

FROM THE PUBLISHER



There's an old saying, 'It's lonely at the top.' Most of you know that feeling only too well. You don't have to be chairman of the board of a major corporation to feel the pressure. Grounds managers and golf course superintendents feel the pressure all the time, but especially when your facility is having a major television event. It is your responsibility to have the fields, greens and fairways in top condition. If it's not right, the fault is yours. Sure you instructed your crew to do it, but if someone screwed up, as the head of the department, you have to shoulder the burden.

In most corporations, if there is a screw-up, at least it is kept within the walls of the corporation's offices, but in your situation, not only does your management know about it, it seems the whole world does as well. If a baseball player bats .300, he is a superstar, if a quarterback completes 60 percent of his passes he is great, if a golf pro wins a few major tournaments he is considered a superstar, yet the rest of us are expected to be good 30 percent of his effort and he is considered a superstar, yet the rest of us are expected to be good 98 percent of the time. Or toss that football to score that winning run or touchdown. When a pro golfer has to sink his putt to win the match, and a gallery of thousands are watching, the pressure really builds. At least when they win, one of the rewards is hundreds of thousands of dollars in cash prizes.

but with the advent of television, Pressure? Every time a big game comes up or a major tournament is played at your club you feel the pressure as much as a top pro does when he has to hit that home run or toss that football to score that winning run or touchdown. When a pro golfer has to sink his putt to win the match, and a gallery of thousands are watching, the pressure really builds. At least when they win, one of the rewards is hundreds of thousands of dollars in cash prizes.

It's a funny world. An athlete can be good for 30 percent of his effort and he is considered a superstar, yet the rest of us are expected to be good 98 percent of the time. If a baseball player bats .300, he is a superstar, if a quarterback completes 60 percent of his passes he is great, if a golf pro wins a few major tournaments he is considered a superstar, yet the rest of us are expected to be good 30 percent of his effort and he is considered a superstar, yet the rest of us are expected to be good 98 percent of the time. Or toss that football to score that winning run or touchdown. When a pro golfer has to sink his putt to win the match, and a gallery of thousands are watching, the pressure really builds. At least when they win, one of the rewards is hundreds of thousands of dollars in cash prizes.

Just think, if you could have the field look good 30 percent of the time, and like the pressure you would have to live with. You could have the luxury of your crew making some mistakes and not be on the carpet for it. With the Super Bowl now a memory, my mind wanders back to the preparations that were made for that event. It was no different for the World Series or the Masters, etc. Knowing that the world would observe first hand what it takes to get a field in shape. There I went to San Diego to observe the opportunity to prepare a field for such an event. For a manager would love to have the opportunity to prepare a field for such an event. For a moment at least, it is his moment in the spotlight. I'm sure many professional turf managers are very capable but the National Football League appointed George Toma to handle the job. Call it luck or perhaps it was his forty years on-the-job training, or just being in the right place at the right time, but the fact that Toma continues to be in charge of these post-season events is evidence that he has done his job well.

George will be the first to admit that he could not do it by himself. He will also tell you that you're a sitting duck, being out there by yourself, with everybody taking potshots at you. 'I've been through the battles,' he will tell you. 'My back is full of holes where people took shots at me. I have the scars to prove it.'

Without his crew George couldn't get the job done. And what a crew he has. I met with Scott Martin, Doug Schallenberg, Brian O'Neill, David Jones, Andre Bruce, Jason Cooper, Rick Toma, Wilford Bruce, Rich Edmonson and Chip Toma — solid professionals who have a job to do with so little time to do it in. Yet without constant overseeing by George, they were hard at work, day in and day out for 22 solid days without a break.

I have often wondered who will replace us when we are ready to hang it up. Where will we get those experienced people? I was able to come away from San Diego feeling a little more comfortable that the future lies with these young people. Like George says, a few of these kids are ready now to take over head jobs in the major leagues. In speaking with a few of them, most of them felt that they still had a lot more to learn. With guys like George's crew and others around the leagues that are committed and dedicated to their work, I know we are in good hands. The future will be glowing.

THE FRONT OFFICE

OPINION PAGE

THE NEEDLE IN THE HAYSTACK



Simple mathematics is all it takes to figure out that the surface of the sports turf industry has barely been scratched. There are untold millions of acres of athletic turf in the U.S. that need professional care badly. While recent efforts have begun to make a dent, the condition of these turf areas remains unsafe for one simple reason — finding the person in charge is like finding a needle in a haystack.

It's not a matter of placing blame, it's a matter of recognizing those who have the ability and power to do something about the safety of sports turf nationally.

There is a common expression, "If you aren't part of the solution, you are part of the problem." In other words, if you are waiting for others to improve conditions at your facility, you are part of the problem. If, on the other hand, you take every opportunity to educate the ultimate decisionmakers and fellow sports turf managers about better turf management, you hold the future of the industry in your hands.

It's very difficult to find and *influence* the people who can make a difference in the condition of athletic fields. To reach them you need the persistence and determination of a salesman. You may have to talk to three or four people before you find the person in charge of field maintenance. That person could have any number of titles, ranging from superintendent to physical plant director, coach or even head custodian. When you find him, carefully explain that a lot of things have changed in the past ten years and you just want to help. All you are selling is better and safer turf.

For two years, I've been trying to donate my time and knowledge of sports turf maintenance to the Little League where I live. Field maintenance is run by a committee of volunteers headed by a policeman with a night beat. Our paths never cross. I've written him letters, but he must feel he has matters well in hand. Apparently, no one is complaining and I'll admit he does a good job. But still, isn't he at least a little curious about what you, the readers of sportsTURF, do to maintain fields in top condition?

This year I spoke to a few board members to repeat my offer. Their answer was first become a manager, then run for the board, and then make my offer in a board meeting. I already help coach both of my kids' teams on weekends. I figure in about three years I'll be able to have some impact on the fields.

The irony of the whole thing is that the director of education at Little League headquarters in Williamsport, PA, called a couple of weeks ago to say how much he enjoyed the magazine. Suddenly, all the managers of fields played on by more than three million kids could be reached. You can bet that this opportunity won't slip past.

If every sportsTURF subscriber spent a few minutes each week contacting fellow sports turf managers at schools, parks and sports organizations, the quality of sports turf in this country could skyrocket in a matter of months instead of decades. Try to get together with those you reach periodically to compare notes. Help each other out. Join together to make your point at meetings about field maintenance needs. Tell them about sportsTURF magazine and the organizations serving the market. Get them involved.

The sports turf battle has to be waged on both local and national levels. Locally, it begins with you. I urge you to organize sports turf managers in your area for a trial meeting. Let me know how things go. If you are successful, let's tell others how you accomplished what you did.

The improvement of millions of acres of sports turf can start with the two acre stadium field of a high school or 40 acres of a park. Be a leader and be part of the solution. If you break a haystack down into small piles, finding the needle is much easier.

Bruce F. Shank

EVENTS

CALENDAR

FEBRUARY

29-2 Midwest Regional Turf Conference, Stewart Center, Purdue University, W. Lafayette, IN. Contact: Jeff Lefton, Dept. of Agronomy, Purdue University, W. Lafayette, IN 47907, (317) 494-9737.

29-2 Massachusetts Turfgrass Conference and Show, Springfield Civic Center, Springfield, MA. Contact: Dr. Joe Troll, Massachusetts Turf Council, PO Box 489, Hadley, MA 01035, (413) 549-5295.

MARCH

2 Professional Turf and Plant Conference, Nassau Veterans Memorial Coliseum, Uniondale, NY. Contact: Nassau/Suffolk County Landscape Gardeners Association, 59 Orinoco Dr., Brightwaters, NY 11718, (516) 665-2250.

6-10 Canadian Turfgrass Conference, Toronto Hilton Harbour Castle Convention Center, Toronto, ON. Contact: Mary Gurney, Canadian Golf Course Superintendents Association, 2000 Weston Rd., Weston, Ontario, Canada M9N 1X3, (416) 249-7304.

APRIL

7 South Florida Turfgrass Exposition, Ft. Lauderdale Research and Education Center, Ft. Lauderdale, FL. Contact: Dr. John Cisar, 3205 SW College Ave., Ft. Lauderdale, FL 33314, (305) 475-8990.

11-12 Southeastern Turfgrass Conference, Coastal Plain Experiment Station, Tifton, GA. Contact: Dr. Glenn Burton, Coastal Plain Experiment Station, Tifton, GA 31793, (912) 386-3353.



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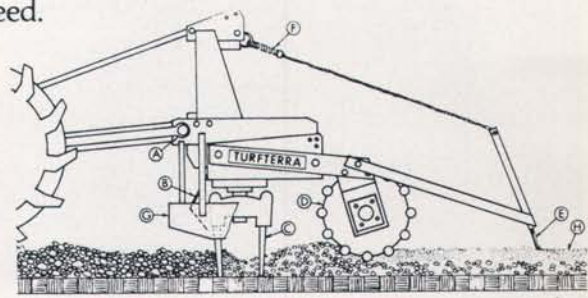


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Spreaders should be carefully calibrated and tested before being used to apply preemergence herbicides. Skips, misses or overapplication should be avoided.

Scheduling Preemergence Weed Control

All a turf novice has to say to a sports turf manager to make him wince is, "My lawn looks great and I don't do all the things you say you need to do for good turf." This statement is especially aggravating when it comes from a person who has some control over your budget, such as the physical plant director, coach, greens chairman or park superintendent.

In one instant all your years of training and experience are on the line. You have to respond quickly with an equally terse statement, "If your lawn had to tolerate what my sports turf does, you would understand why I need to do much more to provide a uniform, playable and safe surface."

Few areas of sports turf management differ from typical lawn maintenance as much as preemergence weed control. The constant abuse and injury inflicted by sports on turf actually invites annual and perennial weeds to become established. Those tears and craters in the turf made by gol-

fers, football players and soccer players we call divots are perfect seedbeds for annual weeds. In fact, these weeds are often the only surviving plants on some low-maintenance athletic fields.

Nevertheless, a large number of athletic facilities still do not take advantage of preemergence weed control. Because managers of these facilities don't see the weeds before they are controlled, they don't understand their importance, says Dr. Wayne Bingham, professor of weed science at Virginia Polytechnic Institute, Blacksburg, VA.

The intense weed pressure on sports turf makes preemergence herbicides, those herbicides that prevent germinating annual grassy and broadleaf weeds from invading desirable turf, a critical part of a sports turf maintenance program. The superintendent or sports turf manager needs to utilize these products to their maximum advantage during peak germination periods of the major weeds. At the same time, he has to follow

the directions on the label carefully so that all the herbicide is exhausted before overseeding, reseeding, sodding or sprigging takes place. The mode of action for these materials is just as effective on germinating desirable turfgrasses as it is on undesirable weeds.

Perhaps most important is making preemergence herbicides fit your maintenance schedule. Since these materials last from several weeks to several months, a turf manager who must renovate his football fields in early summer needs to watch timing of spring applications more carefully than a golf course superintendent who overseeds his tees and fairways in the fall. Furthermore, target weeds such as crabgrass and goosegrass germinate at different times in different regions of the country. A football field manager in the Sunbelt has more leeway than his peers in the North.

In fact, sports turf managers who have been waiting until spring to reseed or sod, might consider rescheduling this work to the fall so they can take advantage of spring applications of preemergence herbicides. Spring sports, especially soccer, also make fall the best time to reseed. By spring the seed has become established and the sod has rooted. Rather than disturbing the soil by seeding or sprigging in the spring when annual weed germination is at its peak, the herbicide can be applied safely to established turf. By preventing these weeds from invading the turf in the spring, the amount of time spent on controlling established weeds during the summer with postemergence herbicides can be reduced.

Weed pressure never lets up on sports turf. While preemergence herbicides have taken some of the pressure off postemergence herbicides, they have not replaced them. The best results are obtained by using them in conjunction with each other. Using preemergence herbicides is more complicated than using postemergence herbicides, but once the turf manager has mastered both, he has much greater control over weeds that damage the uniformity of turf, its playability, safety and appearance.

"There has to be a certain amount of knowledge to use preemergence herbicides properly," points out Dr. Bill Knoop, turfgrass specialist with the Texas Agricultural Extension Service in Dallas. "Unfortunately, this knowledge is not always available at all sports facilities." Knoop has developed a comprehensive turf maintenance program and schedule for athletic fields in his area to help close the knowledge gap.

A second hurdle to clear for some facilities, explains Knoop, is the cost of preemergence herbicides compared to some of the standard postemergence products. When the budget is tight, the cost difference seems to get a lot of attention. Knoop works closely with suppliers and high school grounds managers in his area to demonstrate the difference some turf maintenance practices can make. By providing the turf

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Sorry, crabgrass. Sorry, goosegrass. You won't be checking in here this season. Not on turf areas treated with Team preemergence herbicide.

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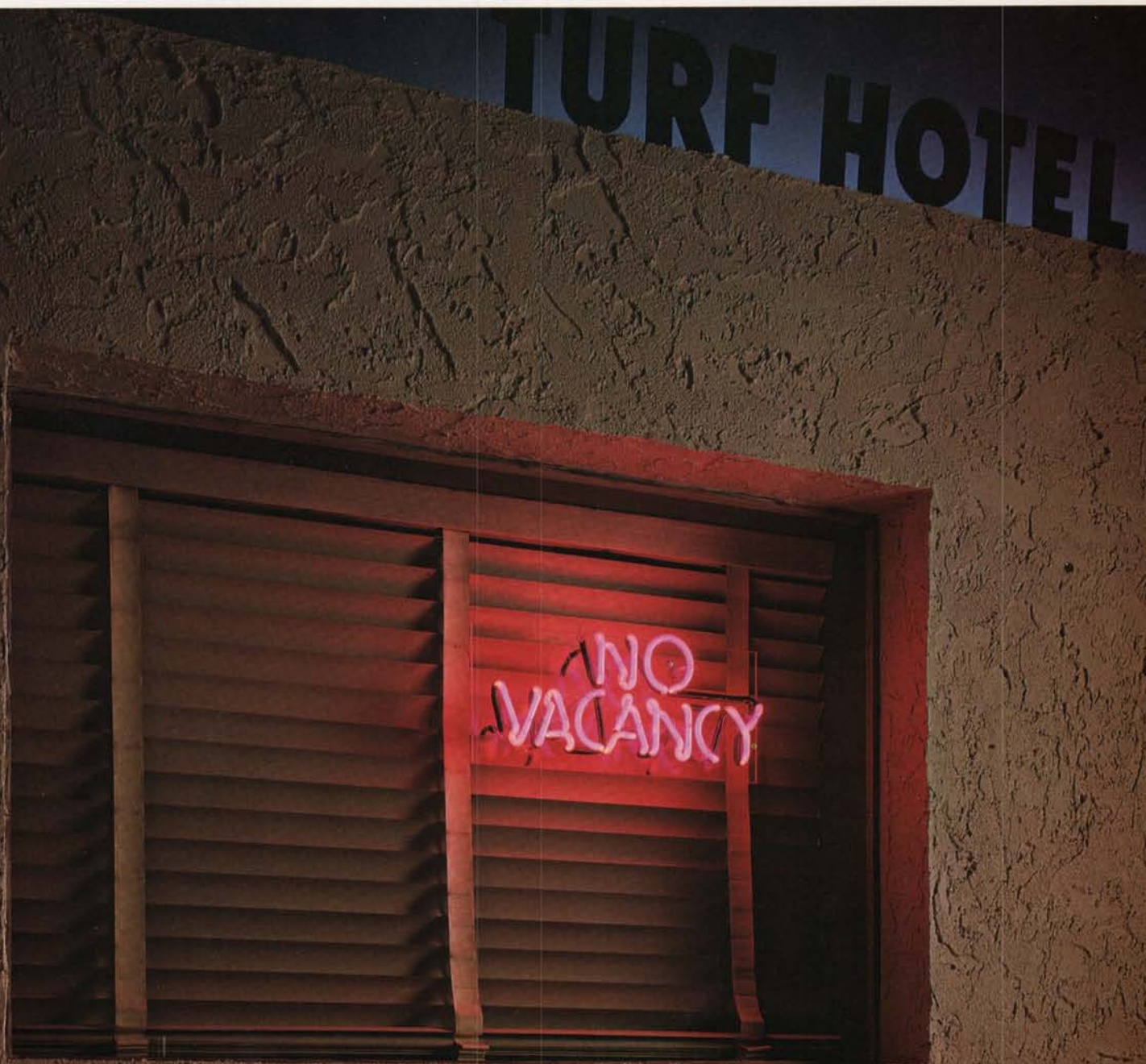
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Herbicide manufacturers have discovered that by combining different preemergence herbicides they can lengthen their residual activity and increase the number of weeds they control.

Preemergence Weed Control

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managers with the knowledge and demonstrating good maintenance practices to school administrators, a number of area schools have found the money to improve their weed control programs.

Golf course superintendents have been using preemergence herbicides for nearly 50 years, starting with lead arsenate in the 1920s. The first products had very narrow tolerances between controlling weed seedlings and harming turfgrasses. Superintendents came to accept a certain amount of temporary turf discoloration when using these products as long as crabgrass was brought under control.

Phenyl mercury acetate (PMA) was the second major preemergence herbicide used for turf beginning in the '30s. Its use spread from the golf course to home lawns until the late '50s when chlordane, an insecticide used by superintendents to control turf insects, was recognized for its control of crabgrass when applied early in the spring.

After World War II and the Korean War, suburban housing began to boom. The importance of a weed-free lawn grew. "Crabgrass became part of conversation at cock-

tail parties in the suburbs," recalls Jack Welch with ICI Americas. Welch has sold herbicides for more than 25 years. In the late '50s, O.M. Scott & Sons began offering a preemergence product called Halts on a wide-spread basis. It contained chlordane as the active ingredient.

The expanding housing market not only increased the market for residential turf products, it had a similar effect on the professional market as more golf courses, parks and schools were constructed. Chemical companies started developing products for both turf markets in the '60s largely by adapting agricultural products.

Two preemergence products developed during this period were DCPA (Dacthal) from Diamond Shamrock (now Fermenta) and bensulide (Betasan) from Stauffer Chemical (now ICI Americas). When applied to turf before spring temperatures averaged 55 degrees F., these herbicides controlled more than 80 percent of germinating crabgrass for nearly two months with minimal discoloration. They were a big step forward in both safety and effectiveness.

During the next decade two more preemergence herbicides were introduced, siduron (Tupersan) from DuPont and benefin

(Balan) from Elanco. Siduron's unique properties enable it to be applied shortly after seeding or overseeding turfgrass. Balan was the first of a new family of preemergence herbicides called dinitroanilines, which provide control at a lower cost. Elanco has the rights to all DNAs except one.

As turf managers gained control over crabgrass, they started concentrating on other annual weeds. These included the grasses—foxtail, goosegrass and annual bluegrass (a fall germinator) as well as the broadleaf weeds—spotted spurge, prostrate spurge, oxalis, knotweed, henbit (fall) and chickweed (fall). To maintain a chemical barrier in the soil during the peak germination periods for these other weeds, turf managers realized that two applications were frequently necessary. Goosegrass starts to germinate as much as four weeks after crabgrass and can continue to germinate in some areas through the summer and into fall.

Split applications are designed to replace the herbicide broken down in the soil after a period of 30 to 60 days. Typically the first application is at full rate and the second is either half or three-quarter rate. By making a second application, control can be extended to four months or longer and the later germinating weeds, such as goosegrass, are controlled more effectively. The downside to split applications is the time and cost of making the second application. If the second application must take place when the crews are busy on other tasks, it may also prove inconvenient.

Rhone Poulenc took a slightly different tack to achieve longer control when it introduced oxadiazon (Ronstar) in the '80s. At the recommended rate, one application of oxadiazon will last approximately 120 days. This provides an alternative to split applications. However, this length of control provided at the full rate is not always desirable, especially for turf managers overseeding during late summer or fall. Check the label for lower rates and shorter control periods for oxadiazon.

Elanco has taken a third route to improving preemergence weed control by developing products to improve the conditions of particular regions of the country. The company introduced oryzalin (Surflan), a DNA previously registered for weed control in ornamentals, for warm-season turfgrass weed control in the South. Oryzalin provides improved goosegrass control in bermudagrass.

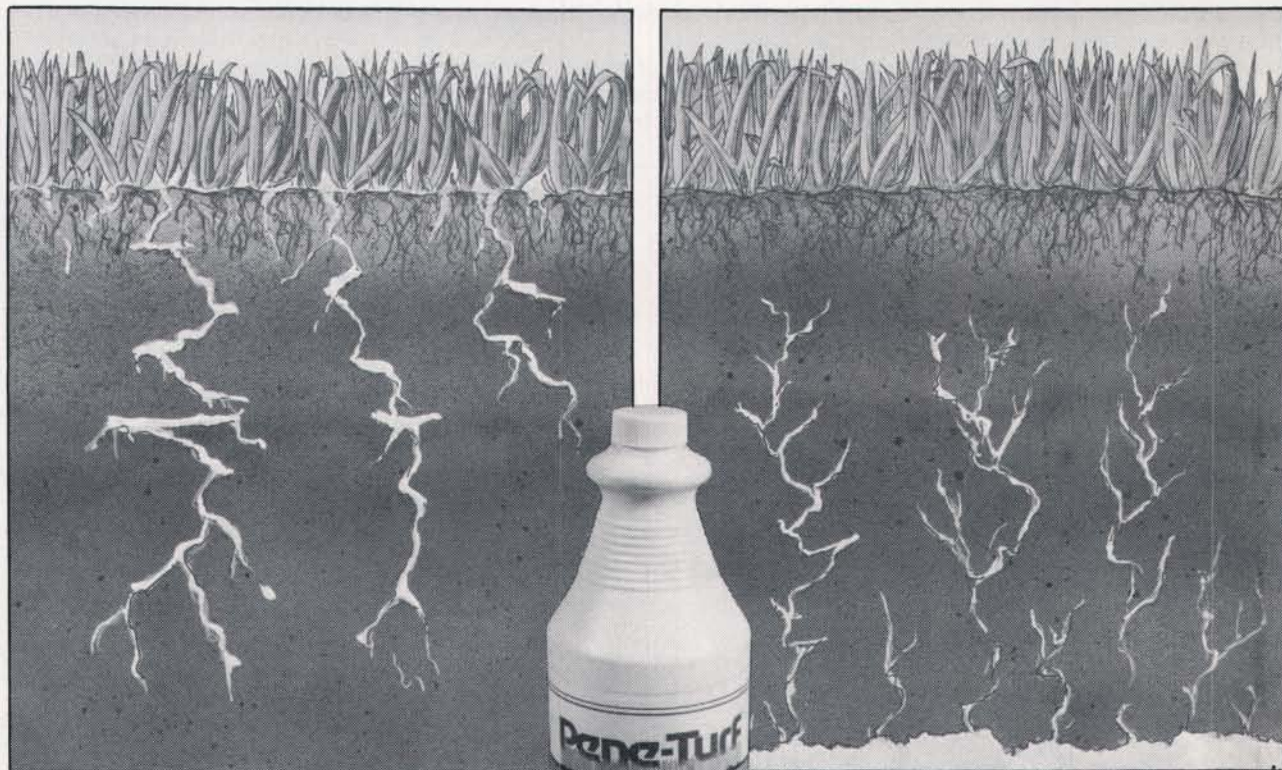
The latest preemergence herbicide for turfgrass is pendimethalin developed by American Cyanamid. This DNA-type herbicide is moderately priced and provides good control of both crabgrass and goosegrass. Lesco markets a sprayable formulation of pendimethalin while Scotts markets a dry applied formulation combined with fertilizer.

Most recently, herbicide manufacturers have discovered that by combining different preemergence herbicides they can lengthen their residual activity and increase the number of weeds they control. This al-

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Preemergence Weed Control

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lows the rates of the individual components to actually be reduced without sacrificing control levels. An additional benefit is the lower rates reduce the likelihood of the herbicides injuring the desirable turf. "There is a definite synergism when herbicides are combined with other herbicides or fertilizer," states Bill Tavener, sales manager of Pacific Sod. "The herbicides seem to perform better even at lower rates."

Examples of combination preemergence herbicides are Team, XL, Scotts Goosegrass/Crabgrass Control and Regal-Star. Elanco has combined trifluralin (Treflan)

and benefin (Balan) in a product targeted for northern weed control called Team. It also has combitorzalin (Surflan) with benefin (Balan) to make a southern product called XL. Bensulide (Betasan) and oxadiazon (Ronstar) are being combined by Scotts to make Goosegrass/Crabgrass Control. RegalStar is a combination of benefin, oxadiazon and Nitroform slow-release fertilizer marketed by Regal Chemical. The Andersons has a fertilizer combined with Team (trifluralin with benefin) and Dursban insecticide.

In all instances, success with preemergence herbicides requires a thorough understanding of the label. The label clearly

explains the particular weeds the product is designed to control. It will also warn you if the herbicide has the potential to damage certain turfgrasses. Perhaps most important, it will say whether or not split applications are advised and what the length of the control period is at certain rates. This lets you know how soon you can reseed, overseed or sod following application.

If you have a question that is not really answered by the label, don't hesitate to call your local chemical distributor, the manufacturer or extension turf specialist. They will be able to give you precise information on timing, rates and split applications. If you aren't sure which weed or weeds are invading your turf, ask them to identify them for you.

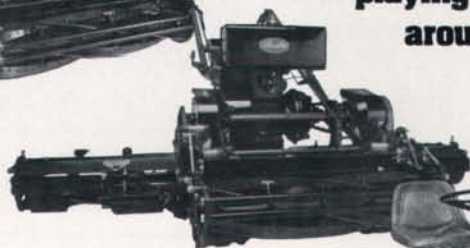
There can be significant differences between preemergence weed control on cool-season and warm-season grasses. To explain some of these we interviewed manufacturers and extension personnel in various locations throughout the country for their recommendations.

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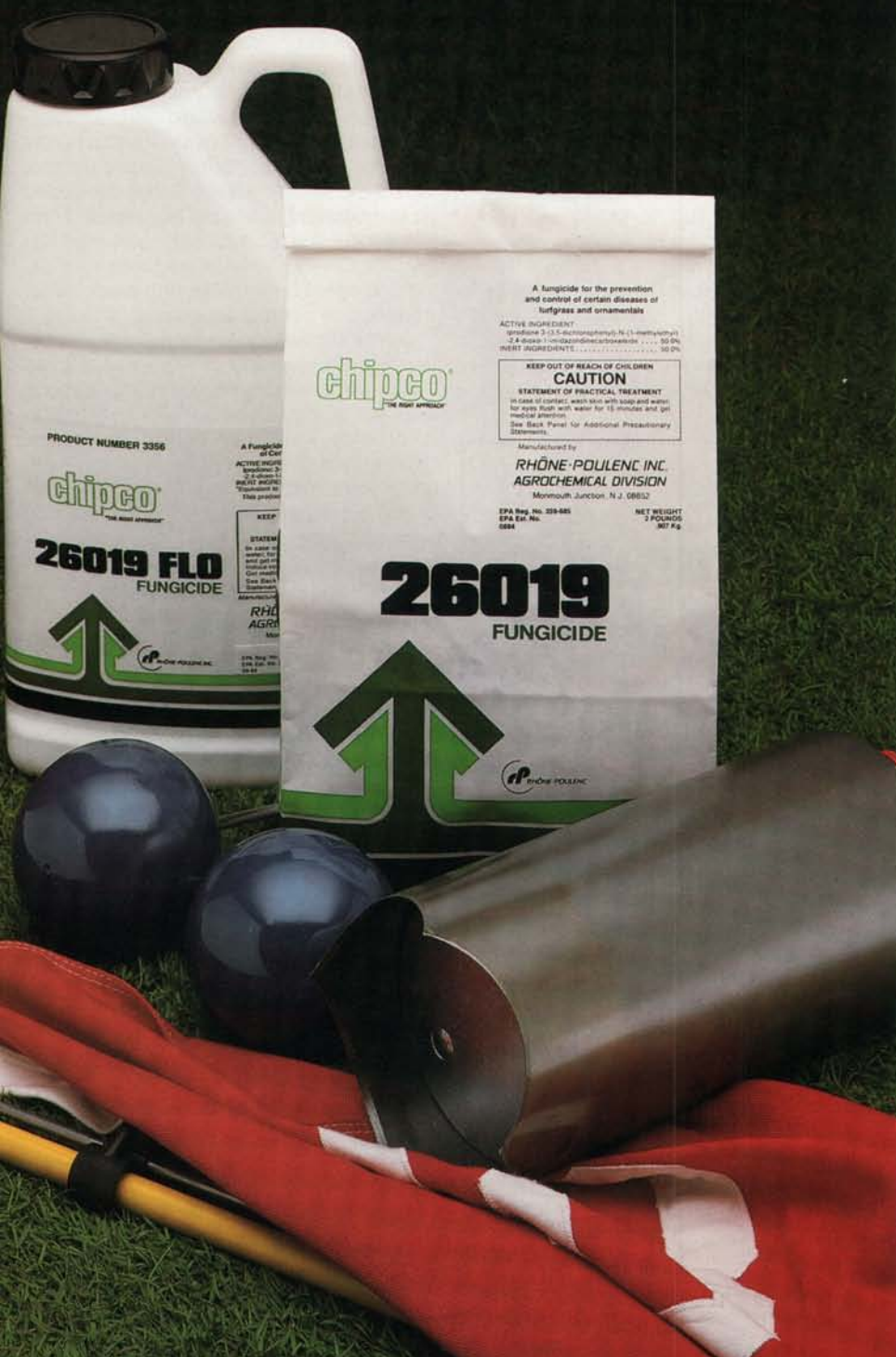
"Repeat treatments have done away with some of the variability in control."

Dr. B. J. Johnson, professor of agronomy, University of Georgia, Athens, GA, is an expert on weed control in warm-season turf. He points out that the biggest concern of southern turf managers is timing preemergence applications so that they won't harm perennial ryegrass or tall fescue overseeded into bermudagrass in the fall. All preemergence herbicides work by inhibiting the growth of roots and shoots of seedlings. Spring and summer applications must be timed so that all herbicide residue is exhausted before overseeding begins. This makes timing of a second application critical and can dictate the use of shorter acting products. Some products can last in the soil for more than three months.

Johnson recommends that all applications of preemergence herbicides in his area should be made by mid-March. This is the time when temperatures average above 55 degrees F. and crabgrass begins to germinate. However, he warns that timing can vary from year to year.

The longer germination period in the South frequently requires two applications. Generally, the second treatment is made 60 days after the first. "Repeat treatments have done away with some of the variability in control experienced in the past," he adds.

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Preemergence Weed Control

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Goosegrass has become a major problem throughout the South. Johnson has been impressed lately with the goosegrass control of pendimethalin, combinations of oxadiazon with bensulfide or benefin, and the combination of benefin and oryzalin.

Johnson reveals that preemergence herbicides can also play a role in spring transition from overseeded ryegrass back to bermudagrass. Pendimethalin and oryzalin appear to phase out the ryegrass in the spring when the bermudagrass is coming out of dormancy. This procedure is not recommended for bermudagrass greens since

preemergence herbicides can inhibit the transition of the bermudagrass.

Spring renovation of bermudagrass fields and fairways by pegging or sprigging can be hampered by preemergence herbicides. Root-absorbed herbicides can harm the establishment of the sprigs. However, treatment is needed since the sprigging process can open up the turf to crabgrass and goosegrass establishment. Applying oxadiazon following sprigging has shown effective weed control without harm to the sprigs.

With the growing conversion of bermudagrass greens to bentgrass in the South, bermudagrass has become an important weed in bentgrass greens. Applications of

siduron to bentgrass greens has shown promise in suppressing the encroachment of bermudagrass. Growth regulators are also being tested for this purpose.

Goosegrass invading either bermudagrass or bentgrass greens can be the worst problem a superintendent can face. This is the specific reason Scotts developed its combination product. Only certain preemergence herbicides can be used on greens. Check the label and with your extension agent before selecting products for goosegrass control on greens.

John King, associate professor of agronomy at the University of Arkansas, Fayetteville, AR, thinks oxadiazon applications after sprigging can be a major help to athletic fields with busy spring schedules. "Spring wear and tear of fields opens them up to goosegrass," King states. "The herbicide barrier in treated fields can also be chewed up by spring play. You don't want to do anything that can hinder the recovery of overseeded ryegrass or tall fescue until soccer season ends in May."

In May, King says that treatments with postemergence herbicides with MSMA, glyphosate (Roundup) or metribuzen (Sencor) can knock out weeds that germinated in bermudagrass between winter and the end of the spring season. A very light rate (1/2 pound/a.i./acre) of glyphosate will also knock out any overseeded ryegrass, he states. Broadleaf weeds can be removed with an application of Trimec (PBI Gordon) Weedone DPC (Rhone Poulenc), Three-Way (Lesco), Triamine (Riverdale), Turflon-D (Dow) or similar postemergence herbicide combination.

Once these weeds are eliminated, the sports turf manager can then apply preemergence herbicide for control of weeds germinating in the summer. Glyphosate has a label in Texas for summer use on bermudagrass to remove hard-to-control weeds such as dallisgrass, johnsongrass and crabgrass.

King is a proponent of leaving weeds alone in the spring if they make up a high percentage of the surface. "At some point, weeds are a blessing." For sports fields with small budgets and busy spring schedules, he likes the idea of overseeding common bermudagrass fields in the fall with tall fescue because it requires less fertilizer and water than ryegrass. Irrigation is necessary, however, to water-in preemergence herbicides immediately after application and to assure successful germination of the fescue in the fall.

Preemergence control of annual grassy weeds in cool-season turf can be complemented with an application of fenoxaprop-ethyl (Acclaim) from Hoechst-Roussel Agri-Vet Company, says Dr. Robert Shearman, professor of horticulture, University of Nebraska, Lincoln, NE. The postemergence product selectively removes crabgrass, goosegrass, foxtail and other grassy weeds that are missed by spring treatments of preemergence herbicides. Applications made when these weeds are in the three-leaf stage



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