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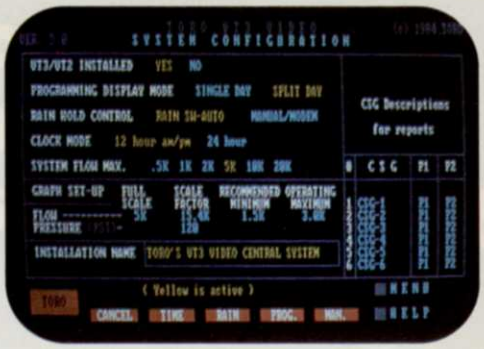
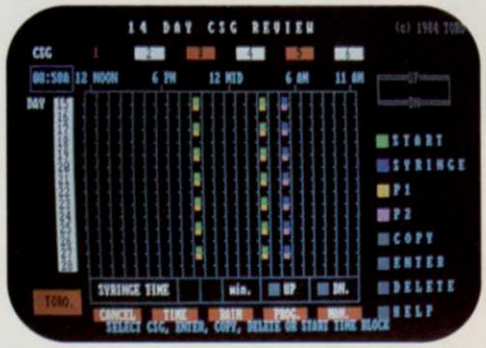
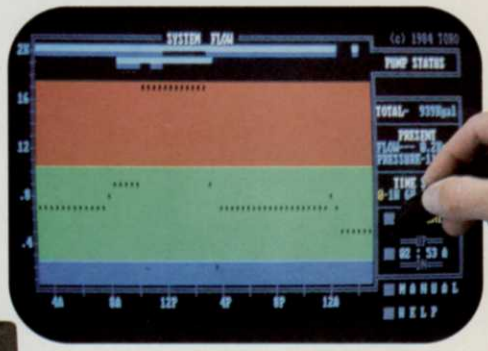
TYPICAL SCREEN DISPLAYS







The Toro Company
Irrigation Division
Dept. WTT-685, P.O. Box 489, Riverside, CA 92502

Circle No. 143 on Reader Inquiry Card

When Toro introduced the first VT3™ Video Central Irrigation Controller last Summer, it offered you a whole new world of flexible control and simplicity. We call it "pen-point" control; users call it a godsend. But we didn't stop there. In response to your needs and your requests, we've continued to add new features, enhanced capabilities. Now, there are three different models to choose from, plus three options to make them even more effective. One is a flow screen, with a moving graph showing *real* flow (*not* calculated), so you'll know if your pumps are performing efficiently. A second option is our new Rain-Guard, which automatically cancels your program on a rainy night; you don't have to be there! Third is a remote control capability, enabling you to operate or monitor your system from one PC to another; for example, from your home, to avoid an emergency trip to the course. Now isn't that the kind of control *you* should have? You'll get it only from Toro. But don't just take our word for it; you must see VT3 Video to believe it. Call *The Man from Toro* today, let him give you a full demonstration, at no cost or obligation.

TORO®

Excellence in Irrigation®

If you're not using Daconil 2787® on your golf course, you don't have many alternatives.

Sure you've used other fungicides. Even tried one or two of the new systemics. But they didn't measure up to diseases like dollar spot and brown patch. Tees, greens and fairways had a lot of problems. And you had a lot of headaches.

Unreliable, inconsistent disease control is the biggest reason more and more superintendents are getting back to regularly scheduled applications of Daconil 2787 fungicide. Because Daconil 2787 *is* the most effective and reliable fungicide you can use on tees, greens and fairways.

Daconil 2787 has a proven record of performance when it comes to delivering superior control of ten major turf diseases including: dollar spot (and benomyl-resistant dollar spot), Helminthosporium (leafspot and melting-out) and large brown patch.

What's more, Daconil 2787 resists wash-off. So it's always out there working even during heavy rains or watering. There's no need to add a costly spreader/sticker for full and even plant coverage because it's already built in to the formulation.

And there's never been a documented case of resistance in over 15 years of use.

Plus you just can't beat Daconil 2787 for economy either. As we've been pointing out for the last two years, Daconil 2787 is the most cost-efficient fungicide you can use from tee to green.

So this season make your fungicide Daconil 2787. It's the one fungicide you can count on to save you from a lot of disease problems and a lot of headaches too.

SDS Biotech™

Agricultural Chemicals Business
SDS Biotech Corporation
7528 Auburn Road, P.O. Box 348
Painesville, Ohio 44077

Daconil 2787®

The reliable turf fungicide

Always follow label directions carefully when using turf chemicals.

Circle No. 137 on Reader Inquiry Card

Overseeding *from page 30*

equal lots and sown on three or four different days.

The seed should be applied in the early morning when the soil is still frozen but is expected to thaw during the day. The freeze-thaw cycles produce a honeycomb or soil cracking that enables the seed to become embedded in the soil.

The results of honeycomb seeding can be improved if the areas are scarified the previous fall with a flexible-tine harrow or similar piece of equipment.

Many landscape superintendents also feel that broadcasting seed on a field just prior to use is beneficial, assuming that the cleats of shoes will push the seed into the ground.

It is unlikely, however, that much of the seed will germinate and survive, especially if applied much past Oct. 1.

Species, cultivar selection

Successful overseeding begins by selecting the best grass species and cultivars for your area. Fields that receive heavy use should be overseeded with a blend of two or three **perennial ryegrass** cultivars at a rate of five to seven pounds of seed per 1,000 square feet. This quick germinating species is well-suited for athletic fields because it has good wear resistance, it is very easy to establish and is better able to compete with weeds when used in a spring seeding.

However, it is somewhat susceptible to winterkill and since it is a nonspreading grass, it's ability to recover from injury is poor. Therefore, more frequent overseeding will be necessary to maintain density on perennial ryegrass fields.

Kentucky bluegrass is also well-suited for athletic field use. It is attractive, durable and is able to recover from injury. The biggest drawback of Kentucky bluegrass is that it is difficult and very slow to establish, especially when overseeded with sod.

Mixtures of Kentucky bluegrass and perennial ryegrass can be overseeded on fields, provided that the perennial ryegrass component does not exceed 20 percent of the seed mixture. Mixtures with a larger percentage of perennial ryegrass will produce a predominatly ryegrass stand. The differences in seedling vigor make it difficult for Kentucky bluegrass to germinate and establish itself in a vigorous perennial ryegrass sward.

However, if the vigor of the ryegrass is reduced by close mowing (½ inch) for the first few weeks of establishment, then it is possible to produce a true blend of Kentucky bluegrass and perennial ryegrass from a 50:50 seed mixture.

The preferred grass species for home lawns in the northern United States is Kentucky bluegrass. The many improved cultivars now available have such genetic diversity that there are few situations where at least one cultivar won't be adapted.

There are cultivars adapted to sun or shade, high or low maintenance and they are all attractive. Kentucky bluegrass should be overseeded into a lawn at a rate of two to three pounds of seed per 1,000 square feet. This rate is slightly higher than what might be used in bare soil, but it compensates for the reduced germination that can be expected in what are often less than ideal germinating conditions.

The turf type tall fescues are becoming more popular for athletic fields, home lawns and other grounds areas.

The turf type **tall fescues** are becoming more popular for athletic fields, home lawns and other grounds areas.

The new fine-textured cultivars have good drought tolerance, good wear resistance and they are much more attractive than the old varieties such as Kentucky 31. Since tall fescue is also a bunch-type grass, more frequent overseeding will be necessary to maintain density and for the cultivars to maintain their fine-leaf characteristics. Also, tall fescue is very susceptible to winterkill, so its use is limited to rather specific areas in the northern United States. Contact your county extension agent or state turfgrass specialist for the species and cultivars recommended in your state.

Seeding

Once the seed mixture has been selected, the area must be prepared for seeding. Mow the area as short as possible and remove the clipping debris. This step will insure that adequate sunlight reaches the soil surface to enhance germination.

Seed is most successfully germinated when it is placed in direct contact with the soil. Core aerification is an effective means to accomplish this.

Core aerify the field or lawn in at least four directions. Germination will be noticeably enhanced directly in the aerifier holes. Therefore, the more passes made with the aerifier, the better.

Allow the cores to dry, then break them up by dragging the area with a drag mat, piece of chain link fence, or flexible tine harrow. Core aerification prepares a partial seedbed by bringing soil to the surface.

Apply a high phosphorous or starter fertilizer with an approximate 2-4-1 or 3-4-1 ratio at a rate necessary to provide one pound of actual nitrogen per 1,000 square feet. Both nitrogen and phosphorous are essential for rapid establishment and maturation of overseeded turf.

Overseed immediately following aerification. The preferred method of overseeding is to use a disk-type seeder that cuts a narrow slit into the soil or thatch and directly deposits the seed into the slit. The areas should be seeded with a disk seeder in at least two, and preferably four, directions.

When bunch grasses are used, superintendents will often broadcast seed on top of the disk-seeded areas to accelerate the filling in-between the seeded slits. This step could probably be eliminated if the area is disk seeded in four directions.

When a disk seeder is not available, it is possible to further prepare the seedbed by working up the soil surface with a flexible tine harrow. Seed may then be broadcast and the area lightly dragged.

On spring-seeded turf, siduron (Tupersan) should be applied to reduce annual grass competition. Siduron is presently the only preemergence herbicide safe to use in seedling turf.

In 1986 there may be a new postemergence herbicide available called Acclaim that is effective on many annual grasses and is safe to use in seedling turf.

Water the area as necessary to keep the soil surface moist. Mow the area when the grass seedlings are slightly higher than the height at which they will be maintained.

After the newly seeded area has been mowed at least twice, herbicides may be applied as needed to control broadleaf weeds.

Regardless of the turfgrass area being maintained, overseeding is only one step in producing high quality turf. Controlling the amount of play and providing adequate drainage will help preserve a playable turfgrass cover on athletic fields.

Proper fertilization, mowing, irrigation, cultivation, and controlling turfgrass pests will all contribute to a healthy, vigorous turf and reduce the need for overseeding. **WT&T**

SNAPPER® DOESN'T JUST THATCH IT, IT CATCHES IT.

One of the greatest threats to the life of your lawn is thatch. Thatch can starve and strangle a lawn to death through the build-up of dead and decaying material which works like a thatched roof to seal off your lawn's bed. This "thatched roof" prevents air, water, fertilizer and nutrients from penetrating to the roots of your grass, which is especially harmful during the spring and fall when your lawn needs fertilizing.

Fortunately there's an easy solution to this deadly threat that doesn't involve a lot of time consuming raking, raking and raking.

That solution is the SNAPPER Thatcherizer. This affordably priced option attaches to any SNAPPER Hi-Vac rider, self-propelled mower or lawn tractor. Its gentle but thorough raking action combines powerfully with our unique, patented Hi-Vac system to loosen and vacuum away even the toughest thatch deposits. And when you add one of SNAPPER'S grass catchers, with capacities of up to 30 bushels, you've got a dependable team that will keep even the largest, most demanding grounds handsome and healthy.

The Thatcherizer is just one more fine example of SNAPPER'S commitment to excellence in lawn care. With a complete line of walk and riding mowers, tractors, tillers and snowthrowers, we have a machine suited for every job; plus a full selection of versatile attachments to help those machines work even harder.

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So visit your SNAPPER dealer today for a look at the Thatcherizer and the complete line of fine SNAPPER products. Because when it comes to dealing with thatch, and delivering a beautiful lawn, SNAPPER has it in the bag.

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Circle No. 138 on Reader Inquiry Card

With millions of users, thousands of facilities, the previously neglected turf ballfield is gaining the public's respect. Now it needs public support.

Public Sports Turf: Drastically in Need of Standards

by Bruce F. Shank, executive editor, and **Ron Hall**, assistant editor

Orphan Annie and public sports fields have a great deal in common.

Both receive only minimal attention as wards of the state and have the potential to rise to greater status.

The big question is, who will be the Daddy Warbucks of public sports turf?

A significant number of organizations, including this magazine, are trying desparately to find the answer. A summit of all major public sports turf groups was held at the USDA Turf Research Center in Beltsville, MD, in late April to get the ball rolling.

The public sports turf market has the potential to expand the overall turf market as the professional lawn care market did in the 1970's.

This long-delayed market will boom because the public is demanding better, safer fields while public agencies face increased liability for injuries occurring on public fields.

Greater awareness of injury liability and skillful promotion of safer, better built and maintained fields to Parent Teachers Associations and public field user groups, will cause budget roadblocks to collapse under taxpayer pressure.

Roadblocks are not just financial. Current maintenance levels are recognized as inadequate for intensive use. Field construction standards used to build most of today's fields are resulting in poorly-drained, worn-out fields. A major reconstruction effort will be needed after adequate construction and maintenance specifications are developed.

Maintenance Practices*

Practice	Percentage of Respondents Doing
fertilization	92%
weed control	86%
aerification	73%
irrigation	60%
insect control	36%
disease control	29%

Types of Fields Maintained*

Type	Percentage of Respondents
baseball/softball	81%
tennis	69%
soccer	65%
football	62%
basketball	56%
golf course	12%

* 364 responses

Scope of need

In 1983, the National Federation of State High School Athletic Associations in Kansas City counted 14,086 schools involved in football, 13,380 in baseball, 14,414 in track and field, and 4,454 in soccer. Add to these figures the more than 12,000 park systems in the U.S. with a varied assortment of fields.

The scope of public sports turf continues to snowball when you consider junior colleges, state universities, and municipal recreational facilities.

Another perspective of the market is provided by looking at the size of public field user groups. There are more than 2.2 million children participating in 7,000 Little League® programs, more than one million kids playing in other organized summer baseball and softball leagues, and 173,000 teams competing under Amateur Softball Association rules. Add the growing popularity of soccer leagues, and extremely serious overdemand for a limited number of fields becomes undeniable.

Liability

This overdemand only becomes important to public field decision makers when kids get injured and the liability of the public agency is threatened. A recent *Weeds Trees & Turf* survey revealed schools and parks carry an average of $1 million in liability insurance.

Liability insurance used to provide public agencies with comfortable protection against serious fi-

continued on page 40

Subdue. The most effective fungicide against Pythium blight and damping-off.

Pythium weather. High temperatures, high humidity and high anxiety. Once Pythium takes root, it can destroy turf within hours.

Unless you take a grass-roots approach to Pythium. With Subdue.®

Subdue works both on contact and systemically.

Subdue fights Pythium blight and damping-off—as well as downy mildew (yellow tuft)—in two ways. On contact, Subdue destroys the fungi in the soil. Systemically, Subdue prevents disease from within grass plants. That's because Subdue is water soluble—easily absorbed by roots. So Pythium—and now, downy mildew—don't have a chance.

Subdue also controls costs.

Subdue's systemic action means longer, more effective residual protection. Fewer applications. Lower chemical costs. And savings in maintenance and labor. And Subdue's low application rate—1 to 2 fluid oz. per 1,000 sq. ft. for 10 to 21 days on established turf—makes Subdue the most cost-efficient protection you can buy.

Before Pythium weather strikes, subdue it. Use Subdue in a preventive maintenance control program. And get a good night's sleep.

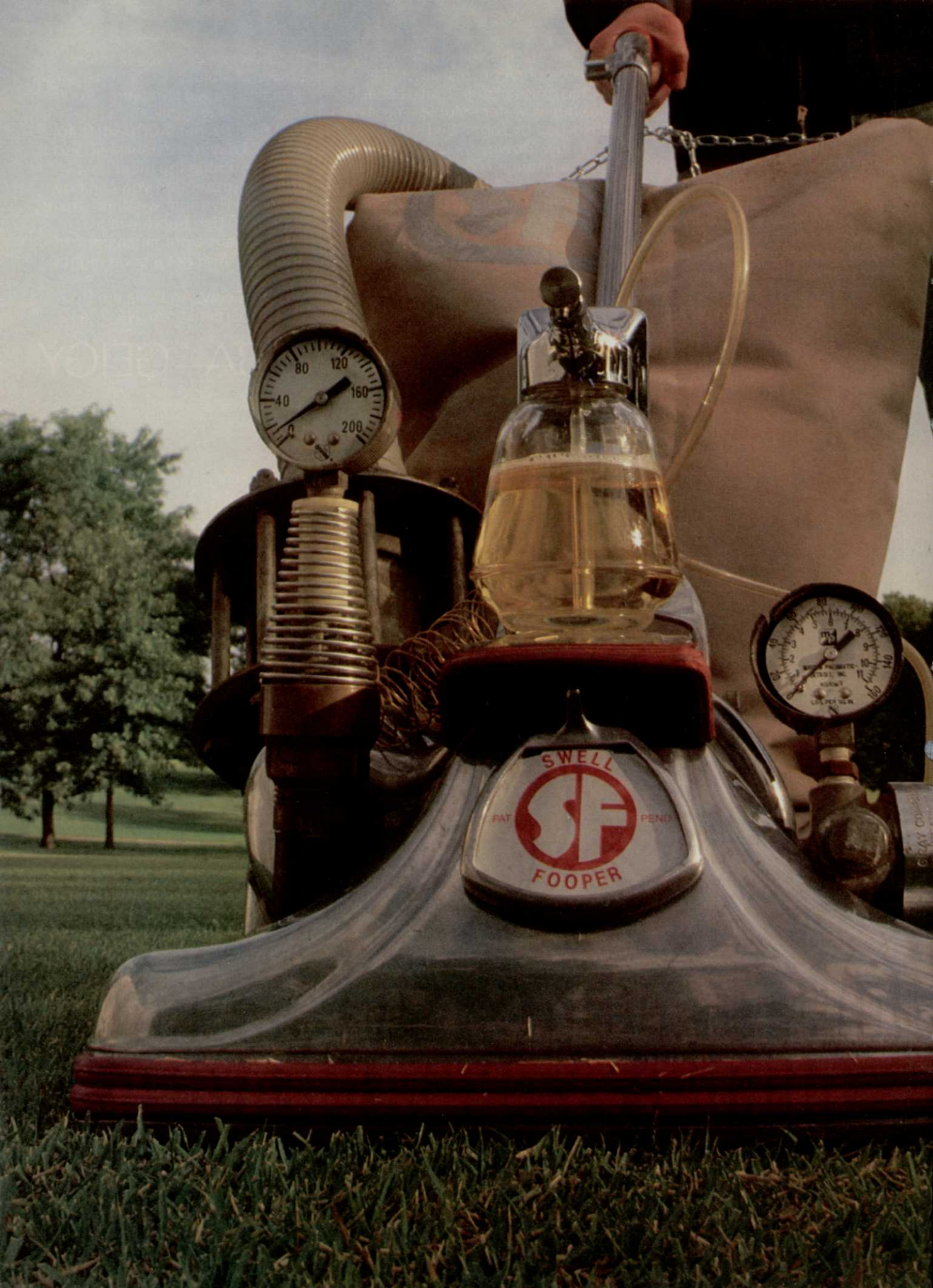
Ciba-Geigy, Ag Division, Box 18300, Greensboro, NC 27419.

CIBA–GEIGY

HOW TO AVOID SLEEPLESS NIGHTS DURING PYTHIUM WEATHER.

SUBDUE

Circle No. 274 on Reader Inquiry Card


80
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HOW TO TAKE OUT SURFACE FEEDERS AND GRUBS IN ONE SWELL FOOP.

To take out surface feeders like sod webworm larvae, chinch bugs, billbugs, and flea beetles, just follow these simple steps.

Step one, get some ®OFTANOL 2 Insecticide. It's the liquid formulation of OFTANOL. If you think OFTANOL is too expensive to use on surface feeders, check out step two.

Step two, mix it at the *economical rate* and spray where the bugs are. It'll work.

The same product, OFTANOL 2, does a bang up job on grubs. Mix it at the recommended rate and spray it on. Use OFTANOL anytime, as a preventive in the spring or as a curative, whenever grubs are a problem.

Surface feeders and grubs, two serious problems with one serious solution. OFTANOL 2.

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Circle No. 128 on Reader Inquiry Card

SURVEY *from page 36*

nancial loss to injury claims. But, insurance companies today are actively researching injury rates on public fields for possible rate increases. In the future, insurance premiums may possibly be lower for properly constructed and maintained fields. Then, and possibly only then, decision-makers will move to provide the budgets, equipment, and personnel to keep fields safe.

Demand and injury liability will force public agencies to take field construction and maintenance seriously.

Golf leads the way

The National Golf Foundation was the first to record the growing dominance of the public sports facility in 1983 when it discovered 85 percent of all regular golfers played public courses (daily fee and municipal). Forty percent of frequent golfers played municipal courses, although these courses represented only 16 percent of the total number of all types of courses.

Clearly the golfer is depending more and more on municipal and daily fee courses. In response to increased demand, more municipal courses are hiring contract maintenance companies, such as American Golf Corp., Los Angeles, CA, are growing rapidly.

If an organization like NGF existed for football, softball, baseball, and soccer, a similar or perhaps stronger case for support of public sports turf could be documented. Statistics for both the number and types of fields and number of users are badly needed.

Another sign of concern for public sports turf is the increasing number of former golf course superintendents holding the titles of park superintendent or stadium facility director.

Private sports facilities

In the *WTT* survey it was discovered only 10 percent of leagues playing on public fields pay a significant portion of maintenance costs. More than a fifth of the leagues playing on public fields, however, perform some maintainance tasks.

While a public facility by definition should be open to all taxpayers, intensive use by one or more groups should be supported with additional user fees. Intensive use hours can be limited for the benefit of general taxpayers and the turf.

When sports facilities, such as multi-field softball centers, are profitable on a private basis, then two conclusions can be drawn. First, the public is willing to pay for scheduled use of quality fields. Secondly, the quality of public fields is considered sufficiently lower to pay for private fields.

It follows that landscape maintenance contractors can build a case for better sports fields for a reasonable price. The *WTT* survey showed 11 percent of schools and parks contract out part of athletic field maintenance. Dramatizing this possibility is the fact that 71 percent of the school and park officials polled said they lacked the manpower to accomplish needed sports turf maintenance.

Furthermore, the superintendents responded that equipment expenditures were of most concern to them (64%), more than labor (41%) and more than chemicals (21%). Equipment leasing and contract maintenance are alternatives to rising equipment costs.

Considering that 46 percent of park and school superintendents work with no budget growth and 15 percent with falling budgets, public agencies are being forced to make hard decisions.

Case by case interest

The attitude of public officials in response to public demand is very important to the attention sports fields receive. A winning team or local media coverage may create the dedication needed for adequate field care. More often fields are lumped into the overall physical plant budget simply because they exist, not because they have special needs.

Sports fields must be treated as a unique maintenance function. If the public agency is unable to provide staff for necessary care, then contract maintenance should be used.

Field maintenance contractors need to sell a package specifically designed for sports fields. Bids should meet recognized maintenance standards for specific types of fields.

Public agencies are currently at a loss for such standards. No national park or scholastic agency can currently provide maintenance standards to local schools or parks. The only way they have any idea of what is needed is to contact extension. Extension often lacks these standards as well.

Without standards budgets are impossible to build. Once standards are developed realistic budgets can be established.

Maintenance budgets for the park and school supers polled by *WTT* ranged from $200 to $3 million. The average maintenance budget was nearly $250,000 and the median was $55,000.

When the status of public sports fields is raised to an appropriate level, budgets should not be a problem.

Public golf course budgets are actually higher than daily fee maintenance budgets as discovered in a *WTT* survey published in the January 1985 issue. Maintenance and construction standards exist for golf, but not for many other sports fields.

Without construction and maintenance standards budgets are impossible to build.

There are roughly 160,000 acres of municipal golf courses in the U.S. *WTT* estimates there are at least 250,000 acres of public softball, football, soccer, and baseball fields in the U.S. Using National Golf Foundation statistics for rounds played on municipal courses in 1983 (5.5 million), revenue generated by municipal golf courses ($8 per round) was $44 million. This revenue paid maintenance costs. Some method of generating maintenance funds for public sports fields has to be considered.

A change in status must begin with development of widely recognized field construction and maintenance standards. Then, and only then, can our public sports fields leave the orphanage. **WT&T**