



That's an exceptionally strong statement, Ray. But let's start with the product. Is it something new?

"We're talking about pre-emergent turf herbicide products using pendimethalin, and this is the first time they've been widely available to lawn service companies."

And you can back up that statement about Scotts® pendimethalin products being the best? "I sure can... with over six years of extensive formulation and field research."

What makes pendimethalin so good? "Its broad-spectrum action. Look at all of the tough grassy weeds it controls—crabgrass, goosegrass, foxtail, barnyardgrass, fall panicum, and *Poa annua*."

What broadleaf weeds does it control? "Oxalis, prostrate spurge, chickweed, cudweed, hop clover, henbit, and eveningprimrose. And soon we may be able to add to that list."

Circle No. 154 on Reader Inquiry Card

That sounds good, but how long does it last? "It provides excellent residual activity... four to five months for most weeds when properly applied."

How many species of turfgrasses can I use pendimethalin on? "Right now, it's labeled for use on nine species of established cool and warm season turfgrasses."

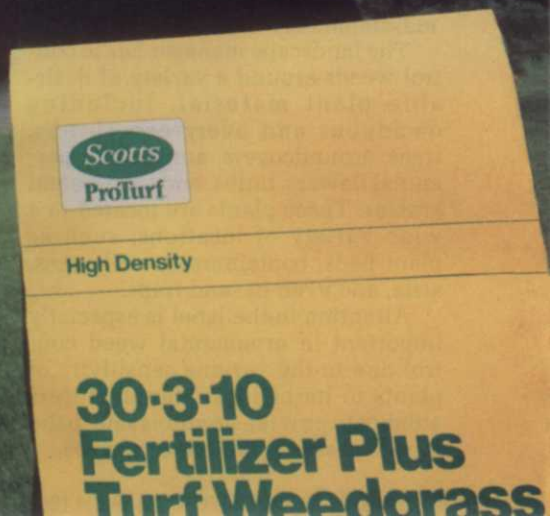
What forms does it come in? "Four. In addition to water-dispersable granules, we also offer three exclusive ready-to-use dry-applied products—a fertilizer/pendimethalin combination and two straight pendimethalin products—one for cool-season grasses and one for warm-season grasses."

And how much does it cost? "On a square-foot basis, the price is very competitive. Factor in the broad-spectrum action and residual... which should reduce callbacks... and Scotts pendimethalin products become an unbeatable value."

For more information about pendimethalin turfgrass herbicide, call Scotts Lawn Care Service Supply Division at 800-543-0006. In Ohio, call collect 513-644-2900.

## "You can't get better pre-emergent control of grassy and broadleaf weeds... or a better value."

Ray Huey, Scotts project leader (Herbicide Research and Development), talks about Scotts pendimethalin-based turf products.





Ornamentals can increase the beauty of any landscape.

# WEED CONTROL IN THE LANDSCAPE

by Elton Smith, Ph.D., Ohio State University

**A**n increase in the use of trees, shrubs, ground cover, and herbaceous plants in commercial and residential landscapes has caused a corresponding increase in use of both pre-emergence and post-emergence herbicides in landscape maintenance.

The landscape manager has to control weeds around a variety of desirable plant material, including deciduous and evergreen shrubs, trees, groundcovers, annual and perennial flowers, bulbs, and ornamental grasses. These plants are located in a wide variety of locations, such as plant beds, containers, greenhouses, atria, and even in sand traps.

Attention to the label is especially important in ornamental weed control due to the varying sensitivity of plants to herbicides. Manufacturers attempt to provide products safe to the largest possible number of species.

### Before planting

The most successful approach to a weed-free landscape is to control perennial grasses and broadleaf weeds prior to planting.

Spraying the weeds in the planting area with post-emergence systemic herbicides will kill the root system as well as the topgrowth.

Such herbicides include 2,4-D and related products for broadleaf weed control, dalapon for grass control, and amitrole for general weed control. These may have to be applied more than once for complete kill.

Each has a specific waiting period prior to planting. Highly-used glyphosate is very effective and has no soil residue.

Fumigation of plant beds is another alternative.

Vapam is one of the simplest fumigants to use. It is applied and watered into the soil. The water seals the

surface, but plastic can also be used to cover the bed after the fumigant is applied and watered in.

The fumigant will also kill insects and some fungi detrimental to plants. Planting can take place within days following treatment.

Fumigants and non-selective herbicides will kill desirable plant material contacted by them. Care must be taken to protect nearby trees and shrubs.

A number of pre-emergence herbicides are labelled for ornamentals and two are recommended for use prior to planting.

Eptam or Treflan can be incorporated into the soil, following tillage, to control annual and some perennial weeds for a period of four to six weeks.

Following incorporation to a depth specified on the label, ornamentals can be planted.

# What is so rare as a day in May? Especially with no leaf spot.



Leaf spot. It's a spoiler. Give it half a chance and it'll go after your grass.

To protect the beauty and playability of your turf from leaf spot, get new <sup>®</sup>DYRENE 4 Turf fungicide.

Now available as a flowable, it is not only easier and cleaner to use, but much more economical, too. For control of leaf spot, DYRENE 4 can be applied at *half the rate* of DYRENE wettable powder, yet will provide *twice the residual*.

DYRENE has always been an essential part of any complete program of disease control. Now, it's economical, too. Always read the label before use.



**DYRENE.  
IT STOPS THE SPOILER.**

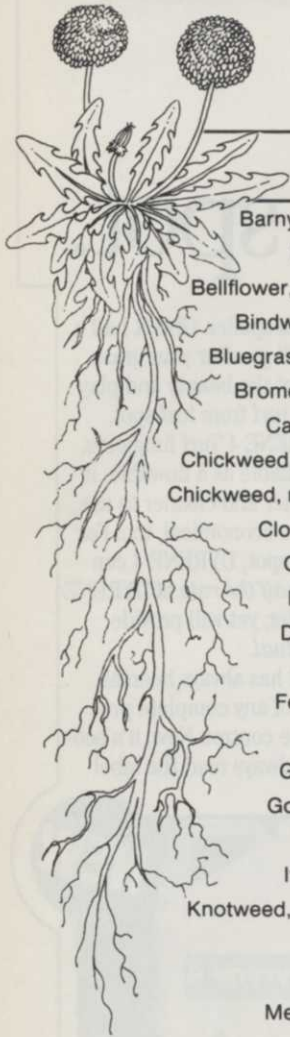


Mobay Chemical Corporation  
Specialty Products Group  
Box 4913, Kansas City, Mo. 64120

DYRENE is a Reg. TM of Mobay Chemical Corporation.

# WEED CONTROL GUIDE

CHART 1  
Growth and treatment periods



Weed	SPRING			SUMMER			FALL			WINTER		
	Early	Mid	Late	Early	Mid	Late	Early	Mid	Late	Early	Mid	Late
Barnyardgrass		•••••		—————								
Bedstraw	—————											
Bellflower, creeping		—————		—————			—————	—————				
Bindweed, field		—————	—————	—————			—————	—————				
Bluegrass, annual	•••••					•••••			—————			
Brome, smooth			—————	—————				—————	—————			
Carpetweed			—————	—————	—————							
Chickweed, common	•••••	—————	—————	—————		•••••	•••••	•••••	•••••	•••••		•••••
Chickweed, mouseear		•••••	—————	—————	—————	•••••	•••••	•••••	•••••			
Clover, white		•••••	•••••	—————				—————	—————			
Crabgrass			—————	—————	—————			—————				
Dandelion	—————	—————	—————	—————			—————	—————	—————			
Deadnettle	—————	—————	—————	—————				—————	—————			
Dock		—————	—————	—————				—————	—————			
Fescue, tall	—————		—————	—————	—————			—————	—————			
Foxtail			—————	—————	—————			—————				
Garlic, wild		—————	—————	—————								
Goosegrass			—————	—————	—————			—————				
Henbit	•••••	—————	—————	—————				—————	—————			
Ivy ground	•••••	—————	—————	—————				—————	—————			•••••
Knotweed, prostrate	—————	—————	—————	—————				—————				
Kochia		—————	—————	—————	—————			—————				
Mallow	—————	—————	—————	—————				—————	—————			
Medic, black			—————	—————	—————			—————	—————			
Moss	—————	—————	—————	—————	—————			—————	—————			
Nimblewill			—————	—————	—————	—————						
Nutsedge, yellow			—————	—————	—————	—————						
Pigweed, prostrate		—————	—————	—————	—————	—————						
Plantain		—————	—————	—————	—————			—————	—————			
Puncturevine	•••••	•••••	•••••	—————	—————			—————				
Purslane, common			—————	—————	—————	—————			—————			
Quackgrass	—————	—————	—————	—————	—————			—————	—————			
Sanbur			—————	—————	—————			—————				
Shepherdspurse	—————	—————	—————	—————	—————			—————	—————			
Sorrel, red		—————	—————	—————	—————			—————	—————			
Speedwell	•••••	•••••	—————	—————	—————	•••••	•••••	•••••	•••••			
Spurge, prostrate*		—————	—————	—————	—————	—————			—————			
Thistle, Canada	—————	—————	—————	—————	—————			—————	—————			
Thistle, musk	—————	—————	—————	—————	—————			—————	—————			
Vervain, prostrate		—————	—————	—————	—————			—————				
Violets	—————	—————	—————	—————	—————			—————	—————			
Waterleaf (nyctelea)	—————	—————	—————	—————	—————			—————				
Woodsorrel, yellow	—————	—————	—————	—————	—————			—————				
Yarrow	—————	—————	—————	—————	—————			—————				

————— Active period of plant growth. Varies from year to year and from north to south.  
••••• Apply preemergence chemicals.  
————— Apply postemergence treatments. Approximate periods may vary two weeks from season to season.

\*Preemergence herbicide applications should be made a second time in late June or early July.



# THE RYAN AIRE FORCE.

## BUILT TO MAKE YOU MONEY.

In tests measuring average daily work accomplished minus daily operating costs, the Ryan® Ride-Aire II® aerator proved it could pay for itself in just twelve days on the job. After that, it's all profit.

## BUILT TO PROVIDE MAXIMUM PERFORMANCE AND MANEUVERABILITY.

The powerful Ride-Aire II tines provide precision core aeration at a rate of up to 12,000

square feet per hour. With its compact 36" width and single rear-wheel steering, the Ride-Aire II handles with ease around trees, shrubs and yard gates.

## BUILT TO LAST.

You can count on our full-line of aeration equipment, including the

all-new 21,000 square feet per hour Lawnaire® IV walk-behind core aerator, to stay on the job for a long, long time. For one simple reason: Each one is a Ryan.

For a free four-color brochure, contact your nearest RYAN dealer. Or, write: 2372 Cushman, P.O. Box 82409, Lincoln, NE 68501. Or, call toll-free:

**1-800-228-4444.**



©Outboard Marine Corporation, 1985.  
All rights reserved.  
CUR6-7609

# RYAN®

## OUR REPUTATION IS BUILT TO LAST.

Circle No. 115 on Reader Inquiry Card



## HUSTLER Hi-Lift BAC-VAC™ gives turf a clean sweep and puts clippings in a truck or container.

It's HUSTLER tough and built to last.

Introducing the Hi-Lift BAC-VAC™ attachment from HUSTLER. It's out to make a clean sweep in the grounds keeping industry.

Teamed with HUSTLER's 60-inch or 72-inch 3-Way Deck, the Hi-Lift BAC-VAC will quickly cut and vacuum your turf to perfection, and, just as perfectly, the Hi Lift BAC-VAC hydraulically raises 4.5 feet to easily deposit its 15-bushel capacity load into a container or the bed of a pickup truck. Plus, you do it all without ever leaving the operator's seat! In moments you're off mowing again.

The Hi-Lift BAC-VAC hopper stows behind the operator's position. This permits an unobstructed view out front and to both sides. It also permits the same close trimming capabilities HUSTLER is known for.

The HUSTLER Hi-Lift BAC-VAC attachment and drive-wheel steering saves time and labor costs, plus you cut more grass faster with a finer cut than any other mower in its class.



25 Years of Quality

The low profile design allows the Hi-Lift BAC-VAC to maneuver easily around trees and obstacles.



CALL TOLL FREE  
**1-800-835-3260**  
In Kansas - 1-800-362-1049  
or write for free literature:



EXCEL INDUSTRIES, INC.  
Box 7000, Hesston, KS 67062

## WEED CONTROL GUIDE



Weeping hemlock (left) and weeping crabapple adorn a patio area.

This method has been used extensively by commercial nurserymen and is now being used by landscape contractors to a large extent, especially where maintenance for a specified period of time is in a planting contract.

Tillage as a method of weed control prior to planting is a successful practice for the control of annual weeds but not perennial weeds. In some cases, tillage only cuts up the root systems of perennials into smaller pieces and distributes them.

### After planting

In recent years, the landscape industry has made extensive use of mulches to prevent weeds in the landscape. Mulches should be applied two inches deep and renewed to that depth annually.

Mulch layers deeper than two inches accomplish little and actually harm shallow-rooted ornamentals which will root into the mulch instead of into the soil.

The most popular mulches are hardwood, pine, and cypress barks, as well as wood chips, peat moss, and various hulls. Materials which are not composted or inorganic can rob the soil below of important nitrogen.

An application of one pound of actual nitrogen per 1,000 sq. ft. will offset the nitrogen draw from the soil or organic mulches.

Landscape fabrics are growing in use for low maintenance areas. The fabrics have been improved and are useful in mulched beds where plants are spaced out. They are impractical for groundcover areas and they do not control germination of weed seeds in the mulch above the fabric.

Pre-emergence herbicides can be used in combination with mulches to stop germination of weed seeds in the mulch or those deposited by birds and wind. They control annual weeds for a period of four to eight weeks. Reapplication is usually necessary for season-long control.

Determine the amount of pre-emergence herbicide to be applied by figuring the area of the plant bed, measuring the proper amount for that area, and distributing it evenly in the area.

WT&T

# 1986 PLCAA ProManager Seminar Series Focuses on Growth and Profitability

## FACULTY

### John Linkhart

Currently the owner/operator of Hart's Lawn Service as well as a senior consultant for AGMA, Linkhart was formerly the V.P. Operations for Perf-A-Lawn. He has been involved in every aspect of operations from both the standpoint of an owner as well as operating his division for a major national company.

### Rudd McGary

A senior consultant with AGMA, Dr. McGary was formerly on the marketing faculty at Ohio State. He has been involved with marketing and management in the Lawn Care Industry for eight years, helping design both marketing and management systems for a wide variety of over 50 companies in the industry.

### Bob Robinson

Robinson is a senior consultant with AGMA as well as running his own mulch company. Formerly Robinson was in charge of all agronomic programs for Chemlawn, which included both the selection of materials as well as assessing operating costs.

### Ed Wandtke

Currently a senior consultant with AGMA, Wandtke was the Corporate Finance Manager for Chemlawn. A CPA, Wandtke works primarily in the areas of finance and accounting for AGMA with a broad-based background in all operating areas of lawn care.

The Professional Lawn Care Association of America announces the 1986 PLCAA ProManager Seminar Series. This new seminar series . . .

- Directly applies to your **growth**, your **profitability**.
- Is designed for the lawn care **owner/operator**.
- Is specifically tailored to **green industry needs**.
- Offers solid, detailed management guidance, professional techniques, and skills that yield **immediate results**.

The four separate seminars are:

## MARKETING AND BUDGETING

- Dallas — January 6 - 8
- Newark — January 9 - 11
- Atlanta — January 13 - 15
- Cincinnati — January 16 - 18

This intensive two and one-half day seminar gives attendees a solid foundation in professional, proven methods for the ownership/management of a lawn service company. Course highlights include: • The Importance of Planning • Corporate Philosophy and Management • Marketing and Sales Planning • Sales Projections • Customer Retention • Cash Management • Budgeting Preparation • Cash Flow Statements

## VALUING A LAWN SERVICE COMPANY TO BUY OR SELL

- Chicago — January 23 - 24
- Atlanta — February 3 - 4
- Philadelphia — January 20 - 21

Thinking of buying or selling a lawn care business? This two-day program offers professional guidance on how to get the maximum return when you sell, or the most for your money when you buy. Subjects covered include: • Planning to Buy or Sell • Evaluating a Company • Developing a Buy or Sell Strategy • How to Recognize an Opportunity • Determining a Price

## SALES TRAINING FOR THE LAWN SERVICE PROFESSIONAL

- Baltimore — February 10 - 12
- Chicago — February 19 - 21
- Detroit — February 26 - 28
- Sturbridge, MA — March 3 - 4

Not a "natural born" salesman? Learn how to be something better — a professional salesman. This two and one-half day seminar supplies a solid understanding of the sales process and how to work with customers effectively. Among the subjects covered: • Marketing and Sales Preparation • Sales Psychology and Theory • Interviewing • Motivation • Closing a Sale

## DEVELOPING AN ADVERTISING PLAN

- Atlanta — January 20 - 22
- Chicago — January 27 - 29

Effective advertising is crucial to success in the lawn care business. The objective of this two and one-half day seminar is to equip the owner/manager of a small lawn care company with the knowledge for making sound decisions in the advertising marketplace, including cost-effective choices and generating the highest response per dollar spent. Subjects covered include: • Choosing the Right Medium • Costs of Various Media • The Importance of Timing • Positioning Through Advertising • Projecting an Image Through Advertising • Consumer Behavior and Advertising

**Advance registration:** To register, mail the registration form below or call PLCAA at (404) 977-5222.

**Arrangements for Attendance:** Lunch is included in the registration fee for each full day of the seminar. All other meals and housing are the responsibility of each individual attending the seminar. Travel and lodging information will be provided upon receipt of registration form.

## REGISTRATION FORM (Please print clearly)

Please register me in the seminars checked below:

### MARKETING AND BUDGETING

Seminar fee: **\$495 (\$395 if PLCAA Member)**.  
Additional registrants **\$200** each.

- Dallas (Jan. 6-8)
- Newark (Jan. 9-11)
- Atlanta (Jan. 13-15)
- Cincinnati (Jan. 16-18)

### VALUING A LAWN SERVICE COMPANY

Seminar fee: **\$595 (\$495 if PLCAA Member)**.  
Additional registrants **\$250** each.

- Chicago (Jan. 23-24)
- Atlanta (Feb. 3-4)
- Philadelphia (Jan. 20-21)

### SALES TRAINING

Seminar fee: **\$395 (\$295 if PLCAA Member)**.  
Additional registrants **\$150** each.

- Baltimore (Feb. 10-12)
- Chicago (Feb. 19-21)
- Detroit (Feb. 26-28)
- Sturbridge, MA (March 3-5)

### DEVELOPING AN ADVERTISING PLAN

Seminar fee: **\$495 (\$395 if PLCAA Member)**.  
Additional registrants **\$200** each.

- Atlanta (Jan. 20-22)
- Chicago (Jan. 27-29)

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

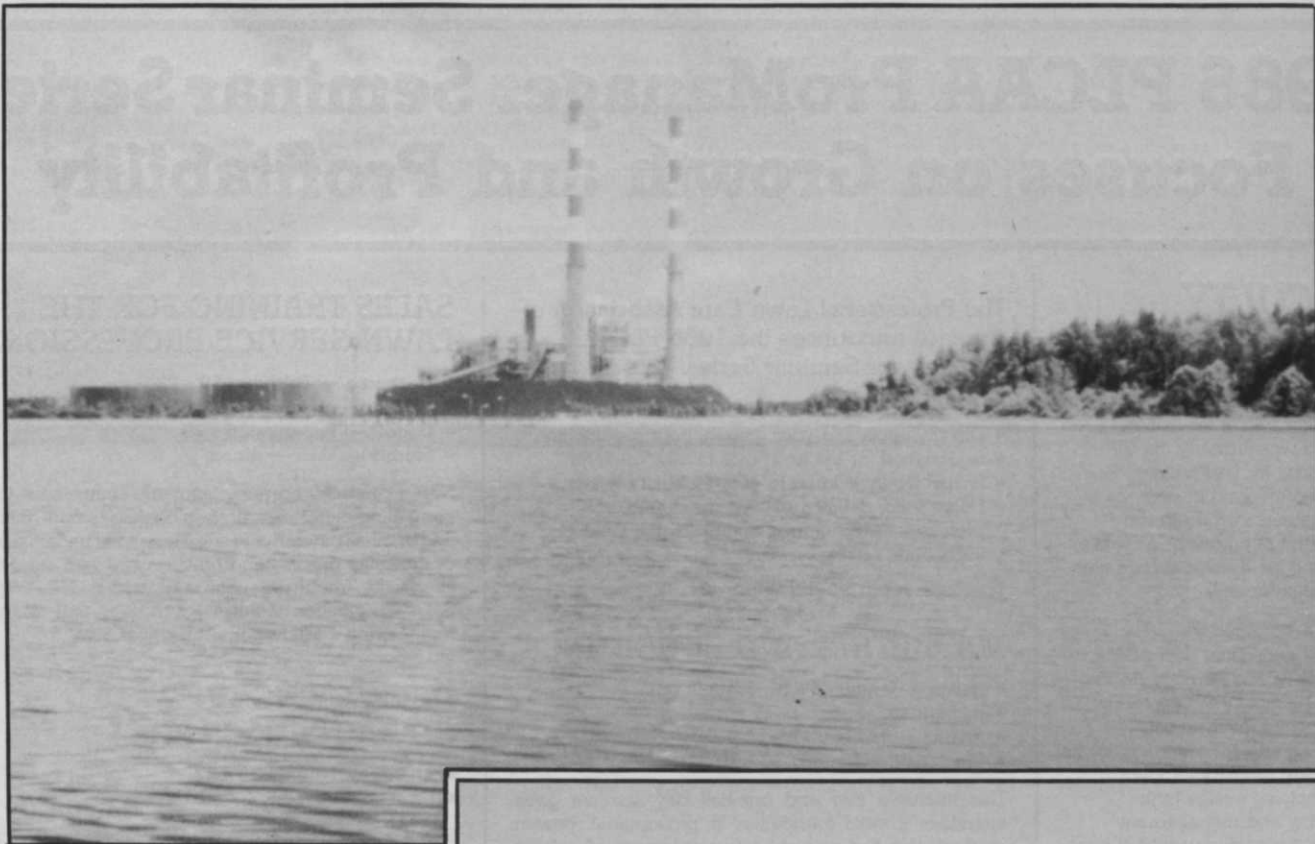
PHONE \_\_\_\_\_

Attach list of additional names.

- Check if PLCAA member
- Send me information on PLCAA membership.

Mail check or money order along with registration form to:

**Professional Lawn Care Association of America**  
1225 Johnson Ferry Road, NE  
Suite B-220  
Marietta, GA 30067



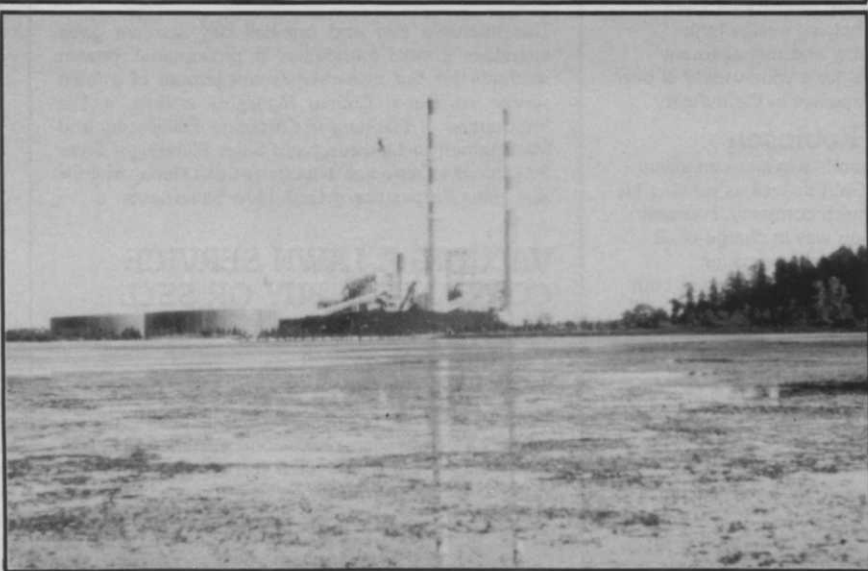
## AQUATIC WEED CONTROL

Those nasty water weeds taint the look of any landscape. Effective control is possible. Prudence on the controller's part is the key.

**Y**ou have this beautiful pond on an area that you landscape but unsightly weeds dominate the water. Water weeds not only destroy the appearance of ponds, lakes, and streams, they also ruin the impact of the entire landscape.

Lagoons, holding ponds, and ditches, although not landscape features, serve useful functions which are inhibited by weeds.

What do you do? Well, first you should check local regulations to



Before and after. This North Carolina reservoir had a naiad and coontail problem (below). Less than one year after treatment with an aquatic herbicide, the problem was controlled (top).

make sure your planned control measure is acceptable.

Control measures are limited not only by local regulations, but also by desirable plants in the water, and uses, such as swimming, irrigation, fish farming, and air conditioning.

If a lake is part of a natural watershed area, there may be restrictions on the use of certain chemicals or weed-eating fish. Check with your local extension agent before treating, diverting, draining, or filling in any

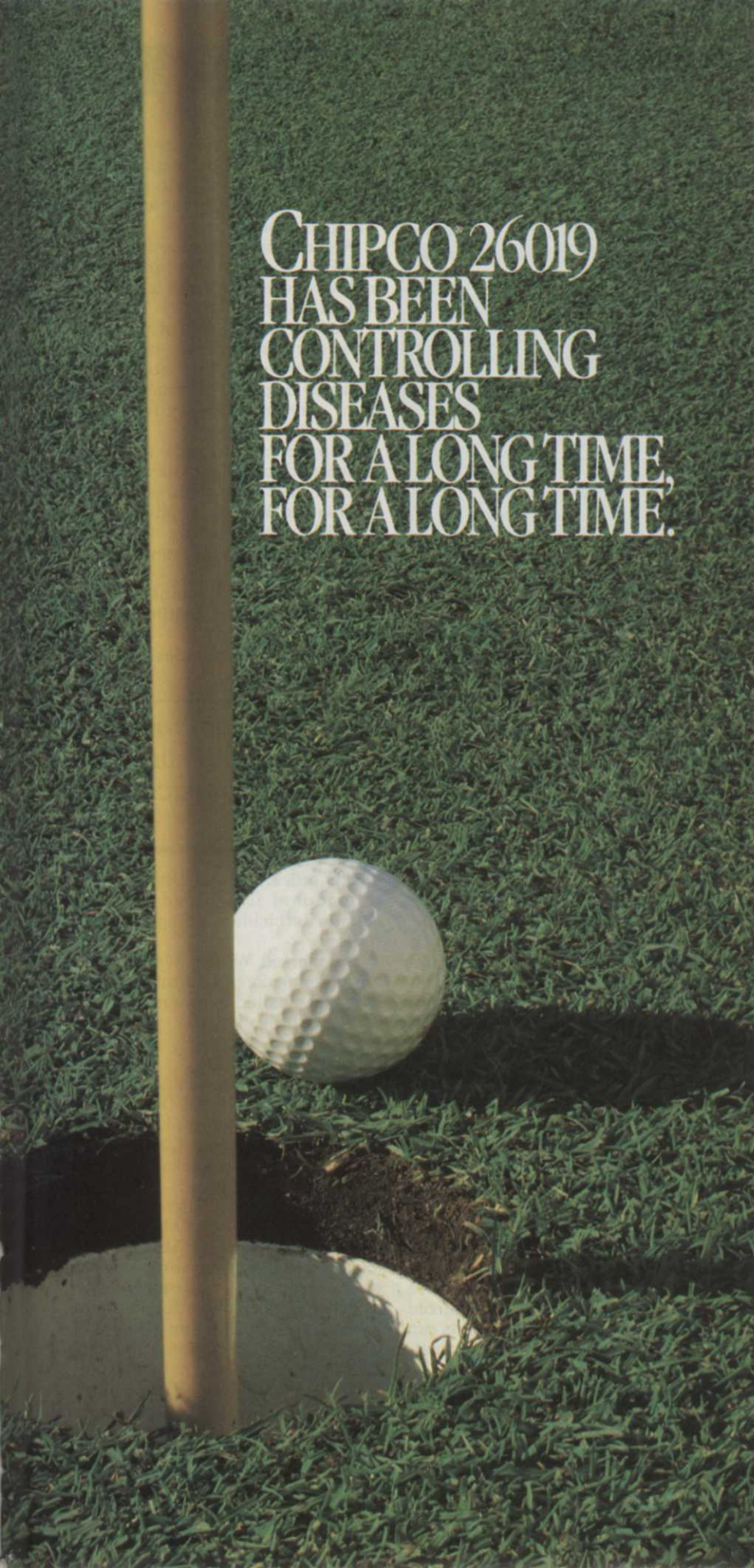
lake, even if it is on private property.

It should be noted that chemical aquatic weed control is a very difficult science. It may be beneficial to hire a private applicator as the environmental and legal concerns involved are numerous.

### Preventative control

Before we discuss chemical aquatic weed control, let's discuss what can be done to prevent weed growth in the first place.





CHIPCO 26019  
HAS BEEN  
CONTROLLING  
DISEASES  
FOR A LONG TIME,  
FOR A LONG TIME.

---

Years of excellent, long-lasting performance have made CHIPCO® 26019 fungicide the leader in its field.

---

When it's your business to keep turf healthy and handsome, you don't wait for disease to break out. You strike first and play for keeps.

That's why thousands of superintendents base their disease control programs on CHIPCO 26019 fungicide.

It's unsurpassed at controlling the major turf diseases, like Helminthosporium Leaf Spot and Melting Out, Dollar Spot, Brown Patch, Fusarium Blight, Red Thread, Fusarium Patch and Gray and Pink Snow Molds.

And it stays on the job longer, giving up to 28 days of protection for a lower cost per day.

Add a few extras — no phytotoxicity, low toxicity, pesticide compatibility, and no corrosiveness — and you've got a fungicide that's earned its place as the standard of the industry.

Use CHIPCO 26019 this season and you'll stay with it for a long time to come.

Rhône-Poulenc Inc., Agrochemical Division, Monmouth Junction, NJ 08852. 

**CHIPCO**  
**26019**  
Taking care of business.

CHIPCO® is a registered trademark of Rhône-Poulenc Inc.

Circle No. 162 on Reader Inquiry Card

# WEED CONTROL GUIDE



Aquatic weeds may reduce or severely restrict water flow (as much as 90 percent) in irrigation canals and drainage ditches.



Application of an aquatic herbicide with a sprayer.

Conditions that may cause an aquatic weed problem are water depth (water less than 8 feet deep is conducive to weed growth), poor circulation of water in the lake and air above the lake, fertilizer runoff, and presence of dead organic material (such as fish, plants, or sewage).

Bottom-rooted aquatic plants require light to grow. The light below 8 feet is inadequate for many aquatic plants. If a lake cannot be deepened, dyes or bottom liners can be added to shade the lake bottom.

Pond aerators add needed oxygen to water and help avoid temperature stratification of water layers. Without mixing, water tends to form layers based on temperature, the warmest layer on top.

By keeping surface water temperatures down through mixing layers, you may discourage algae growth.

Algae does not readily establish until surface water temperature reaches 60 degrees F.

As decaying organic matter removes oxygen from the water, one should avoid throwing debris or clippings into the water. If possible, dead plants should be removed from

treated lakes.

Drawdown, or draining to expose aquatic plants to full sun or freezing temperatures, is used where fish or irrigation aren't factors. Dredging and aquatic weed harvesters are expensive and cause a disposal problem, but they may be the only way to get initial control over a serious aquatic weed problem.

Lakes require some vegetation to produce needed oxygen, to provide cover for fish and wildlife, and to appear a natural part of the landscape.

As such, portions of the lake can be kept shallow to provide for aquatic plants.

Another method is to place plants in removable containers, close to the water's surface.

Desirable native plants, such as rushes, are available from specialized nurseries. These container plants can be removed if necessary during treatment periods.

## Curative control

Whether in a warmer climate where aquatic weed control is perpetual or in the North where control is needed only seasonally, control is similar.

So is the action of the aquatic

herbicide.

Certain aquatic herbicides may be absorbed by roots of nearby trees or plants which extend into the water. Read labels carefully for susceptible land plant species.

**Algae.** Copper compounds (Cutrine-Plus, copper sulfate) are effective and when used at correct rates, do not restrict water use.

If a lake has a history of algae problems, start using copper compounds as soon as water temperatures get above 60 degrees F. Periodic retreatment may be necessary for season-long control.

Copper compounds are often mixed with other aquatic herbicides for control of a variety of weeds.

**Floating Weeds.** Floating weeds are either free-floating or bottom-rooted plants, having leaves on the surface.

They include hyacinths, duckweed, water lettuce, floating fern, and salvinia.

The primary herbicides for floating

---

*Algae does not readily establish until surface temperature reaches 60 degrees F.*

---

weeds are 2,4-D and Diquat. Sonar (Fluridone) is a broad-spectrum aquatic herbicide pending EPA registration.

**Submersed Weeds.** Weeds which are bottom-rooted and totally under water are called submersed weeds. They include hydrilla, pondweed, watermilfoil, fanwort, naiad, and coontail.

The primary herbicides for submersed weeds are 2,4-D, endothal (Aquathol K), Diquat, and Sonar (pending EPA registration.) Combinations of endothal and Diquat with copper are often used.

**Emerged Weeds.** These are weeds growing in shallow areas with stems and leaves above the water surface. They include cattails, pennywort, alligatorweed, torpedograss, and arrowhead.

Primary herbicides for these are Banvel, 2,4-D, dalapon (Dowpon), Rodeo (glyphosate), Sonar (pending EPA registration), and amitrole.

Products registered for aquatic weeds are also the best to use for ditchbank weed control, since there is always a possibility water containing herbicides in ditches will drift to other locations. Check labels for ditchbank applications.

WT&T