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Credit - Divots, March 1983

### NEWSLETTER ARTICLE ASSIGNMENTS "BULL SHEET"

August  
September  
October

Dave Behrman  
Mike Hart  
Ken Goodman

Easy to follow instructions:

These articles are to be presented to the editor of the **Bull Sheet** one month prior to your month's assignment, i.e. John Stephenson - June - submit to editor by May 10, **no later!** All copies are to be double spaced and type written. You may pick a topic of editorial value or report on special interests related to turf and your profession. Get these articles in early so that Ray can work around your articles space. **Be Prompt!**

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## **KEEP THE F-AIRWAYS OPEN**

How important is communication? What good is it? Why have it? These are some aspects of communication I would like to expand on and show the importance of each of these questions to our profession.

The first question, "How important is it?" Without being able to talk and reason with people our profession is dead. If your green chairman comes up to you and asks you a technical question, you better be able to come up with an intelligent answer or tell him you are not sure but will find out. Nothing turns someone off more than when an employee answers a question with an "I don't know."

If there is a weak link in the chain of command of a club it stems from lack of communication. If the pro doesn't tell the superintendent that he has 100 players on Friday morning for a 9:00 A.M. shotgun start, the superintendent could be a real bind. All these type problems could be avoided with a phone call or a memo between the pro shop and grounds department.

Why have it? Without a good line of communication between manager, pro, and superintendent, trouble usually will arise. Maybe the best way to have a good line of communication is through a staff meeting. Include in that meeting the club president, the manager, the golf professional, the golf superintendent, and the pool manager. Let the club president chair the meeting and clear the air of any ill feelings between departments. If all departments of a country club can work together, it sure makes everyone's job involved, much easier.

Another way we as golf course superintendents can improve our own line of communication is through playing with members. I am sure that some clubs will not allow this but at those clubs that encourage it, the superintendent should make every effort to play at least 1, 18-hole round per week with a group of members. Get a view of the golf course from a playing standpoint instead of an agronomic one. Let the members question you about why this and that looks or performs the way it does while on the golf course, not in the shop. How often does your grounds chairman come into your office and ask you a question about a particular area on a certain fairway? If you were playing, you could see the problem, explain why you have it, and what you are doing to alleviate the problem. Take some of the guess work out of your job.

In summing up "our" problem, I can't express the importance of having an open line of communication between club executives, department heads, and between the department head and his people working for him. One thing to always keep in mind is "a superintendent is only as good as the people working for him." Hire good people, communicate your desires to them, follow up by observation and the job should be done the way you explained it in the shop.

Joe Williamson

## **1983 UNIVERSITY OF ILLINOIS TURFGRASS FIELD DAY**

Our annual turfgrass research field day will be held on July 27, 1983 at the Ornamental Horticulture Research Center located on South Lincoln Avenue, Urbana. This year, the field day will include a tour of the turfgrass research plots and a tour of the ornamental horticulture research being conducted at the site. There will be a catered lunch available on a reservation only basis. A complete schedule of events and a reservation form for lunch will be mailed to you at a later date.



## TURF PROBLEMS LATER IN SEASON

Declaring early battle on turf diseases means fewer problems later in the season.

"Early fungicide treatment is the key to controlling turf diseases such as leaf spot, dollar spot and melting-out," says Todd Cutting, TUCO agricultural chemical technical extension field representative.

Like many other turf diseases, leaf spot spores over-winter in thatch and surrounding dead leaf matter. Spring rains splash these spores onto emerging leaf blades. As temperatures rise, fungus activity increases and more and more leaf tissue becomes infected.

"Even well-tended turf may show signs of leaf spot," Cutting says. "But if left untreated, the disease can infect the crown and rot the plant." This advanced stage, known as melting-out, means loss of turf plants. Stands of grass become very thin and large areas can be wiped out.

Thus, early control of leaf spot inoculum is crucial and should be included in your disease control program. Cutting suggests applying a fungicide such as Acti-dione RZ in mid-April or earlier, immediately after the first mowing. "It seems that one early spray may be as good as two or three late ones," he notes. A second spray should follow three weeks later.

"If the disease is heavy, regular applications should be made at 7 to 14 day intervals. After the disease is arrested, return to 14 to 21 day intervals," Cutting recommends.

With regular applications, a fungistat barrier can be established to help prevent diseases from spreading. Such a program could also help prevent melting-out. Since melting-out becomes apparent in early summer, unchecked leaf spot activity already has insured or destroyed the grass's root system, he explains.

To enhance fungicidal activity and correct possible iron chlorosis of the grass, Cutting recommends adding ferrous sulfate to the tank mixture at a rate of 1/2 oz./1,000 square feet of turf area. Ferrous sulfate is an inorganic chemical of iron and sulfate, and iron is an important component of photosynthesis.

"We've been using ferrous sulfate with our fungicides since the early 1950s to increase the green of grass and improve the finish of turf," he explains. Data show that when turf is under stress, particularly during hot summer months, the grass plants have difficulty absorbing iron from the soil. When applied as a spray, iron can be foliarly absorbed through the leaf tissue.

"Very early fungicide treatments could also aid in the control of pink snow mold, although most people tend to rely on fall snow mold treatments for protection," says Cutting.

In addition, red thread and rust, although not in epidemic proportions early in the season, can be contained with early treatments, he notes. Red thread, identifiable by its distinctive round patches of pink or red, is a disease found in rye and fescue. Rust, a mid-fall disease that inflicts little damage in the spring, is just waiting for the appropriate time to start spreading, Cutting explains.

By incorporating these suggestions into your disease control program, turf diseases can be minimized and late season outbreaks may be prevented.

The person who can laugh with life has developed deep roots with confidence and faith — faith in oneself, in people and in the world, as contrasted to negative ideas with distrust and discouragement.

Democritus

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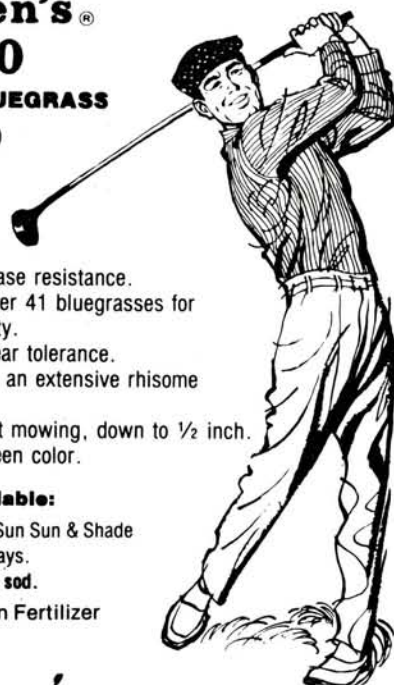
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## AN UPDATE ON WEED CONTROL PROGRAMS

Update: to revise, with change. This is a suitable definition for the word as it relates to turf weed control. To many, perhaps most of us, the change aspect immediately centers on "new" herbicides. But, it seems that any herbicide is "new" if the turf manager has never used it, and perhaps never heard of it before. More than two dozen or so herbicides are commonly used in the turf industry, yet most turf people have used no more than 5 or 6 different chemicals for weed control. Also, from the new standpoint, there are a few herbicides that may have been on the market for only a short time, or they may have been introduced into the area after proving successful elsewhere.

A professional, especially one with extensive and varied experience, realizes that chemical choice and use are only two of many considerations in developing an effective control program. Weeds usually inhabit a turf site because they have been given a competitive edge by environmental conditions. Unless the cause of the weed problem is assessed, and on-site turf growing conditions improved, there is often a need for repeated (sometimes with significant detrimental effects) chemical applications. This is indiscriminate use of pesticides.

It seems that a brief review of some of the site conditions that influence turf weed problems is in order.

### Soil Conditions

A soil of good physical quality will normally drain well, be well aerated and well suited for turf growing. Of course, good soils can be managed much easier than poor ones to produce a continually dense turf to deter weed invasion. Good soils will usually not compost badly. Compacted soils often have their own particular prostate knotweed and goosegrass weed problems. Poorly drained, wet soils are often inhabited by annual bluegrass and nutsedge, and dry sites often provide an acceptable habitat for kochia and quackgrass. The better the soil quality after construction or the better it can be made or maintained under existing turf, the fewer the weed problems, and the easier it is to keep them in check.

A soil of good chemical quality can produce a better turf than one of poor quality. Soils that are quite acid or alkaline, or have notable nutritional deficiencies - N, P, K, Fe, etc. - or excesses are quite likely to have serious weed problems. In drier climates accumulated soluble salts can have dramatic detrimental effects on turfgrass. This allows for the invasion of salt tolerant weedy plants. Weeds that tolerate high acidity include red sorrel and dandelions. Nitrogen fertilization, even at moderately low levels, can thicken turfgrass stands dramatically. The most effective chemical (fertilizer) to employ in a weed control program is typically nitrogen - the turfgrass thickener. Phosphorus fertilization can cause turf seedlings to develop rapidly. This can reduce early stand weed problems. But improperly timed (in the spring), the P can help annual grasses, such as crabgrass, foxtail and barnyardgrass, dominate new plantings. Where soluble salts cause problems, squirrel tail barley and alkaligrass can decimate pure stands of Kentucky bluegrass, especially in sod fields.

### Influence of Turf Grasses on Weeds

Most turf people have observed the dramatic decrease in weed population associated with increased turfgrass density. Weed population differences are especially noticeable when common types of Kentucky bluegrass, fine fescue and perennial ryegrasses are grown next to new, high density varieties.

### Rainfall and Irrigation Effects

Annual weed problems vary greatly from one year to the next. These weeds can be quite troublesome in years with early, warm temperatures. Weeds such as crabgrass, foxtail and barnyardgrass, given an early start especially in warm season grasses, become highly competitive. A wet spring can cause the weeds to continue to develop rapidly. With an early start and good growing conditions weeds often become a major component of the stand by mid-summer. Since such conditions are difficult to anticipate, selective post-emergent annual grass control materials may be needed. A preemergent material might have been preferred, but there is often no way to predict the seriousness or the exact area of the problem early.

Irrigation practices frequently contribute to weed problems. Annual bluegrass and rough bluegrass usually get a strong foothold where overirrigation and heavy soils are a problem - near heads, in front of greens, near leaks, etc. In dry areas, from irrigation skips, bermudagrass, quackgrass and tall fescue often "take over". A good irrigation system with quality water and good drainage can be keys to producing a good turf with few weed problems.

### Mowing Influences

Mowing practices, even with new low growing turfgrasses, can significantly affect weed problems. Generally a higher cut results in fewer weeds, and more frequent mowing creates denser turf. Also, mowing to keep annual weeds from going to seed can reduce future weed problems.

### Disease, Insect and Animal Effects

Any agent that opens up the turf and leaves a place for weeds to grow will likely increase weed problems. Sometimes it is desirable to overseed after turf dies. If this is to be done, careful attention should be given to selecting a herbicide that will be safe to use on new seedlings, and/or selecting grasses that are likely to have fewer weed problems. With overseeding, the residual influence of previously used herbicides (often months) needs to be considered.

### Shade Influences

Shade can dramatically reduce or increase weed problems. For instance, shady areas are often needlessly treated for crabgrass control. Wet shady areas are often invaded by annual bluegrass and roughstalk bluegrass. In such cases, as in many others, the decision must be made on the desirability of the plant cover. Frequently the cover, even if it is a weed such as moss or common chickweed, is preferable to bare ground.

### Mechanical Control

This phase of weed control continues to receive little attention. Sod growers may occasionally hand pick a few dandelions, field bindweed and even Canada Thistle out of cut sod; or a golf course superintendent may, from time to time, use a pocketknife to gouge out a dandelion or chickweed plant from a green. In many countries with extensive labor supplies, hand weeding is still an important means of control. In the U.S. with our outstanding arsenal of herbicides, and with our present state of technology in turf weed science, there are very few weeds that cannot be satisfactorily controlled with chemicals.

### Chemical Control

Increasingly we become aware of the many factors that influence chemical control success. The kind of applicator used, water quality, pesticide dilution, soil type, air and soil temperature, kind and age of weed, the kind of turfgrass, irrigation timing or rain following application, wind velocity, formulations, and chemicals to use usually receive some attention when developing a chemical control program. It is not



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possible here to thoroughly discuss these **important** considerations in any depth. However, if we look at one of these (applicators) in detail, perhaps a better understanding can be had of developments that continually influence turf weed control decisions.

**Pesticide applicator** choice and proper use is very critical in getting the most out of any pest control program. During the last few years several innovative pieces of equipment have been introduced, and a few of these have found fairly wide acceptance in the turf industry. A wide variety of nozzles are available for use with the old conventional boom. These may be color coded, especially built to resist wear, etc. A major problem with boom applicators results from use of poorly selected nozzles, use of worn out ones, etc. Depending, of course, on the amount of use, boom applicators should be checked yearly or more frequently for problems. Roller and wick or rope applicators are useful tools in turf situations, especially where the weeds rapidly grow taller than the turfgrass. These applicators may be successfully used to take tall fescue out of Kentucky bluegrass and buffalograss, or to remove Canadian Thistle from tall fescue stands used for erosion control, etc. Micron and electrostatic applicators may not have quite the advantage on a flat turf surface that they do for trees, shrubs, flowers and other taller growing intermittent plantings. But, they certainly have use for turf situations, and as their use becomes more common, more innovative ways will be found to use them. Also, more attention will be given to developing formulations to match the applicator equipment.

Pesticide safety, whether referring to non-target plants, animals, or people, and effective pesticide use, is dependent upon knowledge of the pesticide. **The final word on use is the label. ALWAYS READ AND FOLLOW LABEL INSTRUCTIONS.**

**Selective postemergent broadleaf weed control** chemicals have been doing an outstanding job since World War II. 2,4-D has been very effective in controlling a wide array of broadleaf weeds. For several years 2,4,5-T was used to control some of the weeds that 2,4-D missed. Even with these two outstanding chemicals there were a few weeds that remained troublesome. But, with the advent of silvex (2,4,5-TP) some of these difficult-to-control turf weeds were brought into check. When dicamba became commercially available it gave the turf maintenance person something that was outstanding for clover, knotweed and chickweed control plus many more. MCPP was found to be effective on clover, knotweed and chickweed, but it was found to control only a very limited number of turf weeds. It was recognized early that MCPP could be used on bentgrass, and this gave many turf maintenance professionals something they needed. Recently 2 and 3-way combinations of 2,4-D, dicamba and MCPP have become standard materials for use on a very wide spectrum of weeds in most turfgrasses. Manipulating the amount of active ingredient in the mix has allowed this product to be labelled for use on bentgrass. Another herbicide, which is not new, but that could certainly play a more important role in turf management, especially for sodgrowers, is bromoxynil (Brominal and Buctril). This chemical can effectively control many young broadleaf weeds in newly planted grass.

**Selective, preemergent annual grass control** materials have proven very useful to turf growers, especially those in the transition zone. They have helped to successfully push cool season turfgrasses further south, but they are a tool of the trade, and their usefulness is proportional to the knowledge the user has about them. There are some rather

new (oxidizon-Ronstar) materials, and some that have been marketed for many years (DCPA-Dacthal). It is not possible to adequately discuss these chemicals here, but a few brief statements may be helpful in this "update".

DCPA has wide use in agriculture. It is used to control weeds in many vegetables, strawberries, nursery plants, flower beds, and other plant situations. The list of cultivated plants that DCPA is labelled for is quite lengthy. In addition to controlling crabgrass and several other annual grasses, it is used to control some very troublesome (purslane, creeping speedwell, etc.) broadleaf weeds.

Benfen (Balau) in granular formulations has been quite effective for the control of many (annual bluegrass, smooth and hairy crabgrass, goosegrass, watergrass and yellow and green foxtail) annual grasses. It has often been the choice for large area weed control including established Kentucky bluegrass sod fields.

Bensulide (Betasaw) is marketed under several different trade names. It has been widely used by commercial lawn maintenance companies for pre-emergent control of annual grasses. It can be used on essentially all turfgrasses including bentgrass, and it has been incorporated in many annual bluegrass control programs on golf courses.

Siduron (Tupersan) is another chemical that is widely used for selection, preemergence annual grass control in established stands of certain turf grasses. It is not for use on bermudagrass, and certain varieties of bentgrass. Unless a superintendent is **absolutely** sure of his variety of bentgrass, he should do some preliminary (small plot) checking at least a year ahead of incorporating this chemical into a weed control program. It has been known for many years that siduron could be used on new seedings (of some turfgrasses) to keep out certain broadleaf weeds and several annual grasses. As common as this knowledge is, sod growers come in every winter for a program review, and at that time they hear about this chemical for the first time. After trying it in the spring on new seedings many of them report back, with pleasure, in the fall of their successes. A person who lives in the Transition Zone (Crabgrass Belt) and makes spring seedings should certainly consider using this herbicide.

Oxadiazon (Ronstar) is a "new" selective, preemergent chemical for annual grass control in established turf. It is receiving a great deal of attention for, among other things, its effectiveness in controlling a difficult weed, goosegrass (silver crab).

Pronomide (Kerb) has proven quite effective for pre-and postemergent control of annual bluegrass in bermudagrass. Turf Kerb 50-W is not recommended for use on greens. Kerb has a protective clothing notice on the label.

Ethofumesate (Prograss) is a "new" herbicide for professional pre- and postemergent use on **certain** ornamental turfgrasses. From the technical Information Bulletin for ethofumesate - "PROGRASS Flowable herbicide (4.9 lb. ai/gal) is effective for use in the establishment of, or on established perennial ryegrass to control certain annual grass and broadleaf weeds". As this chemical receives further testing its uses will likely expand to counter some new serious turfgrass weed problems.

**Selective, postemergent annual grass and sedge control** materials can be quite effective tools for killing growing weeds in **certain** turfgrasses. AMA, DSMA, MSMA and a few other organic arsenical "summer crabgrass" control materials may prove effective in cleaning up turf infested with crabgrass, barnyardgrass, goosegrass, etc. Repeat (2 or 3) applications of these chemicals will likely be necessary for

(continued on next page)



satisfactory control. These materials have been especially helpful to sod growers needing to get a spring seeded, weed infested crop to market in the fall.

Bentazoun (Basagran) is labelled for postemergent control of yellow nutsedge in many different turfgrasses. As always, directions given on the label for herbicide use should be followed closely.

**Non-selective, short residue herbicides** have had rather limited use in the turf industry until fairly recently. Paraquat, a contact herbicide, provides kill of emerged annual broadleaf weeds and grasses and for top kill and suppression of perennials. Paraquat ties up rapidly in clay soils. Paraquat is a **RESTRICTED USE PESTICIDE**.

Glyphosate (Roundup, Kleenup) translocates to kill both roots and shoots. It is used in many ways on turf facilities. It has been used to chemically edge around headstones, near fences and roadways, etc. It has been used to take out undesirable plant materials, including old stands of turf, to allow for establishment of desirable turfgrasses. Work is currently underway to make commercially available mixtures of glyphosate with chemicals that will provide preemergent weed control. This or proper tank mixes could significantly extend the length of time between applications of glyphosates. Glyphosate ties up in soils, and few problems have been noted from movement from application site. However, "extreme care must be exercised to avoid contact of spray, drift or mist with green foliage, green bark or bark of trees established less than two years. Suckers or fruit of desirable trees, crops, plants or other desirable vegetation. Spray contact with other than matured bark on the main trunk can result in serious localized or translocated damage."

Other nonselective, short residue herbicides such as dalapon and cacodylic acid are used in turf situations.

**Nonselective, long residue** (soil sterilants) herbicides have been used in some turfgrass situations. These materials should be used, as every pesticide should, **strictly** as directed on the label. In urban situations the materials have caused some very serious problems when used by homeowners, and even by "professional" applicators. There seems to be a trend to use short residue, broad spectrum controls, in lieu of sterilants, in urban situations.

From the above it is quite evident that many factors enter into devising a successful turf weed control program. And, it is the role of the professional groundskeeper to understand and manipulate these many factors to get the best results, possible.

Jack D. Butler  
Department of Horticulture  
Colorado State University

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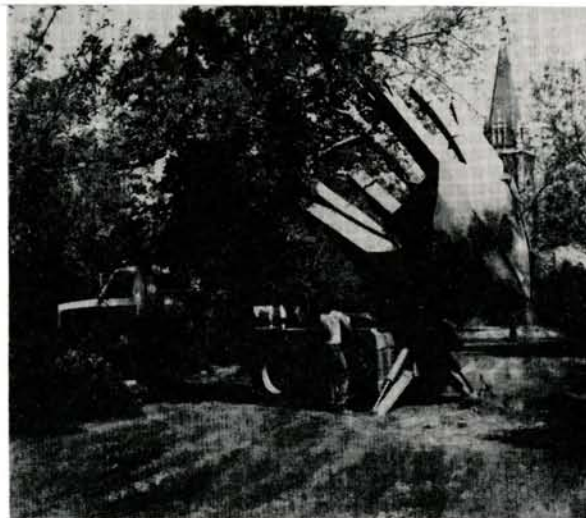
NORTH PALM BEACH, FL — A National Golf Foundation compilation of all two-year and four-year colleges and universities offering men's and women's intercollegiate golf is now available.

Cost for the Information Sheets is \$5 each, or \$8 for both the men's and women's lists. There are 1,169 schools on the men's list and 312 on the women's. The women's list also notes institutions offering financial aid.

"Due to the number of requests for this information and the apparent lack of it elsewhere, we felt there was a definite need for this Information Sheet," explained Annette Thompson, NGF director of education. "We plan to update these fact sheets annually and hope to add more categories each year."

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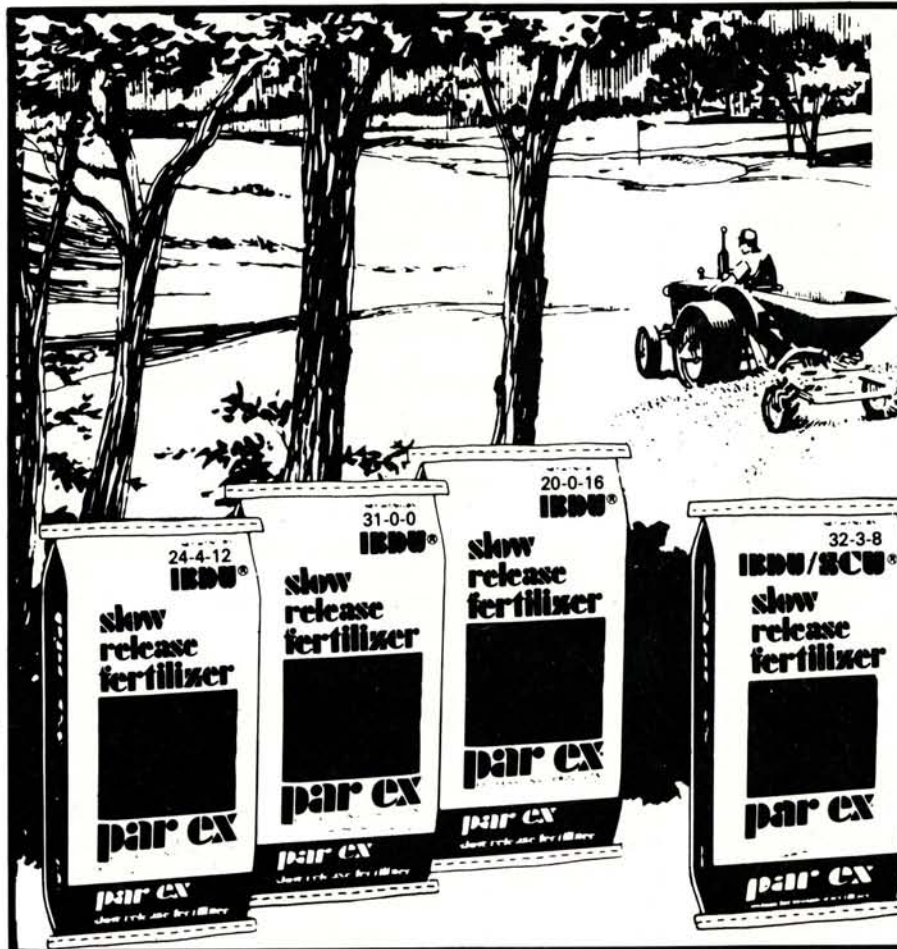
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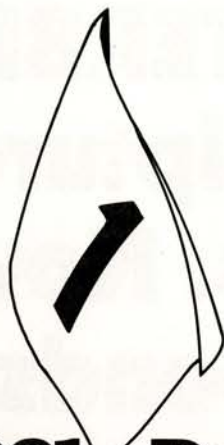
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\*Daconil 2787 is a registered trademark of Diamond Shamrock Corporation.

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