



TOTAL TURF CARE IS HERE!

Dacthal®

Start your Total Turf Care this year with Dacthal W-75 herbicide. Or use the convenient 5 percent granular form if you like.

Dacthal gets the jump on most annual grasses and broadleaf weeds. This preemergence herbicide prevents weeds as they germinate. Crabgrass and *Poa annua* don't have a chance. Yet, Dacthal is a truly selective herbicide that will not affect established grass. It's even safe for new grass when used according to label directions.

Just one application in early spring will control weeds for a full season. In the case of *Poa annua*, another application in late summer keeps this late germinating pest out of sight.

Don't worry about residue build-up either. Dacthal degrades in one season; it's not persistent in the soil.

Dacamine®

For those areas where broadleaf weeds are a problem, use Dacamine Turf herbicide to sustain your Total Turf Care. Postemergent Dacamine kills dandelion, plantain, poison ivy and most other broadleaf weeds.

Get a full course of protection against weeds and disease.

Dacamine is a special form of 2,4-D, non-volatile, yet very effective. It combines the weed-killing power of an ester with the safety of an amine. So Dacamine stays put — kills the weeds you spray it on but won't vaporize and damage valuable plants nearby.

Dacamine is an oil soluble concentrate. This allows it to penetrate waxy leaves and move all the way to the roots — killing the whole plant.

Daconil 2787®

Total Turf Care includes broad-spectrum disease control. Daconil 2787 is the one fungicide that solves most disease problems. Why use a group of fungicides to do what Daconil 2787 can do by itself?

Use Daconil 2787 to prevent or cure: Brown Patch, Copper Spot, Dollar Spot, Leaf Spot, Melting Out, Pink Snow Mold (in Washington and

Oregon only) and more. Many leading golf courses use Daconil 2787 in their disease prevention program.

Daconil 2787 has performed well on over 25 grass species and varieties. Excellent turf tolerance allows you to use it even in hot, humid weather.

Just mix Daconil 2787 with water and spray. You don't need a surfactant. It's compatible with many commonly-used pesticides. Follow label directions for exact usage.

Daconate®

Round out your Total Turf Care with Daconate postemergence herbicide. Get those escape weeds that slipped by your preemerge. Daconate will effectively control crabgrass, chickweed, wood sorrel and other hard-to-kill weeds. It's economical, too.

Daconate is a ready-to-use arsonate liquid, pre-mixed with the right amount of surfactant for maximum coverage and control. Since it is an organic arsenic compound, it does not have the more toxic properties of inorganic arsenic compounds, such as calcium or lead arsenate. For best results, spray Daconate during warm weather when weeds are actively growing.

FREE!

Get this Total Turf Care dial to help you solve many turf problems. Just a twist of the wrist helps you identify a problem and select a treatment. Send the coupon today for your Total Turf Care dial. Always remember to follow the label directions when using any chemical.



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Bulldozers and 4-Wheel Loaders

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That's why it's important to get together with Buckner during your initial planning stage. Because Buckner makes seven different types of controllers—more than anybody else.

And that means that Buckner can work with these seven systems to deliver exactly the control system your course should have. These systems range from sophisticated two-wire, solid-state set-ups to basic units where cost is the prime requisite:

Binar[®] offers the ultimate in two-wire central control. Eliminates field controllers and miles of costly wire. Solid state circuitry provides trouble-free performance. You can scramble individual control valves for maximum program flexibility.

CP-2 provides advanced central programming where field controllers are needed for on-course inspection and maintenance. Syringe and omit cycles. Watering of fairways, tees and greens can be completed in less than nine hours.

711 is the perfect automatic in-field controller for large turf areas. This 11-station system features 0-60 minute control. Waters fairways, greens and tees in less than nine hours.

The ICM series offers three systems: The 12E has 12 control stations, the Dual 12E has two 12E units with two clocks, and the 24E has 24 control stations and one clock, where longer watering times are permissible.

The BR-10 delivers dependable performance at a rock bottom price for a dual program with ten stations.

If you're planning new watering systems, now's the time to get together with the Buckner Agri-turf Division of Johns-Manville. We'll take the time to figure out exactly what you should have. Then we'll supply it. Because we have more kinds of controllers, heads, valves and pipe than anybody in the business.

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WEEDS TREES and TURF®

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"Serving The Green Industry"

How Much Must Be Spent For Turfgrass Irrigation 14

Turfgrass irrigation for most people has been a sleeping giant that that only recently awakened. Dr. William W. Wood, economist, University of California, Riverside attacks irrigation in this article from the cost factor. It's a provocative approach, one intended to stimulate superintendents thinking about irrigation.

Irrigation Pumps 18

The heart of the irrigation system is the pump. John Dunlap, irrigation consultant, Lakeshore Equipment & Supply Co., Cleveland, tells how to match pump size, horsepower, output and other factors for maximum pumping efficiency.

Probe Beneath The Surface 20

Overwatering commercial turfgrass can be a dangerous practice. Austin J. Miller, president, A. J. Miller, Inc., Royal Oak, Mich. tells how to avoid this problem that can plague a superintendent with an irrigation system.

Man And Nature Working Together 22

St. Charles, Maryland is a community that has literally turned waste removal into land renovation. It's all done with sprinklers, irrigation pipe and a lagoon.

Sprinkler Irrigation Association — Past, Present, Future 24

Executive Secretary, Walter Anderson discusses the plans and programs of SIA as they relate to turfgrass irrigation.

Ohio Turfgrass Bonanza 26

Irrigation System Cools Prism Effect On Texas Turf 30

Editorial	10	Meeting Dates	50
Government News/Business	12	New Products	52-53
Green Industry Newsmakers	40	Book Review	56
Insect Report	43	Arborist Shop Talk	58
Sod Industry Section	44	Advertiser's Index	64
Industry People On The Move	48	Classifieds	65
		Trimming	66

The Cover

Few of us take the opportunity to view irrigation sprinklers at close range. Yet, at eye level, modern sprinklers represent Green Industry engineering at its best. Our cover catches sprinkler design, the power of water and the colors of morning sun dancing on this scene.

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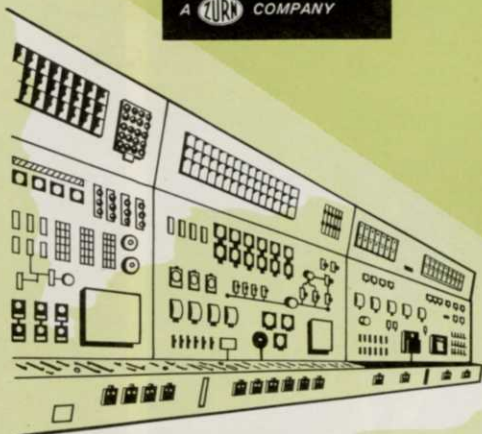
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Editorial

An Industry Challenge

The Green Industry is sitting on the threshold of one of the greatest recycling ventures ever conceived by man. New developments in solid waste disposal now make it possible to spray human sewage effluent on turfgrass with no odor, no muss and no fuss.

The technique, already in operation in some parts of the country, is essentially giving back to Mother Nature that which was rightfully hers. But in a larger sense, spray irrigation, as it is called, reunites man and his environment as never before. We would predict that in the next few years major metropolitan cities will undergo massive changes in municipal sewage disposal.

Currently, a bill is in Congress that calls for zero effluent discharge into any stream, river, lake or ocean in the U.S. by 1985. If passed, the dependence of mankind on the Green Industry will be brought into focus acutely.

Recycling human wastes is not new. We've been doing that for some time. The problem is that as cities grow larger, disposal systems become overburdened and fresh water supplies are endangered.

Spray irrigation provides an alternative solution to the problem. It makes use of land area as a living filter. We in the Green Industry already know the environmental benefits of turfgrass. The new system makes use of these benefits. Effluent is flushed to a storage lagoon where it is aerated allowing natural biochemical breakdown to take place. It is then pumped to an irrigation system like that on a golf course. Sprinklers distribute the material uniformly throughout the area. From here on, Mother Nature does the work. Organic matter is decomposed by soil bacteria. Nutrients are taken up by plants. And that foursome can play a round later in the day with no lingering odor.

Currently, Disney World's new waste treatment plant is processing about a million gallons of waste water a day. Effluent is pumped to the northwest edge of the property and sprayed on turfgrass and cropland. The city of Muskegon, Michigan utilizes 6,000 acres of land as a living filter. Several golf courses on the west coast are irrigating with waste water. In this issue of WEEDS TREES AND TURF, you will read about the spray irrigation system of St. Charles, Maryland.

We believe that the Green Industry is a natural to accept the concept of spray irrigation. The demonstrated expertise in system irrigation, the fact that commercial turfgrass is an environmental filter, the convenient location of golf courses, parks and grounds to metropolitan areas — all make for compatibility that is hard to beat.

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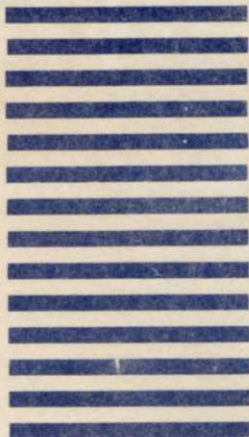
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