on the unit move independently due to two suspension arms attached to each wheel. The arms are pivotally attached to the frame, and movement is controlled by a spring/shock combination. The front suspension system, combined with independent suspension on the rear wheels, eliminates shock and results in increased comfort, speed, stability, and mower life, says Ferris.

Other IS 4000Z features: 27-hp, liquid-cooled Kawasaki or 31-hp, liquid-cooled Daihatsu engine; 10-gauge 61- or 72-in. mower deck with double top deck, double-reinforced side skirts with lap-welded corners; twin 6.5-gal. fuel tanks;

adjustable, 360-degree rotating anti-scalp

rollers; and foot-operated deck lift.

The IS 3000Z features two-wheel independent suspension, the patented system of control arms and coil springs on the drive wheels that allow each wheel to move up and down independently. It features a 25-hp Kawasaki engine and 61-in. deck. The IS 1000Z offers either 21- or 23-hp Kawasaki engine and 10-gauge, 61-in. deck with double top deck, double-reinforced side skirts with lap-welded corners.

FERRIS INDUSTRIES

For more information, circle 150



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