





WE WROTE THE BOOK ON CONTROLS

Weather-matic controllers can operate any size sprinkler system effortlessly and automatically, on almost any type of watering program. Our reliable electronic controllers offer automatic, semi-automatic or manual operation; variable timing, 14-day calendar programming, dry indexing; Rain-Stat[®]; modular expandable and command/satellite models.



Weather matic.

Circle 143 on free information card 92 WEEDS TREES & TURF/MARCH 1978 areas that receive little use, because it is not wear tolerant.

Oklawn is a vegetative selection released by Oklahoma AES in 1965. It is medium textured, has improved drouth and heat tolerance and is adapted to partial shade.

Carpetgrass

Carpetgrass, (Axonopus affinis), forms a coarse-textured lowgrowing turf. It is light blue-green in color. The compressed two edge stems produce blunt tipped leaves that have a ripple midway on the leaf surface.

Adapted to southern coastal areas, it is used some in lawns for condominiums or in areas that receive minimal wear. It is useful on slopes and roadsides where maintenance is limited. Seedheads form so frequently throughout the summer that rotary mowing at less than two inches is desired if carpetgrass is used for park areas.

Kikuyugrass

Kikuyugrass, (Pennisetium clandestinum), is a tropical grass found in Africa, Mexico and Columbia. It was introduced into California before 1920. Kikuyugrass is a sparse seed producer but the plant is extremely aggressive. Its pencil sized runners can extend across sidewalks.

The control of Kikuyugrass is considered a problem in California, where it is found as far north as San Francisco. In areas such as neighborhood parks it predominates quickly and becomes fluffy and matted. It is reported that a 1000 square foot patch expanded to two acres within ten years. Its persistent characteristic makes it a turf weed. Low mowing does restrict the plant's aggressiveness and make it somewhat manageable. **WTT**



Circle 104 on free information card



ARBOTECT 20.S The strongest Dutch elm disease protection you can give a tree.

ARBOTECT 20-S fungicide helps make it possible to save many elm trees that otherwise would be lost.

Injected into the trunk of the tree, ARBOTECT builds a barrier against Dutch elm disease inside the tree itself. It helps prevent the disease in healthy elms, and can often save infected trees if they are treated early enough.

Used along with sanitation, insect control, and root graft elimination, ARBOTECT can significantly improve the effectiveness of a Dutch elm disease control program.

ARBOTECT differs from other elm fungicides in several important ways:

- It is registered at rates high enough to be effective.
- It is concentrated, requiring much less water for injection, so trees can be treated much faster.
- Thiabendazole, the unique active ingredient in ARBOTECT, is highly effective against

Ceratocystis ulmi, the fungus that causes Dutch elm disease.

• Even though it is more effective and convenient, ARBOTECT costs about the same to use as other elm fungicides.

This year, put ARBOTECT to work in your disease control program. It's the strongest protection you can give an elm against Dutch elm disease.



Arbotect Strong protection for elms.

MERCK

Agricultural Products Merck & Co., Inc. P.O. Box 2000 Rahway, New Jersey 07065 ARBOTECT (thiabendazole) is a registered trademark of Merck & Co., Inc.

VEGETATION MANAGEMENT

By Roger Funk, Ph.D., Davey Horticultural Institute, Kent, Ohio

TURF

Q: Please settle a dispute for me. I thought snow mold was just a cosmetic, short-lived problem and not really dangerous to the turf. A fellow lawn care operator said it can actually kill the grass plants. Who is right?

A: Snow molds first appear as thick, cottony fungal threads covering patches of turf, usually conspicuous when snow is melting.

There are two common types of snow mold and, unfortunately, not all recommended fungicides will control both. If fungicides are to be used effectively, it is necessary to correctly identify the causal organism.

Gray snow mold is caused by the fungus *Typhula itoana* and related species. A snow cover is necessary for the development of gray snow mold and a deep, prolonged snow on unfrozen soil is ideal. The optimum temperature for infection is between 30° and 45° F. and the fungus is inactive above 65° F.

Gray snow mold appears in midwinter in lawns and other turf areas as roughly circular, bleached brown to straw-colored areas up to two feet in diameter. The infected grass may be matted together and have gray-to-black mold growth around the border. This is most often observed at the edge of receding or melting snow.

Another distinguishing characteristic of gray snow mold is the presence of hardened black fungal bodies (sclerotia) imbedded in the leaves and crown of infected plants.

Pink snow mold, caused by the fungus Fusarium nivale, is common in areas where prolonged periods of wet, cool weather occur from autumn to mid or late spring. Unlike gray snow mold, this disease does not require a snow cover for development. Conditions favoring pink snow mold include high humidity and temperatures of 32° to 60°F.

Pink snow mold appears as roughly circular patches usually smaller than gray snow mold. In. cool, wet weather the bleached brown patches of matted leaves may be covered with a dense, whitish-pink mold growth at the borders.

The injury from both gray and pink snow mold is usually superficial, affecting merely the top leaves. However, the grass may be completely destroyed, particularly in poorly drained pockets or ravines having a deep snow cover, or when the snow is compacted.

Snow molds can be culturally controlled by avoiding succulent turf growth in late fall, by mowing at the recommended height as long as the grass continues to grow in the fall, and by limiting snow cover and compaction.

Raking out the matted, diseased areas in early spring will allow the crown to develop new tillers. Chemical controls are not effective in the spring but should be applied as the diseases appear in late fall or winter.



Q: A customer of mine called about discoloration and cracks in the bark of his four-year-old crab apple tree. How can the cracking be kept to a minimum?

A: Frost cracks are long, vertical separations of the bark and wood that may split open each winter. These cracks usually occur on the south or southwest side of young trees with smooth, thin bark. Sunscald causes areas of discolored, dead bark to form on the trunk or major limbs and usually occurs when a series of hot winter days is followed by a sharp drop in temperature.

Trees especially susceptible to frost cracks and sunscald include ash, beech, cherry, crab apple, elm, linden, London plane, Japanese and red maple, oak, plum, poplar, sycamore, walnut and willow.

Frost cracks and sunscald are best avoided by planting susceptible trees in protected, shaded locations. Wrapping the trunk with strips of burlap, white cloth or sisalkraft paper will offer some protection. A common and often effective practice is to apply a coat of heat-reflecting whitewash or tie small boards upright on the south side of the trunk.

VEGETATION MANAGEMENT is a free problem solving service for any residential, industrial, municipal, or golf course landscaping topic. Write your questions for VEGETATION MANAGEMENT on the postpaid reader question card in this issue.







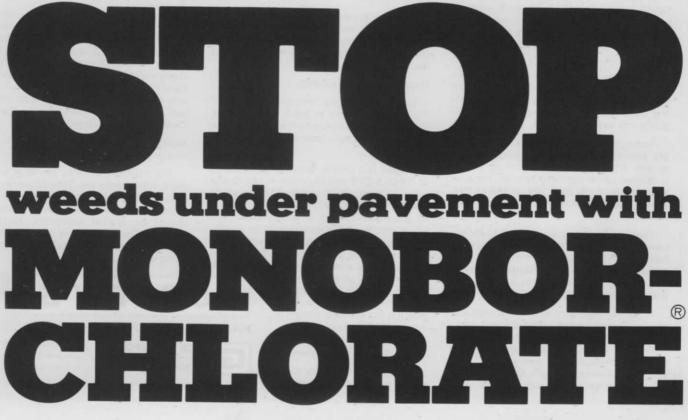
Stubborn weeds can turn a good paving job into a disaster. But with Oxy's Monobor-Chlorate Granular, you get a quick acting, nonselective herbicide that's totally effective and low in cost. Apply straight from the bag. Spread it . . . wet it . . . pave it . . . forget it. Call or write Industrial Herbicides Manager for information.



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A searching look into the future of the Lawn Care Operator:



There is every indication that the efficient operator who will do really superior work at

fair prices, can build a long-range, substantial business. We can help in several ways.

If you have — or may establish — a Lawn Care Business, the outlook is good. The market potential, already large, is on the threshold of further growth because the sociological-economic factors are favorable.

Many families today, whether living in a house, condominium or garden apartment, want at least a handsome lawn, trees, flowers and ornamentals. They want the *benefits*, but without the work of tending such landscaping personally.

While many enjoy puttering with vegetables or flowers, they tend to shun lawn chores that involve seeding, feeding, weeding, de-bugging. The do-it-yourself trend is giving way to a new lifestyle.

Today, more and more women are profitably employed outside the home, sharing routine housework. With resulting higher combined earnings, *these families can well afford professional lawn care*, as well as golf, tennis, boating, summer cottages and long vacations.

Thus, while this opens new vistas for the Lawn Care Operator, his work is certain to be fraught with difficulties, including keen competition. Naturally, the fittest will survive and prosper. Now, what does this mean for you, the Lawn Care Operator?

It means you must provide exceptional service: Superior work, using efficient methods, the best of equipment and products. Above all, you must avoid needless complaints, call-backs and retreatments. You simply can't afford to "fight fires" or handle needless complaints which tarnish your name, destroy profits, and waste time you urgently need to cultivate new business.

If you do your job well, your customers will stay with you; you won't have to re-sell them year after year.

The Gordon Turf Team can help you solve the single most persistant and troublesome problem of the turf industry — weed control.

Weed control will remain the thorniest bugaboo because weeds are visible. Failing to kill them brings costly complaints. In fact, you may have complaints even after the most thorough weed spray. The reason (and the cure) is crucial.

As you know, weeds don't magically disappear the same week you spray them. You know the best herbicides work slowly. But your customer may *not* know this ... and that's the problem.

Meet Trimec®, the solution

Unlike some herbicides that quickly "burn" the foliage but tend to leave the root alive, Trimec broadleaf herbicide is slow, thorough, efficient. It kills the *whole weed*, root and all. Here's why:

Trimec is a unique, patented formulation of 2,4-D, MCPP and Dicamba — unlike any other. Its exceptional power and slow, gentle action results largely from the synergism of its active components; from their interaction which produces weedkill strength far greater than the sum of the components separately. This synergistic gain multiplies Trimec efficiency so that smaller amounts of chemical

can be fully effective on the greatest number of weeds, with a light dosage, continuously through the growing season — even at 50° F. or cooler.

Safeguards the environment

Trimec is ecologically sound and troublefree. Because its strength relies greatly on synergism rather than on heavy concentrations of chemicals, root absorption is minimal. Thus it poses little threat to flowers, trees, ornamentals and tender grasses. "Drift" hazard is reduced. Biodegradeable, precisely factoryformulated... Trimec eliminates the need for on-site mixing and its chance of costly error.

Broad-spectrum control, lowest cost

Trimec controls the *widest range* of weeds — even hard-to-kill species — usually with one application. We're surprised if we find a weed that's Trimec-resistant.

Because of its unparalleled efficiency, Trimec does not cost more to use, *but less*. Comparisons show that Trimec costs less per acre of weed control than any other herbicide. You use fewer gallons, you seldom need retreatment, your total cost-per-acre — the true measure of economy — is lower.

Improved customer relations

Home owners who don't understand weed control often complain in panic, "My weeds are still alive!" We help you avoid such calls by providing an instructive door hanger. Left on the doorknob after each treatment, it explains



Trimec's slow, thorough action, suggests patience, assures your customer his weeds are dying. This *advance* explanation stops many needless trouble calls, explains that you have indeed used the finest weed treatment available. A generous supply of door hangers is available with each Trimec order.

More than weed control

As your lawn service prospers — perhaps growing into services beyond mere weedand-feed — Gordon's total commitment in the turf market will support your expansion.

Your Gordon distributor has a complete family of superior, tested products tailored for the turf professional. His technical expertise is freely available. Should you need it, he has a direct line to Gordon's Technical Service Department. This includes our separate Lawn Care Division, with a field specialist whose sole concern is providing product information and technical assistance to the Lawn Care Operator. For instance...

Meet HERBI, a unique new portable sprayer

The HERBI illustrates our total involvement with lawn care. This *advance-design* sprayer was made expressly for problem areas and for those times when herbicides should be applied separately, apart from fertilizer. The HERBI story is summarized on the next page. See your distributor for complete information.



TRIMEC is a registered trademark of PBI/GORDON Corporation, U.S. Patent No. 3,284,186.

Controlled-droplet Application

HERBI: a new approach to applying herbicides

Herbi is a lightweight, portable sprayer of high efficiency. It lets a walking operator make Ultra Low Volume controlled-droplet applications on target, low to ground, with little drift, Ideal for smaller problem areas, and areas inaccessible to heavy equipment. Gives controllable, 4-ft. clean-cut swath close to trees and shrubbery, with excellent control in wind.

Battery-powered atomizer in head gives uniform 250-micron droplets; saves water, chemicals ... penetrates better. Three nozzles included for different solutions, emulsions and - with proper additive wettable powders.

Fully self-contained; weighs 12 pounds loaded. Fivepint tank treats 33,000 sq. ft. or more at normal walking speed. Instruction manual and spare parts list included. Gordon distributors have full information.

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asu. Inc. ALABAMA Birmingham • Norala Company, Inc. • Tieco, Inc. Montgomery • Tieco, Inc.

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Alexander . Capital Equipment Co. CALIFORNIA

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Chilton • Horst Distributing Co. Elm Grove • Reinder Bros. Turf Equipment Milwaukee • Lott-Kellogg Seed, Inc. Sun Prairie • Turf Management Supply

MARCH 1978/WEEDS TREES & TURF

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By Michael Hurdzan, Ph.D., Kidwell and Hurdzan, Inc., golf course architects and consultants.

PROSCAPE

Q: Are there any good textbooks or manuals that describe day-to-day golf course maintenance and management available on the market today? Most turf books do not deal exclusively with golf courses.

A: Not that I am aware of, but that does not mean that there are none, and more than likely some readers may send some suggestions. I will pass them on to you in this column if they do. However, there is a reason why there are few, if any, day-today turf manuals.

Recently, Dr. Marvin Ferguson, golf course architect, Bryan, Texas, reminded me of an old quotation that said, "Seek to know WHY. The what, where, when and how will reveal themselves." This is the approach that most turf books and schools take.

One important reason is that every golf green, fairway, and course in general is different in each part of the country. Any combination of factors encountered on a golf course could be greatly different from those on a course right next door. These factors include soil types, surface and subsurface drainage, high sand greens or native soil greens, source of irrigation water, physical and chemical composition of the soil, turfgrass varieties used, amount of play, size of the budget, etc. As you can quickly see, the number of combinations of each of these critical management considerations is astronomical. It would take a large and brilliant book to answer all the questions for all the combinations.

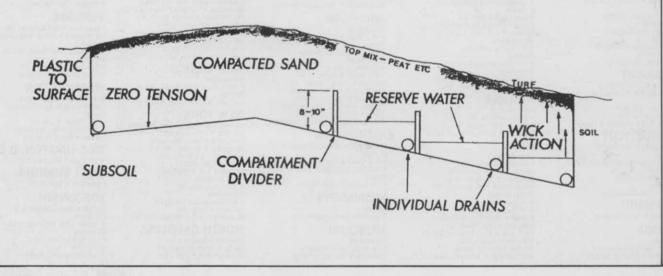
This is why clubs hire a superintendent who has essentially devoted his or her life to seek the WHY and then is able to apply it practically to the what, where, when and how. **Q**: Is the PURR-Wick system of greens construction well enough established to risk construction of ten new greens using this method only?

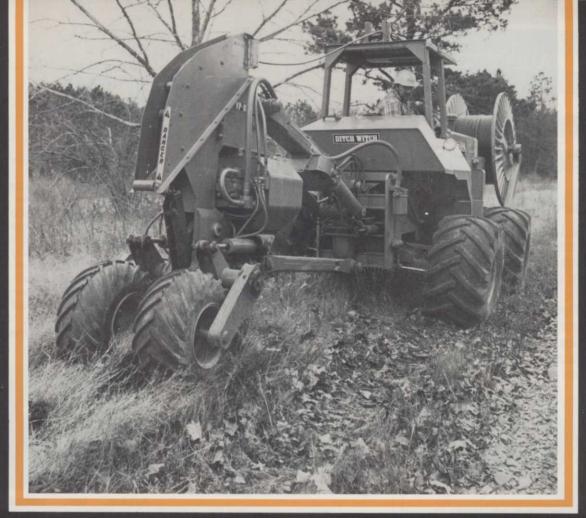
A: The idea of a golf green wicking water to the surface to supply the grass' needs is not new. In fact in 1916, F.W. Taylor was issued two patents on an almost identical system. The theory of the system is sound and Dr. Daniel's work has brought it to a level of sophistication that makes it much more practical than in the past.

However, the most important consideration in building a golf green is not the theory; but rather it is the experience, skill and integrity of your contractor, the estimated cost of construction, and your ability to adapt your maintenance procedures to the performance of PURR-Wick.

Your first step is to locate at least two courses with PURR-Wick greens and then take your greens chairman or committee members with you to look at them during the stress part of the summer (looking at them during good weather will not tell you much). Talk to the person charged with their care and find out what he thinks and how he manages them, and what they cost to build.

I have found men who say that the system is the greatest and I have found others who say that they must use three to four times more fertilizer, must still water the banks and fringes of the green, and the greens seem to lack built-in character in the putting surface. You are about to spend a great deal of money on something that is expected to last 50 years, so make sure it is exactly what you want.





The best laid plans are often plowed.

When it comes to underground installations, the best laid plans often call for plows... Ditch Witch vibratory plows.

That's because vibratory plowing lets the installation be done without trenching. <u>Power and communications cable even plastic pipe for irrigation or natural gas</u> <u>distribution often can be plowed in...with some big advantages to everyone concerned.</u> The job goes faster...there's little surface damage to turf...restoration is almost eliminated. It all adds up to hours saved on every job which means you're dollars ahead.

Consider plowing instead of trenching in your planning. And look to Ditch Witch for the right vibratory plowing equipment...from compact service plows to rugged 100-HP-class models for cross-country work. Charles Machine Works, Inc., P.O. Box 66, Perry, Oklahoma 73077. TWX 910-830-6580. For the name of your nearest dealer, call Toll Free (800) 654-6481.



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HYDRAULIC TOOLS

Save Time, Energy and Dollars.

Limb Lopper's power tools will make your maintenance operation faster, more efficient and reduce costs. Use them with existing hydraulic systems digger-derricks, buckettrucks or other mobile equipment, or portable power pack.



A new Flail Mower, with exclusive bottom sharpened, self-cleaning blades, has been introduced by the WOODS Division of the Hesston Corporation. WOODS Model FM72 Flail Mower features a dynamically balanced rotor for smooth operation, air-lift designed blades for clean, even cutting, an offset mounting for mowing close to solid objects.

Model FM72 cuts a 6 foot swath, and is designed for tractors rated at 30 to 60 HP, with 3-point hitch.

Circle 701 on free information card



The McMillen Division of States Engineering Corporation announces their new Rotadriver, a hydraulic-powered accessory that makes most farm tractors or utility vehicles perform like a pile driver. Rotadriver provides a unique way to utilize vehicle hydraulic capacity for driving wooden or steel posts up to ten feet in length. The operator determines the impact force of the 257 lb. weight for the specific job, and the unit quickly adjusts to plumb for hillside work. Maximum number of strokes per minute is 40. An

attachment is also available for breaking concrete.

WIET

PRODUCTS

Rotadriver is designed to be operated by any three sizes of the McMillen Super-Combo Powerhead Series hydraulic motors as a power source. Mountings and hardware are available for three-point hitch (Category I, II, or III) front-end loader and utility loader applications. For added versatility, the same mounting bracket can be used for other McMillen accessories.

Circle 702 on free information card



Robark, Inc., manufacturer of specialized equipment for the sod production industry, has developed and introduced their newest product, the "NET SETTER." The NET SETTER lays and covers plastic netting for the harvesting of sod.

The installation of netting permits sod harvesting in less growing time and the use of less favorable soils as it acts as a binder to prevent the sod from tearing during harvesting, transportation or laying. Normal harvesting time can be cut in half.

As the net is being spooled off the roll it is simultaneously being covered with a thin layer of previously seeded soil, and compacted by a roller. Faster and more dense seed germination is demonstrated also.

Circle 703 on free information card



Backhoe-Loader 715B by Allis-Chalmers features a 65hp diesel engine, 7500 lb. capacity bucket, a