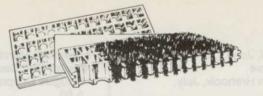
### CEOBLOCK LANDSCAPING SYSTEM







"We've used GEOBLOCK on the cart path shoulders to solve our persistent turf wear problems. Because of its proven performance we are reviewing other applications." Pinehurst Country Club North Carolina

#### ... uses GEOBLOCK M Landscaping System for cart path shoulders

The favorite course of many of the world's best golfers is PINEHURST'S No. 2 course. To maintain the excellent condition of this famous course, PINEHURST installed the GEOBLOCK Landscaping System by PRESTO, to prevent wheel ruts from occurring due to frequent golf cart traffic.

GEOBLOCK, made from lightweight, high strength reinforced plastic, supports pedestrian and vehicular traffic while maintaining a thick cover of grass. The sturdy interlocking design distributes the traffic load over a large area and is available in two sizes...the heavy duty 2" GEOBLOCK for heavy vehicle traffic support and the NEW 1-1/8" GEOBLOCK for light vehicle and pedestrian traffic.

To place your order contact...

PRESTO PRODUCTS, INCORPORATED P.O. Box 2399, Appleton, WI 54913

1-800-558-3525 Ext. 311 WISCONSIN 414-739-9471 Circle No. 159 on Reader Inquiry Card

Ron Hall, June, p.54 **Spring Grove** Maureen Hrehocik, July, p.52 Sports Turf Technology Dr. Kent Kurtz, June, p.62 Stadium Golf Ron Hall, January, p.30 Team Management, Part I Rudd McGary and Ed Wandtke, August, p.36 Team Management, Part II Rudd McGary and Ed Wandtke, September, p.56 Team Management, Part III Rudd McGary and Ed Wandtke, October, p.60 **Thatch Management** WT&T Editorial Advisory Board, June, p.24 **Thornton Landscape** Management Jerry Roche, October, p.50 Tractors, Under 40 hp

#### CONTRIBUTING AUTHORS

Augustin, Dr. Bruce J. Saline Irrigation, July, p.58 Batten, Steve Winter Overseeding, the Hidden Connection, July, p.32 **Bennett**, Harley Palm Springs Golf Courses, January, p.44 Betz, Barbara Sea World, March, p.96 Blasingame, Dr. Don Disease Control Guide, February, p.54 Turf Disease Guide, April, p.62 Brilman, Dr. Leah A. Wildflowers, March, p.38 Shade Tolerant Turfgrasses, October, p.46 Bovey, Dr. R.W. Weed Control Guide, March, p.46 Carrow, Dr. Robert N. Irrigation, the When and Why, July, p.44 Chapman, Douglas Biotech's Impact on Landscape Horticulture, September, p.62 Winter Injury, November, p.54 Coats, Dr. Euel Weed Control Guide, March, p.46 Cobb, Dr. Patricia Insect Control Guide, May, p.56

Ron Hall, March, p.24 **Trees for Golf Courses** Douglas Chapman, January, p.80 **Tucson's Pay for Play Fields** Ron Hall, June, p.58 **Turf Disease Guide** Drs. J.M. Vargas and Don Blasingame, April, p.62 **Turf Nutrient Needs** Drs. R.P. Freeborg and W.H. Daniel, August, p.26 **Turf Vehicle Guide** Ron Hall, November, p.22 Warm Season Turf Renovation Dr. Charles H. Peacock, August, p.20 Weed Control Guide Drs. Ray Dickens, Euel Coats, Robert Shearman, Elton Smith, R.W. Bovey March, p.46 WT&T's Traveling Show Ken Kuhajda, December, p.38

Daniel, Dr. W.H. Turf Nutrient Needs, August, p.26 Dickens, Dr. Ray Weed Control Guide, March, p.46 Duich, Dr. J.M. Bentgrasses, January, p.72 Edwards, Art Indiana Highway Department, April, p.42 Freeborg, Dr. R.P. Turf Nutrient Needs, August, p.26 Funk, Dr. Roger Fertilizer Guide, August, p.40 Gibson, Susan Lighting and Landscapes, May, p.42 Hummel, Dr. Norman Overseeding, a Practical Quick Fix, June, p.30 Hurdzan, Dr. Michael The Cayman Controversy, May, p.35 Kurtz, Dr. Kent Sports Turf Technology, June, p.62 Ladendorf, Sandra North Carolina State University Arboretum, February, p.27 Sandhills Community College, November, p.60 McGary, Rudd Team Management, Part I, August, p.36 Team Management, Part II, September, p.56 Team Management, Part III, October, p.60 Nielsen, David G. Borers, the Hidden Enemy, April, p.48

Wetting Agents Dr. A. Martin Petrovic, July, p.40 Wildflowers Dr. Leah A. Brilman, March, p.38 Wildflower, National Research Center Maureen Hrehocik, March, p.32 Winter Injury Douglas Chapman, November, p.54 Winter Overseeding, the **Hidden Connection** Steve Batten, July, p.32

Insect Control Guide, May, p.56 Niemczyk, Dr. Harry Insect Control Guide, May, p.56 Peacock, Dr. Charles H. Warm Season Turf Renovation, August, p.20 Petrovic, Dr. A. Martin Wetting Agents, July, p.40 Powell, Dr. C.C. Disease Control Guide, February, p.54 Rathgens, Dr. Richard Fertilizer Guide, August, p.40 Schember, Jack Solid State Irrigation Controllers, July, p.69 Shearman, Dr. Robert Weed Control Guide, March, p.46 Smith, Dr. Elton Weed Control Guide, March, p.46 Teates, N. Grove Compost, February, p.76 Tvrdy, Patrick G. **Knapsack Sprayer** Calibration, December, p.34 Vargas, Dr. J.M. Turf Disease Guide, April, p.62 Wandtke, Ed Team Management, Part I, August, p.36 Team Management, Part II, September, p.56 Team Management, Part III, October, p.60 Zimmerman, Art **RCRA** Amendments, September, p.28

# The Penn Pals are 'Tried and True'



#### Tournament croquet exhibition at Pure Seed Testing Research Center, Hubbard, OR

All work and no play make research a dull duty.

Just as time, patience, recording and recommendations are part of the development of our superior creeping bentgrasses, actual field testing is a big part of assuring the user a quality product.

The performance of Penncross and Penneagle on putting greens is academic. They are the standards used to judge any other surface. The use of Penneagle and Pennway creeping bentgrass blend on tees and fairways has proven to be an effective way of crowding out Poa annua.

Now, our "PENN PALS" are finding their way onto bowling greens, tennis and croquet courts as well as other sports turf uses. As leaders in the sports greens business, the "PENN PALS" have to "stay on top of it," so to speak. By testing our products under a myriad of conditions, we can proudly say "We've *TRIED* it... and you can't find a *TRUEr* surface for whatever your lawn sport." Warren Bidwell will talk to your superintendents' group about "The Penn Pals" on your course. Call or write TEE-2-GREEN CORP. for details.

#### PENN PALS ... the DePENNdables from TEE-2-GREEN



Penncross and Penneagle's Oregon certified blue tags qualify for cash awards to qualifying turf organizations for turf research. Call our toll-free number for details. Marketed by TEE-2-GREEN Corp., PO Box 250 Hubbard, OR 97032 I-800-547-0255 TWX 510-590-0957 Circle No. 175 on Reader Inquiry Card

### JOBTALK

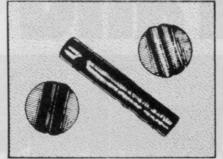
#### Synthetic oil resolves most two-cycle woes

Any mechanic worth his salt knows that two-cycle engines—especially those used on professional turf maintenance equipment—are susceptible to a bevy of problems. Things like spark plug foul-out, smoke, low speed load-up, pre-ignition, stuck rings, carbon build-up on the piston and exhaust ports, and broken pull cords from hard starting.

Several extensive users of two-cycle engines in South Carolina, however, have found that most such problems can be greatly reduced by switching to synthetic two-cycle oil.

"It's not a gradual change like losing weight," says P.O. Mead III, of Mead's Tree Service, Charleston. "You notice the result immediately." Mead contends that his chain saws run cooler in summer months and don't experience vapor lock. They also start easier. "When a man is 70 feet in the air, hanging by a belt and leans out to crank a saw, it's nice to have it start easily," Mead observes.

Personnel at the Marine Corps Recruit Depot, Parris Island, also rave



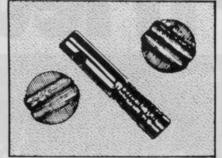
A diester-based oil shows only moderate wear after 4,250 lbs. direct load.

about Amsoil 100:1, a brand of synthetic oil.

"I have not had to unclog a muffler because of carbon build-up since switching," notes Olin Broome, who is responsible for the grounds maintenance equipment. "And I've bought only one box of spark plugs in the past six months" compared to the 50-60 plugs per month he was using before switching.

Both Willie Vining and Ronnie





A petroleum oil shows severe welding and galling. Test was ended with seizure at 750 lbs. direct load.

Lucas noticed dramatic reductions in spark plug replacement and carbon build-up. Vining is master craftsman for South Carolina's Horticultural Services Department, Columbia. Lucas is chief mechanic for The Greenery, Hilton Head Island. Lucas has also observed a decrease in rewind assembly maintenance and replacement.

The Amsoil diester-based synthetic is an engineered lubricant from extremely pure man-made ingredients. It requires fewer additives yet reacts better with additive packages, has a nominal film strength (about 3200 psi), and has a very low coefficient of friction. Which is why it can be run at a 100to-1 fuel-to-oil ratio.

The product's information sheet reads: "Amsoil two-cycle oil virtually eliminates spark plug fouling because it burns and exhausts much more cleanly than petroleum oils. Rings remain free and clean for improved compressing and combustion.

"Excessive carbon build-up on piston domes and exhaust ports is eliminated...no need for frequent maintenance, or the alternative mechanical damage due to detonation or heat build-up caused by these deposits."

The oil forms no gum varnishes, sludge, carbon or ash residues. Company representatives claim that, over a period of time, Amsoil will actually dissolve previously-formed deposits for a clean, efficient-running engine.

If a person or a company has an investment in two-cycle equipment and is interested in maximum performance and lubricant protection, then synthetic oil is worthy of investigation. **WT&T** 

# Five simple ways to take control.

Whether you need a 6, 8, 12, 16 or 24 station irrigation controller, you can't beat the microcomputer Mark Series from Weather-matic. All models are available in three types of housings — U.L.-listed rainproof aluminum; economical plastic for indoors or heavy-gauge, industrial-grade steel — so they can fit every application.

The Mark Series is easy to program, too. A function selector switch and large pushbuttons reduce operator confusion and help cut training time, all but eliminating installer callbacks.

Among the advantages are two watering schedules, four daily start times on each program and 0-99 minute timing at one-minute increments. Plus the new Day-Bright<sup>™</sup> LED display —



filtered and recessed for daylight visibility.

Special features include a self-charging battery back-up system. This retains the program and clock time in the event of a power failure. And it eliminates periodic battery replacement. The controllers will also detect and skip a shorted valve.

Teamed up with Weathermatic's proven valves, sprinklers, Rain-Stat® and other products, Mark Series controllers work and work and work.

They're five reasons why so many irrigation professionals

say you can't beat the system — when the one you choose is Weather-matic.

To learn more, write or call tollfree: 1/800/835-2246. (In Kansas: 1/800/362-2421)

### We've got your number!



Sprinkler Division, Telsco Industries P.O. Box 18205 • Dallas, Texas 75218 214/278-6131



Circle No. 178 on Reader Inquiry Card

JANUARY 1986/WEEDS TREES & TURF 105

### **PROBLEM SOLVERS**

by Balakrishna Rao, Ph.D.

#### **Drift control**

**Problem:** Are you aware of any material that may aid in minimizing the spray drift of pesticides? (New York)

**Solution:** There are several products available including MIST-Control (drift retardant and deposition aid for pesticide sprays) by Miller Chemical and Fertilizer Corp. Although reports indicate the product is useful in drift control on small vegetable crops, we have not seen any data regarding its use on shade trees nor have we conducted any research.

Therefore, try it on an experimental basis. Read the label and follow the directions.

#### Oxalis: a stubborn weed

**Problem:** Every year summer oxalis infestations present a serious problem in many lawns. We have used Killex in the past years with poor results. Are there some effective chemicals to manage this problem? I would appreciate your comments. (Ontario, Canada)

**Solution:** Oxalis is considered to be one of the most difficult to control weeds. The Canadian Ministry of Agriculture and Food recommends repeated use of mixtures containing amine formulations of 2,4-D with mecoprop, dichloroprop and/or dicamba.

The Killex you mentioned is a mixture of this type. Unfortunately, reports indicate that Killex doesn't provide adequate control, and the ester formulations available in the United States are not registered for use in Canada. The only choice you have is to mechanically remove the plants or use repeated applications of Killex, as needed.

Remember that these herbicides adversely affect the root systems of turfgrass roots also. Therefore, it is a good idea to spot treat an area for specific oxalis problems rather than to treat the entire lawn.

#### Preventing rabbit feeding injury

**Problem:** What can we use to protect plants from rabbit feeding injury? Every year we see a number of plants damaged by these animals. (Pennsylvania)

Solution: Although it is not impossible, it is difficult to manage this problem. Different university extension services recommend the use of Thiram (paints and/or sprays), ammonium soaps, capsaicin bone tar oil (follow label directions), or Rosin—alcohol repellent (dormant: 7 pounds tree rosin in 1 gallon denatured alcohol—paint in; 7 pounds rosin in 2 gallons denatured alcohol—spray).

Reports indicate that products containing Thiram work satisfactorily. If some of these materials work well for you, let us hear about your success.

#### Surface fertilizer application

**Problem:** Are there any serious problems we should be concerned about in surface applying granular fertilizers for fertilizing trees? We are thinking of providing tree fertilization service by surface applying the fertilizer. (Illinois)

**Solution:** Remember that, when applying fertilizer to trees growing in lawn areas, the amount of fertilizer recommended for trees may injure the grass under the tree or cause excessive growth. The burn potential would be greater if the fertilizer contains too much of a quick-release source of nitrogen and if the tree fertilizer is in addition to fertilizer applied to the lawn.

Although surface application of fertilizer is fast and relatively inexpensive, the potential for problems in quality lawns will probably cancel out the time and labor advantage. For best results, the tree fertilizer should be introduced into the root zone and dispersed uniformly.

#### Football field treatments

**Problem:** When is the best time to do dethatching and topdressing of a football field? We are interested in this service and would be dealing with warm-season turfgrasses, like bermudagrass, in the South and coolseason turfgrasses in the North. (North Carolina)

**Solution:** Generally, more than 1/2-inch of thatch is considered to be potentially detrimental to the turfgrass culture and quality. However, experts dealing with athletic field management consider about an inch of thatch desirable on a football field.

If the thatch layer exceeds the desirable thickness, dethatch cool-season grasses in early fall while they are still growing. If this operation interferes with ballgames, then consider doing it in spring. Warm-season grasses, like bermudagrass, can be dethatched in the spring just before greenup.

After dethatching, topdress the area with the same soil type or 100 percent sand. Do not use organic matter on a sand-based ball field. Organic materials will seal the field in time and cause poor water movement, resulting in surface water accumulation. If standing water is a problem, consider improving the drainage by installing vertical or French drainage systems.



Balakrishna Rao is Director of Lawn Care Technical Resources for Davey Tree Expert Co., Kent, OH.

Questions should be mailed to Problem Solver, Weeds Trees & Turf, 7500 Old Oak Boulevard, Cleveland, Ohio 44130. Please allow 2-3 months for an answer to appear in the magazine. NO OTHER HERBICIDE COVERS THE LANDSCAPE LIKE CHIPCO RONSTAR.

### IT'S SAFE ON THE BROADEST RANGE OF TURF AND ORNAMENTALS.

You have to be careful when you put down most preemergence herbicides. They're safe on turf or ornamentals. Not on both.

Enter CHIPCO®RONSTAR® preemergence herbicide. The only product you can use safely to weed the whole landscape: turf, woody ornamentals, ground cover, and trees.

**RONSTAR** herbicide solves a lot of problems. And simplifies your inventory and application. It causes no root

pruning. Needs no incorporation. Won't leach or move into untreated areas.

### RONSTAR GIVES EXCELLENT WEED CONTROL.

Just one application of **RONSTAR** herbicide gives effective, season-long control of over twenty of your toughest annual broadleaf and grassy weeds.

### FOR A GOOD-LOOKING LANDSCAPE, TAKE A GOOD LOOK AT RONSTAR HERBICIDE.

If you'd like to find a simpler. safer way to keep weeds under control, find out more about Circle No. 165 on Reader Inquiry Card

the preemergence herbicide that covers the landscape: CHIPCO RONSTAR herbicide. See your

dealer, or write: Rhône-Poulenc Inc., Agrochemical Division. Monmouth Junction, NJ 08852



#### Employer/Employee relations: walking the two-way street

In the article "Condo/Apartment Landscapes" (October, 1985), you summarize findings of a recent WT&T survey. What grabbed my immediate and emotional attention was that, "by far, finding good personnel was the most-cited problem of undertaking the landscape maintenance of a condo property."

My first impulse as an employee is to twist the perspective and counter that it's difficult as well to find good management to work for. But that's not very constructive criticism. My own experiences suggest that—trite but true—the key factors to acquiring and maintaining good personnel are wages, benefits and employer-employee relations.

Wages and benefits for any employee in any undertaking must be sufficient to provide a decent standard of living. Where is this money to come from? From the consumer, to start. The consumer must start paying the costs of consuming and abandon the search for the "Cadillac job with the Chevette price tag." Only the worker bears the brunt of that philosophy.

Management must undertake to sell quality to the consumer and to charge the consumer the real price of that quality. Sure, the cost of that quality will be higher, but a consumer who understands that they're buying a quality product produced by workers who are being well-rewarded for their work will be willing to pay the price.

Well-rewarded employees are likely to return season after season, providing experience, consistency and a feeling of pride in a job well done. Unrewarded employees are like Dixie Cups: use 'em up and throw 'em away; more can always be had.

Two-way, symmetrical communication between employer and employee is the sine qua non of maintaining good personnel. Employees need positive as well as negative feedback, and they need to know that management has an open door/open ear policy. This is not a revelation, I know, but some employers still have not seen this light. These thoughts are drawn from reflecting on my experiences last summer as a groundskeeper. A uniform, workman's comp, \$4.39 per hour and unemployment are the only benefits. A worker starts out with the best of attitudes and quickly bogs down in the "us-them" mentality promoted by both "us" and "them." A good worker becomes a bad worker.

Someone wrote once last summer on the lunchroom chalkboard: "Don't expect maximum effort for minimum wage." I tried to suggest that the opposite is also true: "Don't expect maximum wage for minimum effort." See? It becomes a vicious circle. No one wants to unilaterally give in, and the feud and distrust continue. there must be communication to resolve all this obstinancy.

In conclusion, if anyone reading this wants a good worker, write me.

> Lorelle B. Knoth 827 Wisconsin Stevens Point, WI 54481



## RYAN'INTRODUCES THE Lawnaire IV To

The self-propelled walk-behind aerator that does a professional job on home lawns and smaller turf areas.

- Equipped with 30-3/4" coring tines providing an aeration pattern of 9 holes per square foot.
- Penetration up to 2 3/4".
- Two weight options provided for increased downward pressure - a 38 lb. steel bar and/or steel drum that holds 55 lbs. of water.
- Convenient lift handle for raising and lowering transport wheels which provide added maneuverability.
- Covers up to 21,000 square feet per hour.
- Tine wheel shaft and water drum shaft are equipped with two grease fittings and protected by felt seals to keep out dirt.
- 3 h.p. industrial engine with rotary stop switch for easy shut-off.
- · Fuel tank holds two quarts.

Designed for the professional who wants to provide quality core-type aerification at a high rate of speed, the new Lawnaire IV is the most dependable walk-behind roll-type areator on the market.

More and more homeowners are asking for lawn aeration to break down thatch and improve turf quality. The Lawnaire IV offers lawn care professionals and rental outlets a core aerator that pays for itself in just weeks.

#### LAWNAIRE IV SPECIFICATIONS Model 544863

DIMENSIONS   Width 28"   Swath 19"   Weight Dry-215 lbs.   Water in drum-265 lbs. (6.6 gallon capacity).   POWER   Engine 4-cycle, 3 hp industrial with 6:1 gear reduction, dual air cleaner, with rotary on-off switch, low tone muffler. Clutch   Driver Primary: V-belt   4L-section to clutch idler. Secondary: #40 roller chain to time assembly. Transport: #40 roller chain to barrel.	Lubrication Two grease fittings in each axle hub. UNIT Penetration	For more information call your Ryan Sales, Service and Parts Dealer today. Or call toll-free 1-800-228-4444 OUR REPUTATION IS BUILT TO LAST Cushman-Ryan, OMC Lincoln P.O. Box 82409 #2711 Lincoln, Nebraska 68501-9971 Tine Replacement Part #522361
---	---	--

©Outboard Marine Corporation, 1986. All rights reserved.

Circle No. 113 on Reader Inquiry Card

### PRODUCTS

#### Insecticide now in low-odor formulation

Dursban turf insecticide has been improved, say sources at Dow Chemical Co.

"The new formulation is low in odor while providing LCOs with outstanding efficacy and residuality," says product marketing manager Rob Peterson.

An added feature of the new Dursban is that it will not move out of the application zone, thus providing



safety, says Dow.

"LCOs can use this product and be confident that it is safe for applicators, homeowners, and neighbors when applied according to label directions," Peterson observes.

Circle No. 190 on Reader Inquiry Card

#### Aerators help kill algae problems

Otterbine Floating Aerators are designed to biologically treat the true causes of algae, according to their manufacturer.

Barebo, Inc. recently developed the Phoenix and Constellation floating mechanical aerators, which greatly enhance aesthetic appeal, are easy to install and maintain, and are economically priced.

The Phoenix (shown here) combines two spray patterns in one unit with the gevser pattern of a 5-hp motor. The Constellation creates an array of multi-leveled sprays. The center unit can be any Otterbine

aerator with a 5- or 10-hp motor, surrounded by any number of satellite units.

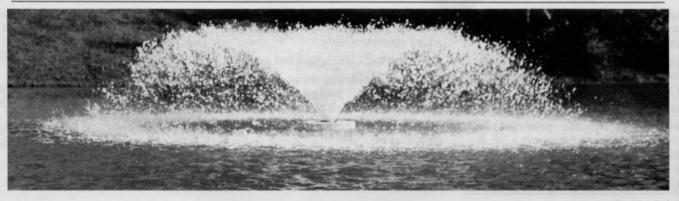


Circle No. 191 on Reader Inquiry Card

#### **Diesel heater** keeps winter out

Air Dragon is an easy-to-install cover for dozers, backhoes, fork lifts, and loaders that helps keep the operator safe and comfortable.

Fitting directly over the radiator. the Air Dragon can be used on any continued on page 112



### OTTERBINE DAY OR NIGHT...SUMMER OR WINTER



OTTERBINE® Aerators can help you keep unsightly algal growth and objectional odors under control naturally. The fact that OTTERBINES also create beauty - is just one of the many benefits of using our Spray Sculpture<sup>™</sup> Floating Fountains.

#### WE CREATE BEAUTY WHILE SOLVING PROBLEMS

BAREBO, INC. P.O. BOX 217 . EMMAUS, PA 18049 (215) 965-6018 USA See us in San Francisco- Booths #3191-3193.

WEEDS TREES & TURF/JANUARY 1986 110

Circle No. 105 on Reader Inquiry Card