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the dawn of
a new era
in pythium
prevention.
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FUNGICIDE

The first fungicide that helps
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You've heard about it. You've read about it. And now it's here. New CHIPCO ALIETTE[®] fungicide for turf. And with it comes a revolutionary new way to stop the spread of pythium blight. Unlike conventional fungicides, CHIPCO ALIETTE stimulates a natural defense mechanism within each blade of grass. In doing so, it actually helps your turf defend itself against pythium blight.

CHIPCO ALIETTE also eliminates the need for costly, time-consuming watering in of fungicides. And that's important for two reasons.

First, watering in adds to the high humidity that favors pythium development. Plus, soggy turf can interrupt play. But CHIPCO ALIETTE goes on quickly and easily to keep your course in play.

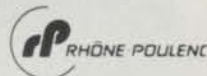
Best of all, CHIPCO ALIETTE gives you long-lasting pythium protection at a down-to-earth price. Based on cost per day of control, CHIPCO ALIETTE is one of your best fungicide values.

This year, don't let pythium ruin your turf *or* your reputation. Call your turf products dealer today and ask for new CHIPCO ALIETTE.

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TORO

NETWORK 8000™

*The new central/satellite irrigation control system
that saves you energy, water, labor . . . money!*

Superior irrigation control translates into two major advantages: better turfgrass and substantial reductions in the use and costs of energy, water and labor.

Toro's *Network 8000* provides exactly that: demonstrably superior irrigation control. It is the first and only totally automatic irrigation control system. Just enter design, weather/climate, geographical and agronomical information. Network 8000 then *automatically* computes the operating times for all stations, based on the evapotranspiration rate, modified by an applicable rainfall.

Network 8000 accomplishes all of this by combining a computerized central controller with satellites of amazingly extensive stand-alone capabilities.

The central controller utilizes an IBM "XT" personal computer as the hub of the operation, including keyboard, color monitor, matrix printer and a light pen for easy access to all functions.

This non-dedicated central is capable of "transparent" multiple function, which provides for *simultaneous* business and irrigation program

operation. It's like getting two important pieces of equipment for the price of one!

Network 8000 provides automatic adjustment of irrigation system operation, responding to such key factors as rainfall, evapotranspiration rate, plant materials, soil types, soil compaction, geographic location, terrain slope, Ph factor and system design. A manual override is provided for all factors.

The central programmer will operate any station, set the running time, assign it to any program and set up to three repeats for any station. It can operate up to 800 satellites of 32 stations each, for a total of 25,600 stations.

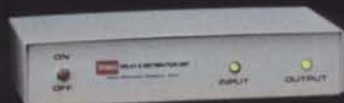
Toro's new Network 8000 central provides two-way communication: "down-loads" information to the satellites, and "up-loads" information from the satellites.

Also, with this central station you enjoy the advantages of water-budgeting by means of percentage increase/decrease control (by station, by program, by CSG, or the total system), from 1% to 900%.

But this is only the beginning of the story. You have to see it perform to fully appreciate exactly what it can do for you and your irrigation. Call *The Man from Toro* for a no-obligation demonstration.



Key components to Network 8000 are the IBM "XT" personal computer with color monitor and keyboard, operated with handy light pen. Shown in the middle is Toro's Delay & Distribution Unit. And on the right, the IBM matrix printer and stand.



TWO TYPICAL SCREEN DISPLAYS



This screen quickly displays complete irrigation program for one full day, for each of 14 days in the system.



Such essential data as evapotranspiration rates for your specific area can be called up to help set proper program.



NETWORK 8000 SATELLITE CONTROLLER

Solid-state satellite may be centrally programmed or provide stand-alone capability.



Matching the Network 8000 central for advanced and innovative design is Toro's new satellite/stand-alone solid state controller. It is a 32-station unit, with each station capable of operating three Toro electric valve-in-head solenoids.

As with the central, this new satellite offers two-way communication. It receives, stores and sends all commands generated by central. At the same time, it up-loads to the central such key factors as satellite status, changes made in station timing at the satellite, and failure sensing.

Each station is capable of minute and hour timing, from 1 minute to 4 hours and 15 minutes per station, in one-minute intervals.

Toro's new Network 8000 Satellite also provides water-budgeting capability, with percentage increase/decrease from 1% to 900%.

The combination of the equally amazing new satellite and central controller makes Network 8000 your first step into the 21st Century, with payoff now in terms of better turfgrass at lower costs.

The Toro Company, Irrigation Division
Dept. WTT-786, P.O. Box 489, Riverside, CA 92502



Excellence in Irrigation®



The Otterbine floating aerator, manufactured by Barebo, can provide round-the-clock control of algae.

Alternatives to chemical water weed control

Although most chemical treatments are labeled safe for the environment, some people choose to control aquatic weeds naturally. Three ways to do this are with a mechanical aerator, liquid water shading products, or weed-eating fish.

"Chemicals scare the hell out of me," says Charlie Barebo, general sales manager for Barebo Inc., manufacturers of Otterbine floating aerators.

Barebo describes his aerators as "an ongoing management tool." The Otterbine can work around the clock, throughout the season.

Another advantage is that you can use the pond for irrigation at any time, without waiting for a chemical to dissolve.

The aerator's main function is to add oxygen to the water and break down the thermal stratification. This mixes the warm water on top, which promotes algae growth, with the colder water on the bottom.

When the algae dies, it decomposes on the pond's bottom, bringing forth anaerobic bacteria to breakdown the algae and creating a bad smell. The aerator keeps oxygen flowing, eliminating the odor and promoting decomposition.

Such biological control can take time. Aerators take between four to six weeks to be effective.

Barebo estimates equipment costs from \$600 to \$4000, depending on the size of the pond or lake.

The aerator is used at 1 1/2-hp per acre. A long narrow body of water, for example, would use two smaller units better than one large one.

Most aerators are installed with a time clock, to be used as needed. New options which will be available with the aerators include aesthetic spray pat-

Dr. Paul Beatty, Southwest Aquatics in Palm Desert, Calif., says the grass carp give the landscape manager a biological alternative when fighting aquatic weeds.

terns, nightlighting, and special electrical control panel.

The aerators originated in 1925 for use in waste water treatment plants. Many manufacturers still deal only with such places.

Barebo is the only company which concentrates on the turf market. "We saw a nice market niche here," Barebo explains.

Filling the need has resulted in 150 percent growth for Barebo the last five years.

Today they sell about a third of their products to golf courses. The Otterbine is also used in places such as parks, fire retention ponds, and at Sea World and Knott's Berry Farm.

The aerator can be used in conjunction with a chemical treatment, since it will mix the chemical throughout the water. Because it produces oxygen, the chemical will also be more efficient. But Barebo prefers to stay away from chemicals.

"A combination of lake dye and aeration is the best way to control weeds," Barebo says.

Billie Wilson, president of Aquashade, agrees that using the products together is advantageous.

The product Aquashade, a lake dye, actually reduces certain wavelengths of sunlight, inhibiting photosynthesis of plants. It dyes the water blue and suppresses plant growth for up to six weeks.

The dye is best applied in early spring, but can be used any time of the year, including over ice in the late winter.

Aquashade can be poured from the edge of the pond and will automatically mix throughout the water. An aerator improves mixing action.

It's applied at the rate of one gallon per four acre-feet (a pond four feet deep covering one surface acre would need one gallon for control).

It costs approximately \$52 per gallon. One gallon of Aquashade treats more than a million gallons of water.

"There's no pesticidal activity," Wilson explains. "Most chemicals have a way of killing what's in the water."

A disadvantage is that Aquashade won't work in ponds which have water flowing out of them.

Wilson says her biggest customers are farm pond owners and golf course superintendents.

Another natural way to control aquatic weeds is the grass carp.

Registered for use in some areas, the grass carp consumes two to three times its weight each day in plant materials. Some grass carp weigh close to 100 pounds.

Dr. Paul Beatty of Southwest Aquatics in Palm Desert, Calif., reports the grass carp is doing well in experiments in the Palm Springs area. The fish is legal for use in parts of extreme southeast California.

(Check with wildlife officials to determine whether the grass carp is registered for use in your area.)

Beatty notes the fish cost \$10 each (imported from Arkansas), live 12 to 15 years, and are compatible with other fish species.

"They don't compete directly with any other fish for food," he says.

Beatty recommends 6 to 25 fish per surface acre for adequate control.

Problems with the grass carp include their non-selectiveness. They'll eat most anything that's green, including desirable vegetation. That could leave little for desirable species like bass.

Beatty reports the fish are more susceptible to copper than other herbicides, which means copper treatments must be used judiciously.

"The fish are not the total answer," he says, "but they are another biological control mechanism." □





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JUDGING THE EFFICIENCY OF YOUR PLANNING PROGRAM

You've implemented a planning program and it's in full gear.
Now you need a tool to judge the plan.
Two techniques from industry may be of help.

by Rudd McGary and Ed Wandtke

In recent months we have written about planning and the necessity for any organization to have a clear objective in order to achieve its goals. One of the questions we've been asked is "how do I judge the effectiveness of my planning?"

To do that, let's examine some evaluation techniques which have been used in other areas of American business.

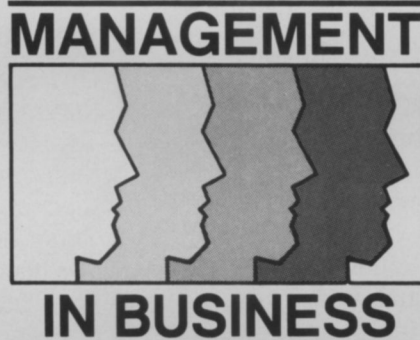
Two of the major models in use in production industries are the Critical Path Method (CPM) and the Program Evaluation and Review Technique (PERT). Both are applicable to the green industry.

(In this short space, we will examine only general concepts.)

The PERT technique was first used in the defense industry, specifically in designing the Polaris submarine. At the same time the DuPont company designed a scheduling tool, CPM, for use in the industrial world.



Wandtke and McGary are senior consultants with All-Green Management Associates in Columbus, Ohio. Dr. McGary focuses on marketing and management issues. Wandtke focuses on operations and financial questions.



Both evaluation techniques are applicable to the green industry.

The key to both models is the ability of management to assess a critical path of accomplishment. This deals with the actual tasks to be completed, the sequence in which they should be completed, and the expected completion times for each major task.

With the PERT model, estimates on the time needed for completion of critical activities is given in three ways: the best possible, the worst possible, and an average length that the task will take.

PERT is a model run by statistical methods and there are many major texts available for better understanding.

An example of using the PERT technique in golf course work would be to start the planning for the year by determining the major tasks to be done over the season. These could include hole redesign, major sod replacement, equipment preparation, tournament planning, and new underground sprinkler installations, and would be scheduled for an entire year.

After assessing the jobs, you then consider the question of costs, labor,

and critical timing.

As each one of the critical tasks is accomplished, it would be reviewed based on the original plan and the time needed to actually complete the tasks.

This analysis would give you an idea of how effective your plan was in addition to the effectiveness of the management of the tasks.

The keys are to plan the entire season, to break the season into critical tasks, to have clear-cut evaluation techniques, to make the time to compare the results to the plan, and to look at the final evaluation to see if the overall management function could be improved.

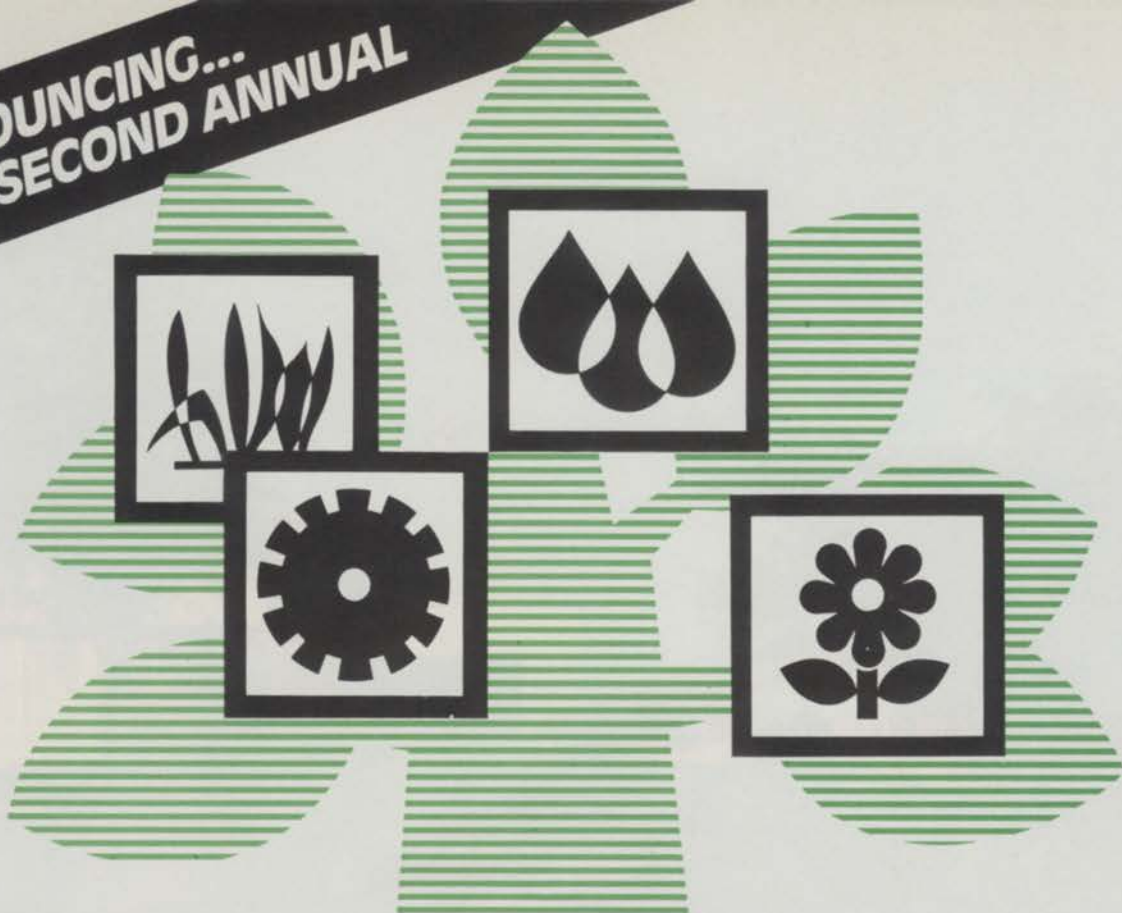
The key to both models is the ability of management to assess a critical path of accomplishment.

These techniques are considerably more complex than the descriptions used in this column. With full application, the techniques can be useful for those in the green industry who are interested in better planning and evaluation of the organizational efforts for the year.

Although it appears these techniques are limited in application, they can assist the advancing firms in all areas of their business including accounting, operations, personnel, and marketing.

WT&T

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