

**The Concept**

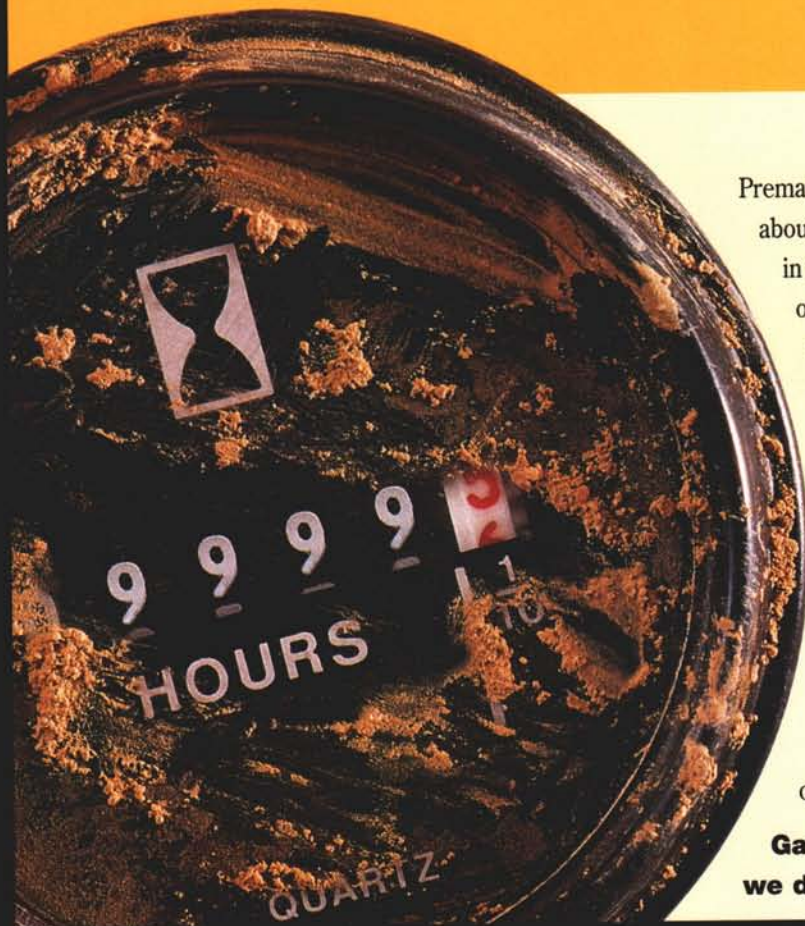
**Behind  
The  
John Deere  
GATOR  
Utility Vehicle**



**Is  
Simple**



# And We've worked it Thousands of Hours to prove It



Premarket field testing can tell you a lot about the way your equipment will hold up in the real world. In testing conducted at our field sites in Arizona, representative models of the 4x2, 6x4, and 6x4 Diesel really showed their stuff — logging more than 27,000 total hours without a major equipment failure. Pretty impressive numbers to say the least.

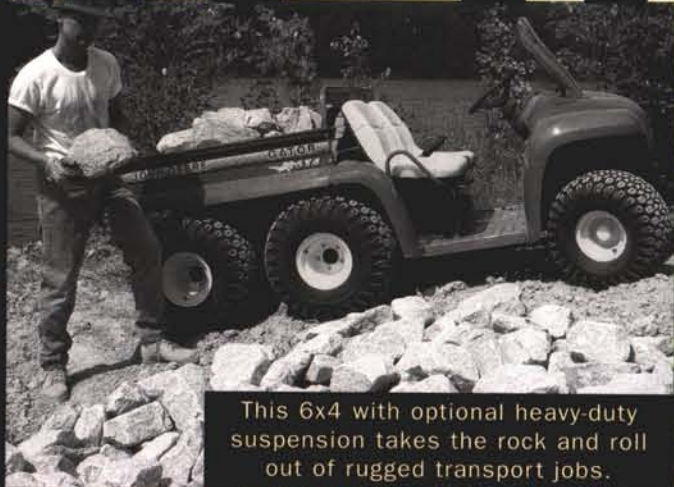
But the real test is the one you conduct yourself in your own applications. To line up your personal on-site test, contact your local John Deere dealer.

For the one near you, call 1-800-537-8233. Or visit us online at <http://www.deere.com>

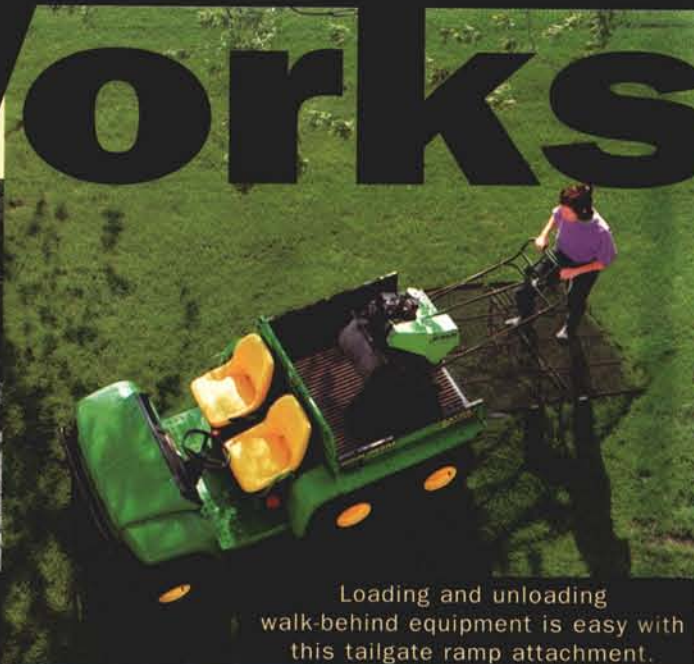


**Gator Utility Vehicles —  
we don't build them for the fun of it**

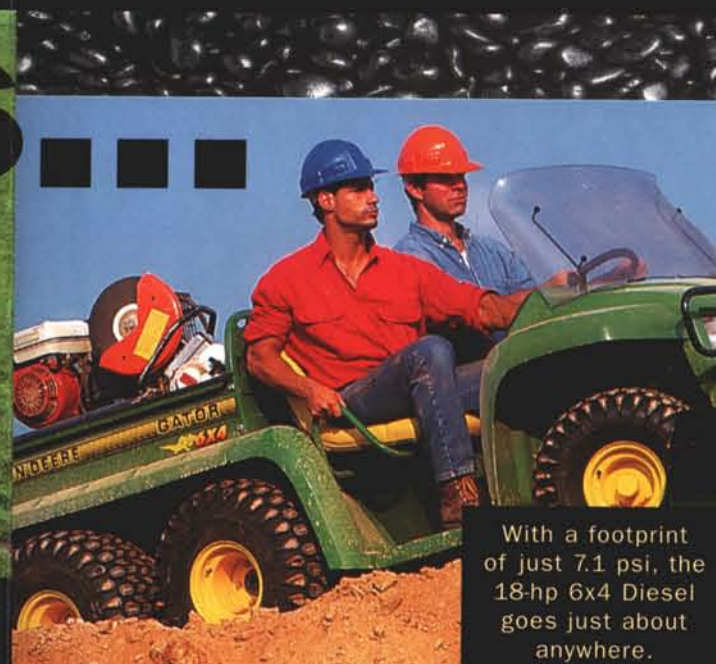
# It Works...



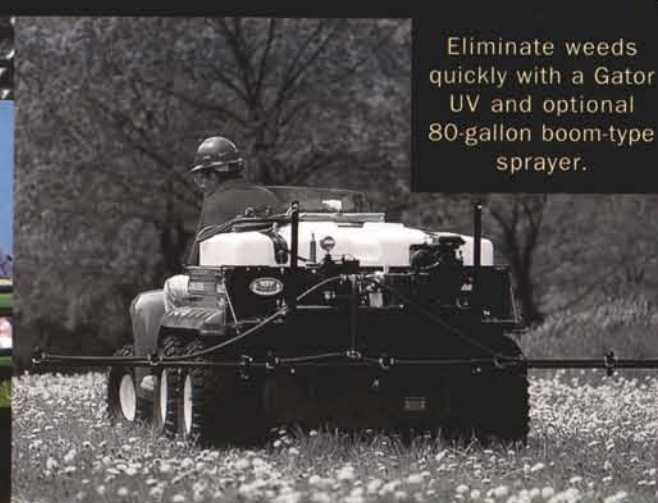
This 6x4 with optional heavy-duty suspension takes the rock and roll out of rugged transport jobs.



Loading and unloading walk-behind equipment is easy with this tailgate ramp attachment.

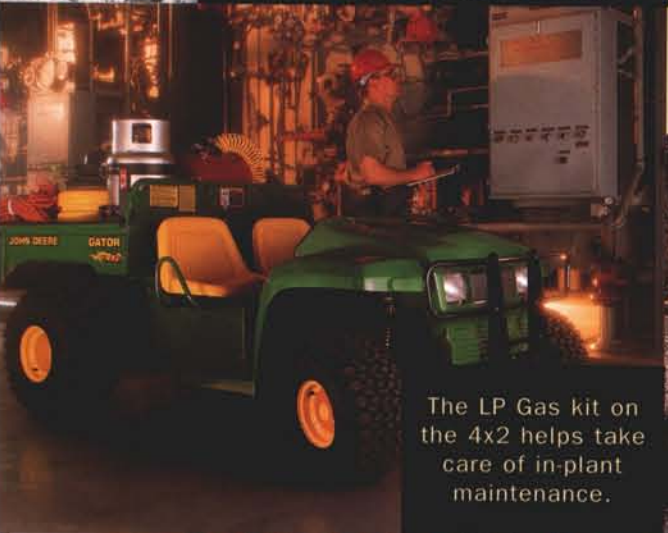


With a footprint of just 7.1 psi, the 18-hp 6x4 Diesel goes just about anywhere.

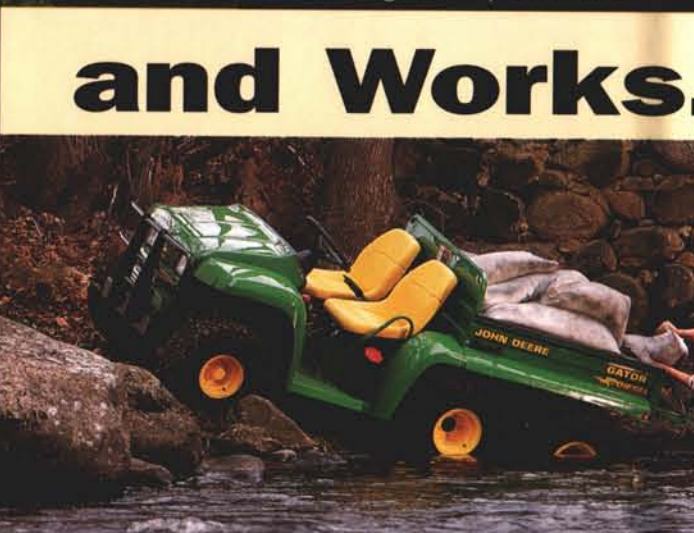


Eliminate weeds quickly with a Gator UV and optional 80-gallon boom-type sprayer.

## and Works...



The LP Gas kit on the 4x2 helps take care of in-plant maintenance.

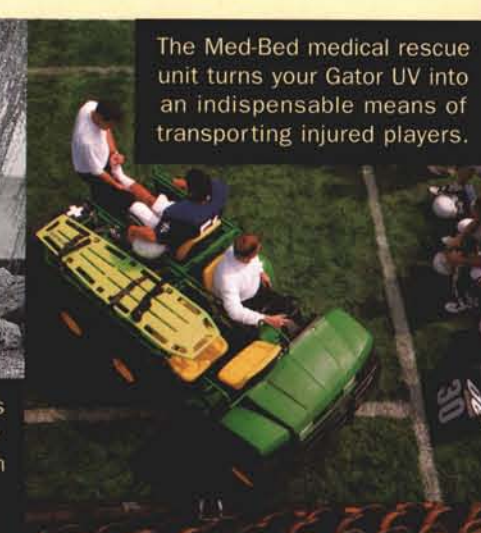


## and Works...

Despite their high flotation characteristics, Gator vehicles can't quite walk on water.



Optional lift kit lets you raise or lower the bed easily with a dash-mounted switch.



The Med-Bed medical rescue unit turns your Gator UV into an indispensable means of transporting injured players.

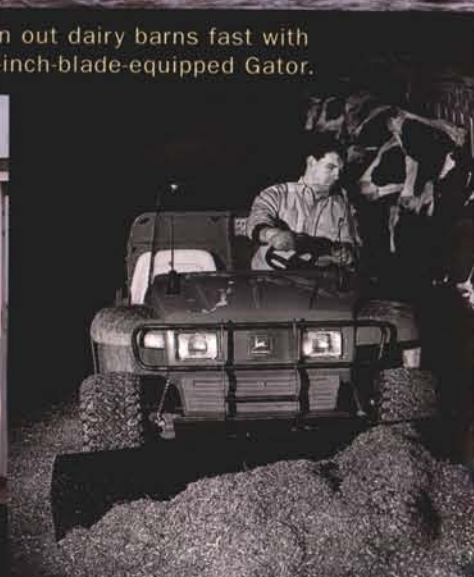


## PIONEER FLYING SERVICE

AIRPLANE RIDES • SALES • FUEL • REPAIRS

J.L. VETTE JR., PROP.

Even the 10-hp 2-wheel-drive Gator 4x2 has plenty of pulling power.



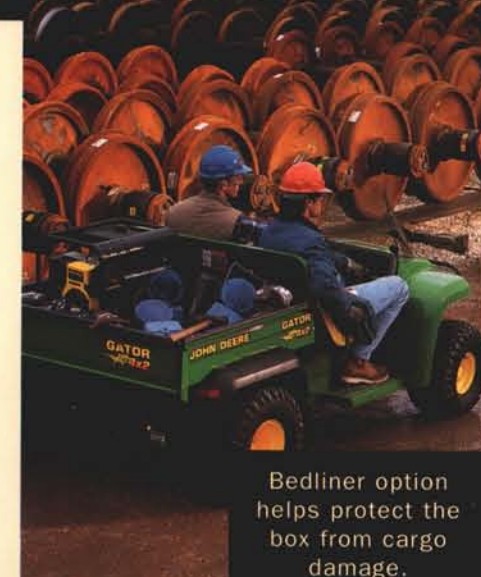
Clean out dairy barns fast with a 72-inch-blade-equipped Gator.

## and Works

With a John Deere Gator® Utility Vehicle, the play is **not** the thing. Gas or diesel, 2- or 4-wheel drive, the concept behind the Gator is simple — it works. And works. And works. Stable, surefooted and able to seat two-up comfortably, a Gator vehicle can tote up to 1,400 pounds\* — turf, trail, or no trail at all.

These go-anywhere haulers are the elite of the working class. The best full-time, no-nonsense, all-wheels-on-the-ground, off-road pack animals you'll find.

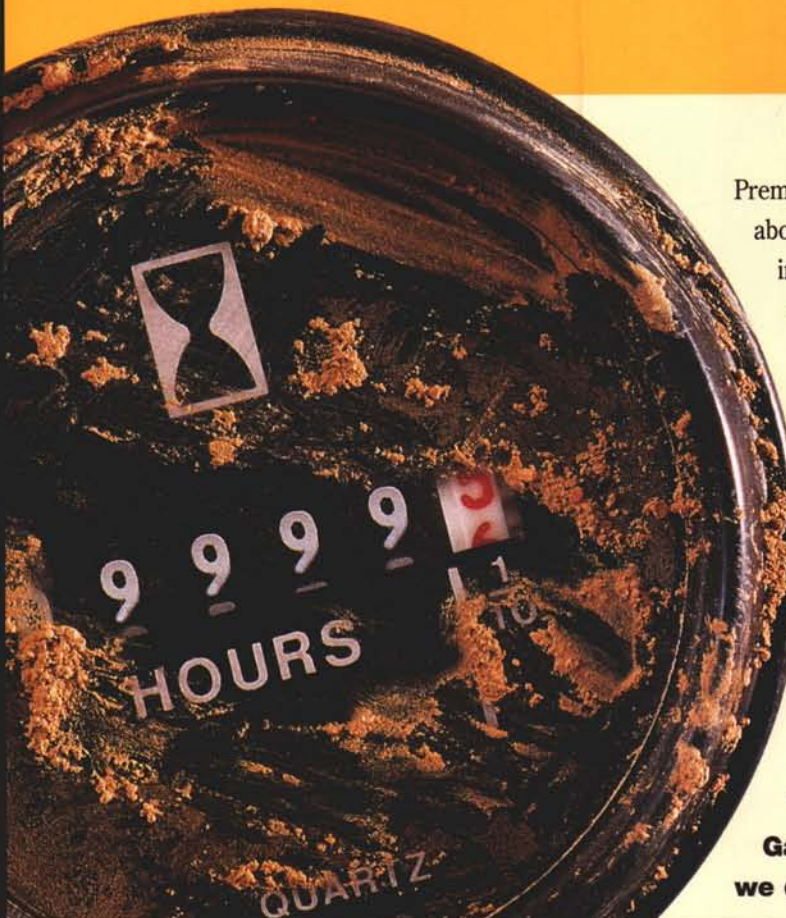
Get your hands on a Gator today.



Bedliner option helps protect the box from cargo damage.

\*Total capacity for the 6x4 Diesel — includes 200-pound operator, 200-pound passenger and maximum box capacity.

# And We've worked it Thousands of Hours to prove It



Premarket field testing can tell you a lot about the way your equipment will hold up in the real world. In testing conducted at our field sites in Arizona, representative models of the 4x2, 6x4, and 6x4 Diesel really showed their stuff — logging more than 27,000 total hours without a major equipment failure. Pretty impressive numbers to say the least.

But the real test is the one you conduct yourself in your own applications. To line up your personal on-site test, contact your local John Deere dealer.

For the one near you, call 1-800-537-8233. Or visit us online at <http://www.deere.com>



**Gator Utility Vehicles —  
we don't build them for the fun of it**

# Early- and Late-Season Fertilization

by Bob Tracinski

Sports turf managers fertilize to support and manipulate turfgrass growth on their fields. When properly combined with other cultural practices and matched to the turf's needs, growth cycles, and soil nutrient levels, early- and late-season fertilization are instrumental tools. A solid understanding of the basics is necessary to make that proper match.

## The basics

Like all plants, turfgrasses require essential nutrients for survival. Water (H<sub>2</sub>O) and carbon dioxide (CO<sub>2</sub>) provide the basic elements they need: oxygen (O), hydrogen (H), and carbon (C).

Other nutrients are divided into two groups: macronutrients and micronutrients. Macronutrients include: nitrogen (N), potassium (K), phosphorus (P), sulfur (S), magnesium (Mg), and calcium (Ca). Micronutrients include: iron (Fe), manganese (Mn), zinc (Zn), copper (Cu), molybdenum (Mo), boron (B), and chlorine (Cl).

Of the macronutrients, N, P, and K are categorized as major (primary) nutrients; plants need large amounts of these elements. Ca, Mg, and S are classified as secondary nutrients, and plants require lesser amounts of these materials.

Macronutrients and micronutrients are found in the soil, and all of them except N originate in the rock from which the soil was derived. N originates in the air, but atmospheric nitrogen is only available to plants when it is fixed in the soil either chemically or biologically. N can also be found in organic matter.

The amount of each element present in the soil varies depending on such factors as soil composition, temperature, precipitation rates, and humidity levels. These factors affect the accumulations of organic matter in the soil.

When soil resources do not provide adequate quantities of specific nutrients for the desired level of plant growth, fertilization supplies those nutrients. In such controlled situations as sports turf management, individual fertilization programs must be designed for the turfgrasses and soil profiles of each field.

Fertilizing products are available in liquid and granular forms, and they come in fast- and slow-release varieties. Factors such as application time and effort, costs, and the specific needs of individual fields help determine the appropriate form, type of release, and mix of nutrients.

## Assess conditions

Warm-season turfgrasses need nutrients most during the summer's active-growth period. Cool-season turfgrasses

require more attention when their growth peaks in the spring and fall. Ideally, adequate supplies of needed nutrients are available at the proper times to fill these needs, but there are additional considerations.

You must assess existing conditions. Soil testing can provide information on pH and certain nutrient levels, but the nutrients present in the soil may be unavailable to the plants if their uptake is hampered. This can indicate improper pH levels in the soil, or it may mean that previously applied fertilizer compounds haven't been activated.

Tissue testing provides a picture of what is being used by plants at the time of testing. Frequent tissue tests (monthly or bi-weekly if possible) reveal patterns that develop from such influences as weather changes and irrigation. Coupled with additional tissue testing in specific micro-climates or

## Laser Grading

with **GRADEMASTER**

- Laser Controlled Accuracy
- Final Grade Tolerance of only 1/4"
- Automated Operation
- Durable 1/2" Steel Construction
- 3-Point Hitch Maneuverability



GRADEMASTER allows you to complete final grading of tees in one-third of the time of conventional methods. And with over 18 years in the laser industry, Laser Leveling has the experience and knowledge to keep you at the top of your market.

Laser Leveling, Inc.



P.O. Box 338  
Lutz, FL 33548  
Tel: (800) 622-5777 (813) 949-4777  
Fax: (813) 949-0509

"We're Taking the Grading Industry to a New Level"

Call 1(800) 817-1889 use **FastFax #1091098** and/or Circle 109 on Postage Free Card

trouble zones, these tests provide valuable data for fine-tuning your fertilization program.

Sports turf managers often care for multiple fields, and soil profiles can range from native soil to sand based. Obviously, a native-soil field with common bermudagrass turf will have much different fertilization requirements than a sand-based field with an improved bermudagrass turf.

Further, fertilization programs become more complex if any of the warm-season turf is overseeded with cool-season turfgrasses. Even when fields are exclusively planted with cool-season turfgrasses, a variety of species and cultivars within those species will complicate requirements for specific nutrients within the fertilization program.

### Early- and late-season applications

Early-season fertilizer applications can serve several purposes. For cool-season turfgrasses, complete fertilizer compounds combine N, P, and K with other selected macro- and micronutrients. Fertilization can boost overall quality of weak or damaged turf, or it

can augment nutrient levels depleted by heavy precipitation.

When early snows disrupt your late-season fertilization schedule, early-season applications can help alleviate deficiencies. Spot applications of specific nutrients can balance uneven growth patterns caused by excessive wear or by certain cultivars' reactions to adverse winter weather. They can deepen the color of damaged or under-fertilized turf.

Early-season applications to cool-season turfgrasses that have been overseeded into warm-season turfgrasses can stimulate spring growth. This allows fields to be used while the warm-season turf is still dormant.

Once active growth approaches, combine heavy applications of N with reduced mowing heights. In conjunction with the naturally occurring higher temperatures, these measures assist transition by reducing the vigor of the cool-season turfgrasses and stimulating the warm-season turfgrasses. The timing of such applications should coincide with traditional early-season fertilization for warm-season turfgrasses.

Late in the season is the ideal time to fertilize cool-season grasses. In the cool-season zone, this application should be

timed to coincide with the natural slow-down of top growth. This enhances root development and builds hardiness, so the plant can withstand the winter and emerge in vigorous condition in the spring.

N and K are especially important for this purpose. On heavily used, multi-sport fields, choice of nutrients and the rate and timing of their application should be adjusted to keep existing turf active and to stimulate overseeded turf as late into the season as possible. On low-maintenance fields, 1/2 to 3/4 of the annual N supply may be applied late in the season.

Late-season fertilizer applications for warm-season turfgrasses also promote root development and increased hardiness. However, they are made in late summer, as the end of the plants' active-growth cycle approaches.

If your field is overseeded with cool-season turfgrasses, fertilization must be timed carefully to avoid late-season stimulation of the warm-season turfgrasses. This would divert energy to top growth at the expense of below-ground resources. Once the warm-season turf is dormant, fertilization programs can concentrate on the overseeded cool-season turfgrasses.

### Precautions

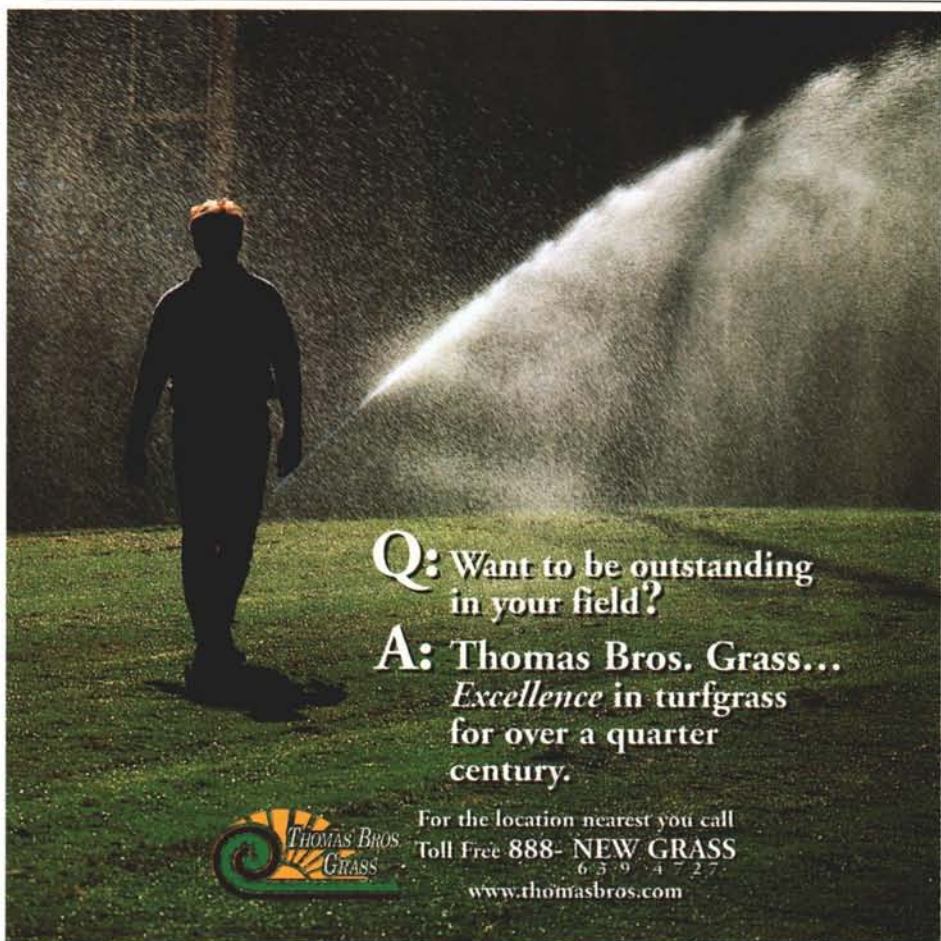
Sports turf managers have an obligation to use fertilizers properly to safeguard themselves, field users, and the environment. Always follow labels precisely.

Comply with application rates. More is not better, and it may be too much. Overfertilizing can produce adverse results rather than beneficial ones.

Whether you're making granular or liquid applications, make sure equipment is functioning properly and calibrated accurately, and that all safety features are in place and operational. Applicators face the highest risk of exposure, especially during mixing and loading procedures. Carefully follow all precautions related to appropriate clothing, safety equipment, and material handling procedures.

Coordinate applications around field-use scheduling and communicate with coaches and field-user groups. Follow appropriate posting procedures to comply with national, state, regional and local regulations, as well as any requirements established by your facility. □


*Bob Tracinski is business communications manager for John Deere in Raleigh, NC. He is public relations co-chair for the national Sports Turf Managers Association.*



**Q: Want to be outstanding in your field?**

**A: Thomas Bros. Grass... Excellence in turfgrass for over a quarter century.**

For the location nearest you call  
Toll Free 888- NEW GRASS  
6 5 9 4 7 2 7  
www.thomasbros.com



# Rookies



## New mowers from MTD

MTD's Pro series includes several new mowers. Gear Drive models come in deck sizes of 32-, 36-, 48-, and 52 in. The soft-touch VariTouch control system allows for instant adjustment to increase traction drive while on the go.

Dual Hydrostatic models have fixed decks in 36-, 48-, and 52-in. cutting widths, and floating decks in 48- and 54-in. cutting widths. Dual Hydrostatic pumps let the operator perform true zero turns with pistol-grip operation.

**MTD**

Circle 200 on postage-free card



## New lid protects

Reading's all-steel Aerotech service body offers weather-tight exterior storage compartments. The new AeroSlide sliding top adds complete protection to tools and equipment stored in the cargo area. The lid is held in position by spring-loaded latches. The rear gate has a two-point rotary locking system with a stainless-steel lock handle for added security.

**Reading Body Works, Inc.**

Circle 201 on postage-free card

## Aerator takes turns

The TurfVent CoreCaster Model CTV-52 core plug aerator allows a front-mounted commercial mower to aerate while turning in any direction, no matter how sharp the turns. It fits most popular front-mount mowers and

all Category 1 three-point hitches.

CTV-52 features heavy-duty caster assemblies with 360-degree, dual-quad TurfVent Ejector tine clusters. It core aerates a 52-in. swath to a depth of 3.5 in.

**Feldmann Engineering**

Circle 202 on postage-free card

## YOU COULD BE HONORED BY THE PROS!

Why not enter your baseball field in the Beam Clay® Baseball Diamond of the Year Awards contest? You need not be a customer, member, or subscriber; and there is no entry fee. You could be featured in **sportsTURF magazine** and receive an official awards plaque.

The Awards are sponsored by **Beam Clay®**, **sportsTURF magazine**, and the **Sports Turf Managers Assoc.**, in recognition of excellence and professionalism in maintaining outstanding, safe, professional quality baseball diamonds.

Entries will be judged in three categories: professional diamonds; college diamonds; and school, municipal or park diamonds.

### Send the information below to enter:

1. Age of baseball diamond (year of installation).
2. Geographic location (city and state).
3. Description of maintenance program.
4. Operating budget for baseball diamond.
5. Irrigation: None \_\_\_\_\_ Manual \_\_\_\_\_ Automatic \_\_\_\_\_
6. Total number of maintenance staff for field.
7. Does baseball field have lighting for night games?
8. Number of events on baseball diamond per year.
9. Types and number of events on diamond other than baseball?
10. How many months during the year is the field used?
11. Why you think this field is one of the best?
12. **IMPORTANT:** Send two sets of color slides or prints.

**Deadline for entries:** Entries must be postmarked no later than October 30. Selection of winners will be made by the Awards Committee of Four Major League Head Groundskeepers.

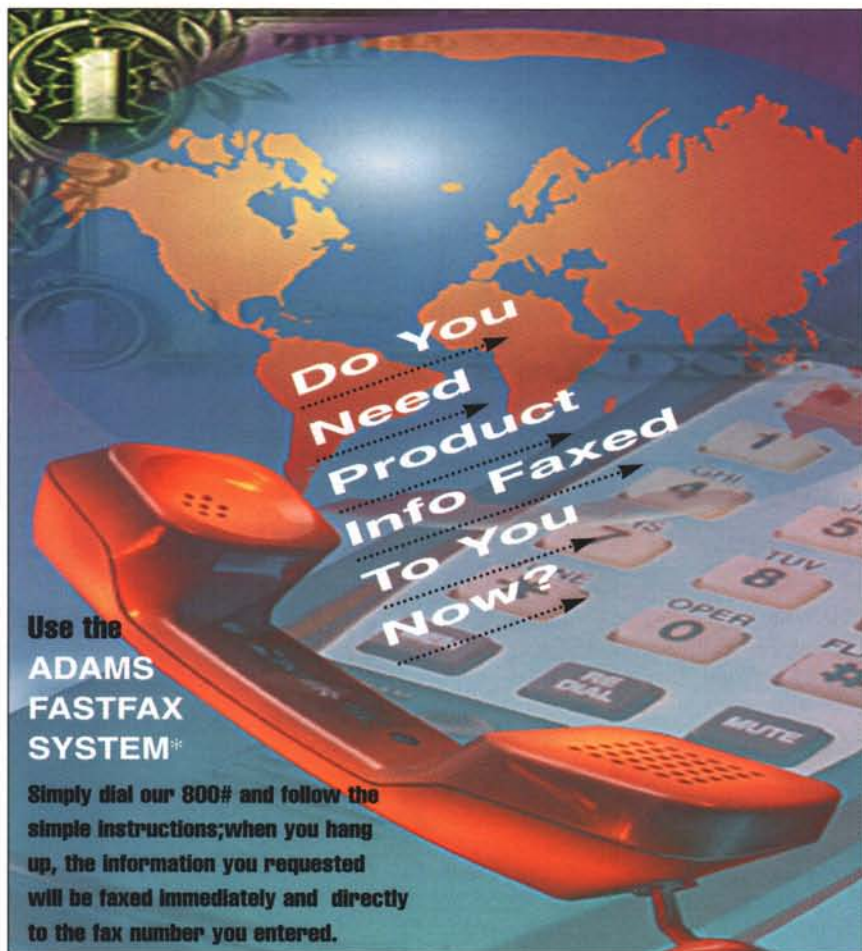
Mail entries to:  
**Beam Clay Awards**  
Kelsey Park  
Great Meadows, NJ  
07838



## Category Blast Service

Use this new Category Blast Service to get FREE information on the products or service categories listed below which you are planning to purchase within the coming nine months. You will receive information, and possibly other follow up contact, from appropriate companies advertised not just in this issue, but throughout the year in **sportsTURF**. Just circle the number(s) on the reader service card (opposite) corresponding to the product or service categories below and drop the card in the mail!

- 9001     **Aeration equipment**
- 9002     **Baseball Field grooming equipment**
- 9003     **Drainage**
- 9004     **Fertilizer / soil amendments**
- 9005     **Field covers**
- 9006     **Field marking paint / equipment**
- 9007     **Infield mixes**
- 9008     **Irrigation supplies**
- 9009     **Mowers**
- 9010     **Seed**
- 9011     **Site amenities**
- 9012     **Sod**
- 9013     **Turf equipment**



**Do You  
Need  
Product  
Info Faxed  
To You  
Now?**

**Use the  
ADAMS  
FASTFAX  
SYSTEM<sup>SM</sup>**

Simply dial our 800# and follow the simple instructions; when you hang up, the information you requested will be faxed immediately and directly to the fax number you entered.

## Product Information

for every

# Tom, Dick, and Harriet.



In every issue of our magazine, you can choose from more than 100 brochures covering the latest products, services, and company information.

Looking for the information is easy. Visit the Reader Service area on [greenindustry](http://www.greenindustry.com), and place your order today!

<http://www.greenindustry.com>

*The fast way to get what you need.*



# BOOKSTORE

**Lawns: Basic Factors, Construction, and Maintenance of Fine Turf Areas, by Dr. Jonas Vengris and William A. Torello.** Designed as a textbook or a practical usage manual, this book has been completely brought up-to-date. Care of lawns and turfgrass, from selection of varieties to maintenance of established grass is completely covered. A needed tool for gardeners, nurserymen, county agents, landscape designers, and a text for college turfgrass courses. This is the most up-to-date book on turf management available today. 195 pgs. **4128 \$15.50**

**Maintain It Easy—Keep It Safe, by Floyd Perry.** Learn from hundreds of instructional photos featuring all aspects of softball field groundskeeping. Explains: Lip reduction; setting of multiple bases and pitching plates; dragging equipment and patterns; base line options; unique complex ideas; dugout design; batting cage and hitting station; layout; water removal and much more. Unique field ideas from across the country. **4023 \$37.00**

**Management of Turfgrass Diseases, Joseph M. Vargas, Jr.** Completely revised and updated to provide the latest information on maintaining a healthy turf and identifying turf diseases. covers cultural, genetic, biological and chemical approaches to turf management and provides practical solutions to everyday problems. Fungal, bacterial and viral diseases; black layer disease; and diseases caused by nematodes are addressed for all major grasses. Tips on irrigation, fertilization, and grass culture w. 72 full-page photos and more than 100 figures. 320 pgs. **4016 \$67.00**

**HORTUS, 3rd, by Staff of the L.H. Bailey Hortorium, Cornell University.** Hortus Third accounts for the botanical names of 34,305 families, genera, and species, and a large but uncounted number of subspecies, varieties, forms, and cultivars. Each entry with a description includes the correct botanical name with its author or authors and, as appropriate, botanical synonyms, common names, indication of nativity, and notes on use, propagation, and culture. 1,312 pgs. **4137 \$189.25**

**Pictorial Guides to Quality Groundskeeping Book I and Book II, by Floyd Perry.** The only textbooks on the market for the grounds supervisor, athletic coach, little league volunteer, or baseball purist. Over 500 photos in each text with many in color. Book One, "Covering All The Bases" (100 pgs) covers Mound and Home Plate Repair; Edging, Dragging, Lip Reduction; Water Removal; Homemade Equipment and Tricks of the Trade. Book Two, "There Ain't No Rules", (108 pgs.) covers Football, Soccer, Softball, Little League, Minor League, College and High School Facilities. Also covers Curbside Appeal; Tricks of the Trade, New Ideas for Easy Maintenance; Professional Research from Higher Learning Centers and much more. **4008 - Book I 4009 - Book II \$36.60 ea. 4022 - 2 bk set. \$69.90**

**Color Atlas of Turfgrass Diseases on Golf Courses, by Dr. Toshikazu Tani and Contributing Author, Dr. James B. Beard.** Presents over 350 high-quality color photographs of all the major turfgrass diseases that occur on both warm and cool season grasses and is international in scope. The standard color guide to disease diagnosis and pathogen identification for golf course superintendents and turfgrass practitioners. Maps are included to assist in disease identification by providing geographical locations where each disease/pathogen is likely to occur. It also provides color photos of step-by-step guidance on diagnostic techniques for laboratory analysis which can be used by practitioners. 140 pages. **4005 \$79.95**

**Please Complete The Form and Return • Indicate Quantities of Each Title See our complete catalog listing & order online at [www.industrybooks.com](http://www.industrybooks.com)**

## PAYMENT MUST ACCOMPANY ALL ORDERS

Payment Enclosed To charge an order by phone, call 1-800-396-3939

Charge my Credit Card  Visa  M/C  Amex Signature \_\_\_\_\_

Card Number \_\_\_\_\_ Exp Date \_\_\_\_\_

IL residents add 8.25% sales tax

Name \_\_\_\_\_

Title \_\_\_\_\_

Company \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Country \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_

**ALL SALES ARE FINAL • PLEASE ALLOW 4 WEEKS FOR DELIVERY**

**ADAMS BOOK GUILD • 2101 SOUTH ARLINGTON HEIGHTS ROAD, SUITE 150 ARLINGTON HEIGHTS, IL 60005-4142  
TEL: 1(800)396-3939 • FAX: (847)427-2037**

5T6

**INCLUDE SHIPPING & HANDLING: 1-2 bks \$7.50 3-6 bks \$10.00 • 7-10 \$15.00 10+ \$21.00**

**ADAMS BOOK GUILD**  
THE INDUSTRY'S PROFESSIONAL BOOKSTORE

4016	Management of Turfgrass Diseases	\$67.00
4005	Color Atlas of Turfgrass Diseases on Golf Courses,	\$79.95
4008	Pictorial Guides to Quality Groundskeeping Book I	\$36.60
4009	Pictorial Guides to Quality Groundskeeping Book II	\$36.60
4022	Pictorial Guides to Quality Groundskeeping 2 bk set.	\$69.90
4128	Lawns: Basic Factors, Construction, and Maintenance of Fine Turf Areas	\$15.50
4023	Maintain It Easy—Keep It Safe	\$37.00
4137	HORTUS, 3rd	\$189.25