THE FIRST...4-wheel drive lightweight, 5 gang, tractor reel mower



Hydrostatic transmission, diesel, Kubota reliability





Fixed cutting unit, with anti-scalp rollers.

Floating cutting unit with front roller

- Low total unit weight reduces compaction
- New optional front tire track removal brushes virtually eliminate tracks, ideal for fairways
- Finger-tip hydraulic controls, for 3, 4, or 5 gang operation
- Offers the traction needed to mow slopes and in difficult conditions





Rear mower assembly detached

Finger-tip controls for easy fold-up and transportation

- Quick detach rear mower assembly
- Small tractor maneuverability and economy
- All new cutting units with single bedknife adjustment
- Fixed or floating cutting units with quick height adjusters

Available as a standard or golf course model



7320 Haggerty Rd./Canton, MI. 48187 Telephone (313) 459-3700 Woodbine Avenue/Keswick, Ontario, Canada L4P 3E9 Telex 065-24161 Telephone: (416) 476-4311

Circle No. 105 on Reader Inquiry Card

On Design MAKING A SPL2ASH

by Heide Aungst, managing editor



The Hyatt Regency-Scottsdale doesn't have a swimming pool. A ½-acre "water extravaganza" is more like it. Landscape architects SWA Group of Sausalito, Calif. worked closely with hotel architects Howard Fields and Associates of Sausalito and Hornberger, Worstell and Associates of San Francisco in designing the \$3.8 million water playground in the middle of Arizona's desert. Date palms averaging 30 feet in height surround the pool area, adding a touch of green to the blue oasis. More than 300 date palms can be found on the hotel's eight landscaped acres. Turf under the palms is a combination of bluegrass, fescue and rye. The boxes next to the pool hold California pepper trees. While guests take a dip, they can watch others playing golf at the 27-hole Gainey Ranch Golf Club. Bill Callaway, principal of SWA Group, says drainage is the biggest consideration in planting around pool areas. "Chlorine kills the plants if it gets on them," Callaway says. "You have to put drains in the deck area to take the water away." The hotel was completed in December 1986.



The Peridian Group landscape architects took two different approaches to the pools at the Ritz Carlton, Laguna Niguel, Calif. Towering Mexican fan and queen palms highlight the South pool area. Various annuals, such as blue salvia or snapdragons, are rotated to provide accents of color under the palms. Pool paving includes scored, colored concrete in a large pattern to complement the size of the pool area. The architects also installed Grasscrete paving to provide fire access around the pool.

Peridian designed the North pool area (inset) as a tree canopied garden using rusty leaf figs (ficus rubiginosa), California sycamores, podocarpus gracilior and tabebuia. Turf is a Marathon sod of various fescues. Flowers include impatiens and bedding begonias. The unique irregular shaped pool paving was quarried in Mexico. Peridian Group completed the project in summer 1984.



Preserving the wooded atmosphere of this home in Oyster Bay, N.Y. was the goal of designer/installer Alley Pond Nurseries Huntington, Inc. of Dix Hills, N.Y. The firm built the pool deck around existing trees, including redbuds, weeping hemlock and birch. They accomplished this by changing the grade at one end of the pool to accommodate a low retaining wall of ties supporting the deck. The design won a 1986 National Landscape Association's "Superior Award." Judges cited the different levels created by the steps as an important design element adding interest to the deck. The waterfall in the pool allows homeowners to hear water at all times.

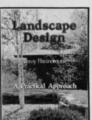


The owners of this Fort Lauderdale, Fla. residence and pool removed all plant materials during extensive home renovations. Landscape architect J. Roland Lieber of Naples, Fla. and installers Friends Landscape Inc. of Fort Lauderdale created an illusion of privacy with plant materials. They did this by designing planter areas and raised planter boxes around and in the pool. In the boxes they planted Alexander palms, bougainveillea, self-heading philodendron, liriope, asparagus fern and carissa. Lieber won a 1986 National Landscape Association "Superior Award" for successfully restoring the property's lush vegetation.

BOOKSTORE

Cost Data for Landscape Construction 1987 FF





345 - COST DATA FOR LANDSCAPE CONSTRUCTION 1987 Kathleen W. Kerr, Editor An updated unit cost data reference Developed unit cost data reference for designers and cost estimators. Developed to fill the tremendous need for detailed landscape con-struction cost data. Laid out in easy-to-use CSI format. Annual \$32.00

350 - HANDBOOK OF LANDSCAPE ARCHITECTURAL CONSTRUCTION

ARCHITECTURAL CONSTRUCTION edited by JoC Cargenter A practical how-to reference on landscape construction. Published by the Landscape Architecture Foundation, the book carries the expertise of more than 25 land-scape professionals. \$45.00

300 - LANDSCAPE DESIGN: A PRACTICAL APPROACH

by Leroy Hannebaum Geared for the commercial de-Geared for the commercial de-signer/salesperson, this is a one-stop guide to the landscape design process. Covers the entire highly competitive field including design analysis techniques, pointers on land forms, specialized business landscaping methods, environ-mental design guidelines, specifications, estimations, bids. \$33.95

370 - LANDSCAPE OPERATIONS: MANAGEMENT, METHODS & MATERIALS

MATERIALS by Leroy Hannebaum An in-depth examination that com-bines technical training in landscape science with methods of accounting, business management, marketing and sales. Discusses effective methods for performing lawn installations, landscape plant-ing and maintenance. Step-by-step accounting calculations are exaccounting calculations are explained in simple terms. \$31 \$31 95

365 - LANDSCAPE PLANTS IN DESIGN

DESIGN by Edward C. Martin An annotated photographic guide to the design qualities of ornamental plants and their aesthetic and funcplants and their aesthetic and func-tional use in landscape designing. Over 600 trees, shrubs, vines, ground covers and turfgrasses are described in nontechnical language. Over 1900 photographs. Provides a basis for selecting the best plant materials for any particular use in landscape design. Contains detailed indexes that provide quick refer-ence to particular design qualities and growing conditions. \$55.00

375 - RESIDENTIAL LANDSCAPES by Gregory M. Pierceall An excellent reference for individu-als involved in the design and development of plantings and con-structed features for residential cites. Ill victoring and child cocistructed reatures for residential sites. Illustrations and actual resi-dential case study examples are used to communicate graphic, plan-ning and design concepts which are the focus of this text. \$36.95











guidelines on preventative mainte-nance, repair and chemical control, how-tos of diagnosing plant prob-lems, practical data on noninfectious disorders, diseases, in-sects and related pests and pest management. \$47.95

665 - ARBORICULTURE: THE CARE OF TREES, SHRUBS AND VINES IN THE LANDSCAPE by Richard W. Harris Provides comprehensive coverage of complete planting, site analysis, preparation and special planting methods, fully detailed coverage of fertilization, irrigation and pruning muldelines con preventative mainte-

720 - SHRUB IDENTIFICATION by George Symonds Pictorial key to identify shrubs. Contains more than 3,500 illustra-tions to check specimens. Popular and botanical names are given for each shrub and handy index tabs

720 - SHRUB IDENTIFICATION for quick reference \$12.95 paperback

750 - TREE IDENTIFICATION

by George Symonds Pictorial reference to identifying Proctinal reference to identifying trees by checking leaves, buds, branches, fruit and bark. Like its sister publication. SHRUB IDENTI-FICATION, popular and botanical names are listed with index tabs for easy reference. \$14.95 paperback

760 - TREE MAINTENANCE

by Pascal Pirone The fourth edition of this guide for anyone involved in the care and treatment of trees. Special sections on tree abnormalities, diagnosing tree troubles, non-parasitic injuries and assessing the suitability of different trees. \$49.95

565 - WEEDS

565 - WEEDS by Walter Muenscher Second edition. Premier text for identification and basic natural his-tory for seeds found in the continental United States and Can-ada. Ecological data on weed biology combined with excellent keys and plant descriptions make this an essential reference book. \$39.95

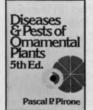
405 - WOODY ORNAMENTALS by Partyka, Joyner, Rimelspach, Carver

Carver Illustrates plant identification characteristics. Organized in two basic sections: plant identification and plant disorders, this text uti-lizes 430 color photos, 430 line drawings and 45 black and white photos to simplify identification. **532**:50 \$32 50

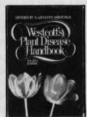












410 - DISEASES & PESTS OF ORNAMENTAL PLANTS

ORNAMENTAL PLANTS by Pascal Pirone This standard reference discusses diagnosis and treatment of dis-eases and organisms affecting nearly 500 varieties of ornamental plants grown outdoors, under glass or in the home. Easy to understand explanations of when and how to use the most effective fungicides, insecticides and other control methods. \$34.95

690 - INSECTS THAT FEED ON TREES AND SHRUBS

by Johnson and Lyon Essential information for identifying more than 650 insect pests and the injuries they cause. More than 200 color illustrations. \$49.50



by Kenneth Horst This fourth edition offers profes-sionals the latest diagnostic and disease control information. Plant entries designed to simplify diagno-sis, plus background on the classification of plant pathogens. This backback music a sense fic This handbook gives a specific description of each disease, sus-ceptible plants, specific symptoms of the disease, reported locations and control measures for each disease and their side effects. \$41.95

BOOKSTORE

010 - ADVANCES IN TURFGRASS PATHOLOGY

PATHOLOGY by Joyner and Larsen Leading U.S. turf pathologists re-port on turfgrass diseases, pythium blight, snow molds, fairy rings, lead spot of Kentucky bluegrass in Min-nesota, initial and field fungicide screening, turfgrass disease resis-tance, etc. Contains new ideas on how to combat turfgrass prob-lems. \$27.95

220 - CONTROLLING TURFGRASS PESTS

PESTS by Shurtleff, Fermanian, Randell New comprehensive guide provides the most up-to-date information available on the identification, biol-ogy, control and management of every type of turfgrass pest. Covers weeds, insects, animal pests and diseases in detail. Also provides information on cultural manage. information on cultural manage-ment practices: the establishment, care and renovation of low-, medium-, and high-maintenance turf areas. 50 color and 400 black and white photographs. \$27.95

TURF

anat handbook

654 - MANAGEMENT OF TURFGRASS DISEASES

TURFGRASS DISEASES by J.M. Vargas Identifies turfgrass diseases by de-scription and illustration. Includes a holistic approach to healthy turf and lawns. Presents practical management strategies for golf courses, lawns and athletic fields. 204 pages, illustrated. **\$26.70**

615 - TURF MANAGEMENT FOR GOLF COURSES

by James Beard Written by an eminent turfgrass researcher, this USGA sponsored text is an ideal reference and "how to" guide. Details all phases of golf

to guide. Details an phases of go course design and construction, turf management, course adminis-tration, irrigation, equipment and disease and pest control. Fully illustrated. **\$52.75**



620 - TURF MANAGEMENT HANDBOOK

TURIGR/ PESTS

HANDBOOK by Howard Sprague Practical guide to turf care under both healthy and poor turf condi-tions. Chapters cover turf in cooler and warmer regions, tertilizer use, regular turf care, weed and disease control and special turf problems. Useful seasonal schedules for management of turf areas. \$19.00





110 - TURF MANAGERS' MANDBOOK Second Edition by Daniel and Freeborg ENTRELY UPDATED. A practical guide for the turf practitioner. Chap-ters on grasses, growth regulators and diseases have had actensive men dised to reflect the current been added to reflect the current been added to reflect the current been added to reflect the current berniques available for turf mana-gers. Offers recommendations for effective turf protection through in-tegrated pest management. Includ-ed are alternate plans for providing and improving safe, uniform turf-grass for sports fields. Outline for-mation successful to use and a turf ass science. \$32.95

225 - TURFGRASS MANAGEMENT

by A.J. Turgeon Revised edition. Covers the latest developments in turfgrass science and technology. Heavily illustrated with dozens of new drawings. Pro-vides specific recommendations for applying the newest pesticides, fer-tilizers and other materials to combat turfgrass problems. A valuable reference for diagnosing problems and determining their causes. \$32.95

THE GOLF COURSE

630 - TURFGRASS: SCIENCE AND CULTURE

CULTURE by James Beard Comprehensive basic text and ref-erence source used in many leading university turf programs. Includes findings of current research com-piled from more than 12,000 sources. \$34.95

640 - TURF IRRIGATION MANUAL

640 - TURF IRRIGATION MANUAL by James Watkins A guidebook for engineers, archi-tects, designers and contractors. Keeps pace with the latest develop-ments in turf and landscape irrigation. Specific chapters devoted to rotary sprinkler design systems. Golf course design systems and expanded engineering and refer-ence material. \$23.95



_

Mail this coupon to: Book Sales



I

I

I

I I

I

I

AND

CULTUR

Harcourt Brace Jovanovich Publications

800 - THE GOLF COURSE

HOI

TH

12 m

for the L-H

OPE

800 - THE GOLF COURSE by Cornish and Whitten The first book ever to give the art of golf course design its due, and golf course architects the credit and recognition they deserve. 320 pages and 150 color and black and white photographs. Traces the history and evolution of the golf course, analyzes the great courses, shows how they were designed and constructed. \$35.00

510 - HORTUS THIRD from Cornell University A 1,300 page concise dictionary of plants cultivated in the United States and Canada. A reference which every horticulture professional sho have. \$125.00 ould



635 - IRRIGATION PRINCIPLES AND PRACTICES

AND PRACTICES by Hansen, Israelsen, Stringham A new fourth edition of this highly successful textbook presents essential concepts pertaining to water conveyance, application, storage in the soil and use by plants. Basic underlying principles that govern irrigation practices are stressed. \$57.00

125 - SCIENTIFIC GUIDE TO PEST CONTROL OPERATIONS

by Truman, Bennett, Butts Provides a sound basis for studying the technical aspects of pest control. Covers pesticides, safety. health and environmental concerns, equipment, flies and mosquitos, rats and mice, birds and much more. \$35.00

and door	One East F	One East First Street, Duluth, MN 55802										
toperan b	Name	dw dehit he	damage and	al anoducts to								
TUS IRD	Street Address	Contra Maria	200									
	P.O. Box Number		1 martine	and the second								
	City/State/Zip											
	1 1			1.								
Dictionary Initivated in ed States	Purchase Order Number	S.C. Barris		a maner								
Camada La car	SignatureDate											
	Please send me the following books. I have			amount.								
Bulky Hortorium, University	Please charge to my Visa, MasterCard or American Express (circle one) Account NumberExpiration Date											
	BOOK NUMBER AND TITLE	QUANTITY	PRICE	TOTAL PRICE								
Applicator Twining	*Please add \$3.00 per order plus \$1 for postage and handling.	.00 per additional										
	Please allow 6-8 weeks for delivery.	stage & handling)										
•	Prices subject to change. Quantity rates available on request.	Prices subject to change. Total Enclosed_										
Contraction of the												

PURCHASING

... for price, performance and profitability.

by Rudd McGary and Ed Wandke

nventory control and product purchasing are not issues limited to only large companies. Today, multiple reasons exist for green industry firms to take more time making product selections.

Issues that need to be addressed are:

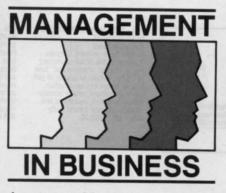
• legal reporting requirements for material usage,

• determination that products were applied in accordance with the label rates for the product, and

 cost impact of excessive materials usage in reducing a firm's profitability.

The process of selecting materials for the coming year should not be limited to price consideration. Today, turf professionals must make decisions about the most cost-effective products for the properties they maintain. Other considerations are the constant development of new products and the multiple formulations available.

The problems confronting a turf manager cover three basic areas. First: how to determinine the true cost of products used; second: how to determine the effectiveness and selection of products to be used; and third: why



there is a need for variable agronomic programs for the turf being serviced.

Material costs

In analyzing the total cost of using various products to control turf problems, a system needs to provide information to the management on a daily basis. This data should be capable of fulfilling the many regulatory, accounting and operational functions needed to manage a business. A typical system should contain the following:

1. Total turf area treated by day by an employee.

Total product usage for the day.
Projection of product usage based on the agronomic program the

employees are supposed to be applying.

4. Comparative analyses of the actual product used per day vs. the agronomic program for the day vs. the area treated for the day.

5. Comparison of product usage with labels for over or under application.

6. Service calls run for the day by employee.

7. Service call product usage by area treated.

8. Reconciliation of product usage with the physical inventory.

9. Monthly summary of the daily data and its transfer into the accounting permanent records.

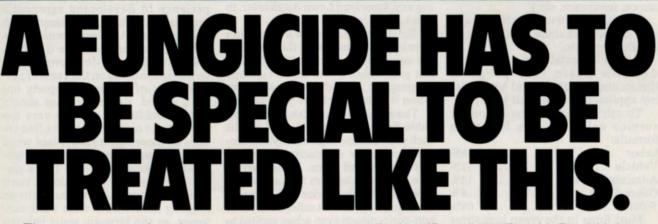
This system, though designed to account for product usage, also provides management with an insight into many other areas of the company's performance.

Employee performance has a definite impact on profit. Here are the areas that should be considered:

1. Total area treated for the day: was the work performed too quickly resulting in increased service calls in the future?

2. Product usage for the day: was the product applied at a rate under the





There are more superintendents on more courses treating more acres with Daconil 2787[®] fungicide than with any other turf fungicide.

In fact, nearly two-thirds of all U.S. golf courses are now being treated with regularly scheduled applications of Daconil 2787.

Because Daconil 2787 is the only fungicide that has a proven record of delivering consistent, first-rate control of 12 major turfgrass diseases. Including such tough ones as Helminthosporium melting out, benomyl-resistant dollar spot and large brown patch.

What's more, there has never been a single documented case of resistance in over 15 years of continuous use. Even on courses where Daconil 2787 was applied at weekly intervals for many seasons. Convincing proof that you don't have to alternate Daconil 2787 to avoid developing resistance.

And when it comes to cost per 1000 sq. ft., a single

application of Daconil 2787 Flowable Fungicide is more economical than most other fungicides.

Plus you never have to add a costly spreader/sticker to Daconil 2787. It's already built into the formulation to assure full and even plant coverage for maximum disease prevention.

So this season, be one of the thousands of superintendents who made the right choice. Make your fungicide Daconil 2787 on tees, greens and fairways.

Fermenta Plant Protection Company, 7528 Auburn Road, P.O. Box 348, Painesville, Ohio 44077.





Always follow label directions carefully when using turf chemicals.

label which resulted in less than desired control, or in a case of overuse, is liability a potential issue and is excessive use resulting in higher costs?

3. Product application at other than the programmed rate: does the employee need additional training to learn how to apply materials in accordance with program levels?

4. Inventory usage for the day, compare actual to physical: many issues. Are products being stolen? Are additional areas being serviced that are not going through the accounting records? Do long-term trends by all workers indicate a potential fill chart problem (if liquid) or miscalibration of spreaders (if dry)?

This calculation of material use is not the only cost needed to determine your material cost of operations. The costs of under-use and the additional resultant service calls also need to be accounted for. Since service calls require additional visits to a customer's property, the following additional costs need to be determined.

1. Direct labor to perform the service call (direct labor, fringe and supervision).

2. Vehicle costs (fuel, oil, maintenance, insurance, etc.).

3. Administrative costs to trail service call and to handle customer communications, etc.

4. Supplemental material costs not used in basic turf program (fungicides, pesticides and herbicides not applied on a broadcast basis).

To calculate non-material cost for service calls, use the following formula:

Labor		•			•	•			.35%
Vehicle									.12%
Administrative									.18%
Other direct									4%
Total									69%

Most firms in the green industries can convert the above percentages into dollars by knowing the total revenue you will earn for the fiscal year. For example, if expected annual revenues are \$900,000, total cost based on the above 69 percent equals \$621,000. If 4,300 customers receive five services during a year, the employees will make 21,500 stops. Based on the services call data revealed to the PLCAA in its annual surveys in 1985 and 1986, recalls or service calls are approximately 10 percent of all calls. Total stops for service delivery would be 23,650 (21,500 plus 2,150). The total cost for each stop would be calculated by dividing \$621,000 by 23,650-\$26.25.

Thus we see that non-material costs amount to approximately \$26 per stop, whether it be to deliver the

basic program or perform a service call. Based on the results of firms in the green industries over the past three years, costs have increased to between \$30 and \$40 for all costs of a service call. Do you know what your service call costs are?

Product comparison

With the constant reformulations of turf products and the development of many new products due to environmental pressures or employee health concerns, it is important that companies keep current in technical awareness. If the time doesn't exist to stay current technically, don't rely on product sales personnel. Here are some information sources to increase your technical knowledge.

1. Turf extension agent in your market.

2. Fellow turf professionals in your area.

3. PLCAA technical director.

4. Competitive product suppliers.

5. University research on grass species you treat.

6. Publications such as LANDSCAPE MANAGEMENT, Lawn Care Industry, Grounds Maintenance, Lawn Servicing and American Lawn Applicator, to name but a few.

But this public body of information should be balanced with the results of the agronomic program you followed last year. Often a firm doesn't change its program enough each year even when it didn't work the year before.

The aggressive and often more profitable firms evaluate their turf results each year, conducting a survey to determine customer satisfaction with the turf density and color. Remember to take into consideration the cost of service calls. Often service calls may be the result of product ineffectiveness or non-performance even when applied to the turf at the label rates.



Wandtke and McGary are senior consultants with All-Green Management Associates in Columbus, Ohio. Dr. McGary focuses on marketing and management issues. Wandtke focuses on operations and financial questions.

Agronomic programming

Not all lawns need the same agronomic program to reach their peak condition every year. Over-selling customer expectation and then not being able to deliver the promised results is one of the principal reasons for cancellations in the lawn care industry today. Do all lawns need the same agronomic program? Shouldn't programs be changed during the year based on local conditions?

If you have answered yes to either of these questions, do you run different programs in your market for customers who have different turf problems?

Most agressive lawn care firms whether liquid or dry—deliver different agronomic programs to their customers in a round depending on the turf requirements. The benefit of this is often either reduced product costs or increased customer satisfaction due to the custom applications. Problems include more complicated routing if you are a liquid firm or potential employee mistakes in product application if your services use dry products.

Based on more than 15 years of experience in developing agronomic programs for the turf industry, Bob Robinson, an All-Green senior consultant, recommends the development of various cost-level programs to be used depending on the years of professional turf service a property has been served. Experience has shown that the additional time to vary the program for older customers often results in more turf density, less weed pressure and increased customer satisfaction because of the turf's durability. The turf professional must make a commitment to maintain an ongoing relationship with each customer, so the program must balance root growth and leaf blade color.

Summary

Selection of products should not be taken lightly. Analyze the results of your current program. Evaluate the service calls required during the past year and weigh the issue of increased product cost with a related reduction in service calls.

Finally, make sure your inventory system meets the regulatory reporting, usage documentation, and the management information data to assist in better managing a more profitable business. If, through improved product selection, a firm can cut its operating costs only two percent, often this amounts to a before-tax profit increase of 15 to 20 percent.

Introducing Warren's MULCH UNDERLINER



There are 5 important reasons new Warren's WEED ARREST mulch underliner is the best premium weed control fabric you can use:

WEED ARREST does a better job and lasts longer ... because it's 100% premium polyester (not polypropylene), it resists the sun and the soil environment and harsh chemicals far better. The mulch areas on your jobs will stay cleaner years longer than your competitors' who make do with polypropylene fabrics or inferior plastic products.

WEED ARREST is easier to handle and install . . . because of its 100% needlepunch bonding, it's extra strong yet soft and flexible so you can install it faster. It also conforms and sticks to landscaped contours better than old-fashioned heat-bonded fabrics that are stiff and hard-to-handle.

WEED ARREST helps keep mulch in place ... because of its high coefficient of friction, bark, wood chips and other mulches stick to it better. So it does a lot better job combating mulch erosion on tough grades.

WEED ARREST lets water pass thru FAST! . . . because it's needlepunch bonded (not high-temperature bonded between high-pressure rolls), water, fertilizer and air pass through it easily so soil and plants stay healthier!

WEED ARREST saves you money on every job . . . because it's easier to install, conforms to terrain better, holds mulch better, does a far better job controlling weeds and lasts years longer, your jobs go in faster and hold their beauty ... plus you'll continue to save time and money because you'll have fewer callbacks and less costly rework with Warren's new WEED ARREST mulch underliner.

University tests prove it does a better job controlling 12 of the toughest weeds in the business.

It's also the only 100% polyester* weed control fabric that meets the tough standards of today's turf professionals.

Test conducted by Clemson University.

Large Crabgrass 100%		Dand	elion		Yellow Nutsedge		ild rlic	Flor Pus		Buckhorn Plantain		
	0.25%†	26.5%	0%	20%	0 %	0 %	0 %	4.25%	0%	31.25%	2.75%	
Bare Soil	Weed Arrest	Bare Soil	Weed Arrest	Bare Soil	Weed Arrest	Bare Soil	Weed Arrest	Bare Soil	Weed Arrest	Bare Soil	Weed	
-				PL	ANTIN	IG RA	TE					
4 grams per 20 sq. ft.		10.00 M	rams 20 . ft.	p	utlets er . ft.	P	ulbiets er . ft.	9.25 g per	20	per	grams 20 . ft.	

Percents refer to the percentage of area covered by weeds.

Pigweed		Bahia	grass	Sandbur		Johnso 81.25%	ongrass	Purple	evetch	Lambsquarter	
50%	0%	51.25%	2%	15%	0%		0 %	53.75%	0%	41.25%	1.5%
Bare Soil	Weed Arrest	Bare Soil	Weed Arrest	Bare Soil	Weed Arrest	Bare Soil	Weed Arrest	Bare Soil	Weed Arrest	Bare Soil	Weed
				PL	ANTI	NG RA	TE		1		
3.25 grams per 20 sq. ft.		per	grams 20 . ft.	p	burs er . ft.	pe	grams r 20 . ft.	p	eeds er . ft.	per	grams 20 . ft.

Before you buy any weed control fabric, compare it with Warren's new WEED ARREST mulch underliner.

Ask your Warren's Turf Professional for your FREE WEED ARREST sample or call the TOLL FREE number listed below.

WEED ARREST mulch underliner is now available from Warren's distributors throughout the U.S. Call us for the name of the stocking dealer nearest you. Call 1-800-828-TURF (8873) In California call: 1-800-828-8882.

*Made from Trevira® (Reg. TM of Hoechst AG)

"It always cost less to put in the best." Warre



Corporate Offices: Crystal Lake, Illinois 60014

For specific product information contact: Warren's Seed & Special Products Division, P.O. Box 459, Suisun City, CA 94585

7946-5/87

Circle No. 153 on Reader Inquiry Card

A CALIFORNIA DE LA CALIF

A day at Sea World is filled with high spirited entertainment. A day at Sea world is filled with high spirited enterianne With stars like Shamu the killer whale. Friendly dolphins, fund the stars like shamu the killer whale of the second of the se Will stars like Snamu the Killer Whale. Friendly dolphins, funny sea lions, lovable Walrus, and outrageous otters. Show after high repirited ebour Sea World is great family fun the a obiling the first sea and the second sea nons, novable walrus, and outrageous ouers. Snow aller ingi spirited show Sea World is great family fun. It's a chilling journer through the realm of charles. It's learning the bule the notion spinied snow Sea wond is great family run. It's a coming journe through the realm of sharks. It's learning the hula. It's petiting unougn the realing of sharks. It's rearning the nuia, it's period and feeding rays. It's pirate ship fun for kids. It's a day filled and recume rays. It's pirate simp run for Klus. It's a day fined with the most exciting shows you'll see anywhere. This year raise your spirits at Sea World. Orlando • Cleveland • San Diego Sea World

70 LANDSCAPE MANAGEMENT/JUNE 1987