

Your second step to healthier turf



2 Summer is the time to take it

During the summer, Dollar Spot and Large Brown Patch can spoil the playing surface and appearance of your turf.

But, if you start spraying your tees, fairways and greens with TERSAN 1991 now, you can prevent these summer diseases before they get a chance to cause trouble.

TERSAN 1991 is particularly effective against summer turf diseases because its properties provide a unique combination of systemic, curative (eradicator) and protective action for turf.

The application of TERSAN 1991 in the summer is the second step in the Du Pont TERSAN 1-2-3 Disease Control Program. A program that's highly effective, economical and completely *non-mercurial*. Proven at research stations and golf courses throughout the country, the TERSAN Program prevents or controls all major turf disease problems.

NOTE: Be sure to have TERSAN SP on hand to be ready for Pythium when it strikes.

For more details on the program and a supply of TERSAN turf fungicides, see or call your golf course supplier today.

With any chemical, follow labeling instructions and warnings carefully.



TERSAN® 1991
TURF FUNGICIDE

save trees



THE MAUGET TREE INJECTOR

BEST METHOD YET DEvised FOR INTRODUCING **CHEMICALS** INTO TREES

NEW DUTCH ELM DISEASE BREAKTHRU:

EPA has registered benomyl for tree injection. You can be among the first to benefit your preferred customers with this new method.

PLUS—

You can also use the Mauget Tree Injector for insect control and nutritional problems in your tree service operations.

- (1) **INJECT-A-MIN[®]** Plant Food Products are designed specifically to correct elemental deficiencies in problem trees. Formulated for acceptance in the tree sap stream.
- (2) **INJECT-A-CIDE[®]** provides a break-through in the control of many insect pests that infest trees. Utilizes a closed system and implants the chemical directly into the sap stream.

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For More Details on Preceding Page Circle (101) on Reply Card

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WEEDS TREES and TURF

Volume 11, No. 7

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Aquatic Weed History—Century Old Problem 12

Aquatic weeds have plagued southern waterways during the past 100 years. Julian J. Raynes of the Army Corps of Engineers reviews this interesting history highlighted by progress and failure along every nautical mile.

Modern Biocides—A New Dimension To Water's Complex Environment 14

Without chemicals water is a sterile environment and is unable to support many beneficial uses. Dr. Charles R. Walker, chief, branch of pest control research, division of fishery research, discusses the complexity of water and the critical relationship which exists among aquatic plants and fish.

How We Reduced Drift With Aquatic Herbicides 16

A first-hand report on the performance of Directa-Spra, Amchem's new spraying system. Vernon Meyers of the Florida game and fresh water fish commission reviews his aquatic herbicide trials using the Directa-Spray system.

Even In Las Vegas—You Can't Gamble With Turf 18

Read how golf superintendent Jim Connally combines management skill and basic golf course knowledge to make the Desert Inn Country Club one of the top courses in the nation.

Florida's \$2.8 Million Aquatic Plant Research And Control Program 20

Aquatic plant control is big business in Florida. Dr. Alva P. Burkhalter, coordinator, aquatic plant research and control, department of natural resources, reports on the program that combines research, matching funds and control to rid the State of noxious aquatic weeds.

Aquatic Herbicides—New Possibilities 26

Although development has been somewhat curtailed, new herbicides and new uses for established herbicides show promise in controlling aquatic plants. Dr. Robert C. Hiltibran of the Illinois Natural History Survey presents his findings on these candidates.

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The Cover

The Aquatic Weed Patrol in action. Winding his way through a channel in one of Louisiana's natural fresh water lakes, Floyd Reeves, Louisiana Wildlife and Fisheries Commission is prepared to spend a day spraying aquatic weeds. Typical of this operation, applicators commonly use small boats or airboats to apply chemicals.

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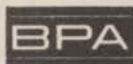
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Dacthal... drives crabgrass and *Poa annua* off the course.

Dacthal preemergence herbicide drives out over 20 annual grassy and broadleaf invaders, including crabgrass and *Poa annua*. It prevents weeds—kills the seeds as they germinate.

One application in early spring controls most problem weeds. Spray Dacthal W-75 wettable powder. Or, spread convenient G-5 granules. Either method does the job. Just read and follow label directions.

Dacthal won't leach out with frequent waterings. Yet, it degrades in one season... is *not* persistent in the soil!

Send coupon for a helpful Total Turf Care dial on turf diseases and weeds. Just dial your problem, read the answers.

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0217® Brand Fylking Kentucky bluegrass lawn seed and sod contribute greatly to the improvement of the surrounding environment. Its superior density crowds out weeds requiring much less chemical weed control.

Fylking's high disease resistance means less disease and little, if any, chemical treatment for turfgrass diseases.

Green chlorophyll in grass blades absorbs carbon dioxide. Oxygen is released into the air from the plants, and with Fylking's greater density and leaf blade multiplicity it is calculated a 50 foot square lawn will supply daily oxygen for four people.

Get the superior oxygen producer, 0217® Brand Fylking Kentucky bluegrass lawn seed or sod at your local wholesale seed or sod distributor.



**FYLKING
KENTUCKY
BLUEGRASS**

U. S. Plant Patent 2887

Another fine product of *Jacklin Seed Co., Inc.*

Editorial

Safety Abuses

Travel any of our nation's highways and interstates this summer and you will witness some of the most flagrant violations of safety known to man. Cars loaded well beyond the limit of endurance of springs and tire carrying capacities, trailers with oversized loads so large that they dwarf the tractor pulling them yet displaying only a small red and white bandanna handkerchief as the only visible safety signal, off-the-road vehicles creating a mud trail that lasts for miles and weeks, are but a few of the annoying signs.

While we see these abuses almost daily, our concern lies in another area highly visible but seldom noticed — until too late. Highway repair equipment of all shapes and descriptions constitute one of the most dangerous obstructions to the traveling motorist today. The congregation of trucks, vehicles, graders, rollers and a host of other equipment congest a stretch of road shoulder, pavement and rights-of-way to the point of physically blocking traffic movement.

The feeble attempt to post signs ahead of the work area often go unnoticed because many are placed too close to the traffic flow and consequently blow down or signs are not explicit enough to warn the motorist.

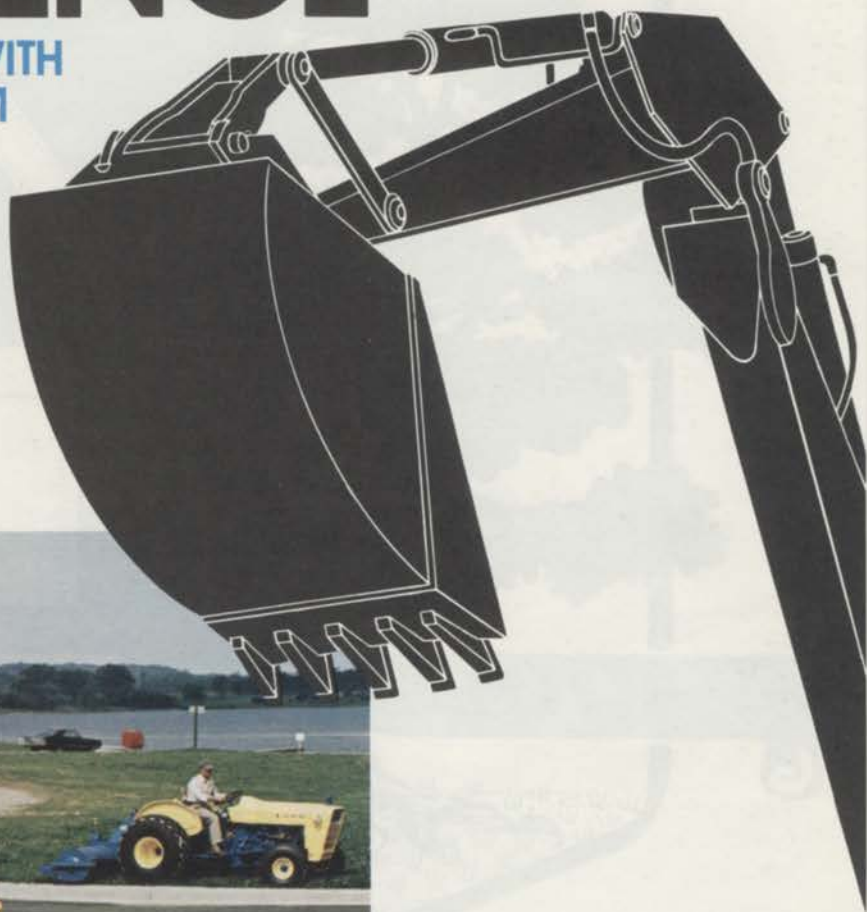
On closer inspection of the actual work site, we have noticed that in the majority of cases few, if any, of the heavy vehicles sport the slow moving vehicle (SMV) emblem required by the Occupational Health and Safety Act (OHSA). One mechanical roller sighted on an Indiana interstate displayed a SMV sign, but the dirt and grime had covered all but a small portion of the triangle. In addition, the operator was bare-headed and working next to an unmarked strip of highway.

In stark contrast to this scene are the crews who maintain highway rights-of-way. In all but an isolated instance or two, these dedicated men have assessed their job from the safety angle and conformed with the Occupational Health and Safety Act. Nearly all tractors display the SMV emblem either on the rear of the tractor or in a prominent place on the mower. Crews are wearing hard hats and in many cases safety shoes.

We commend the maintenance crews and their foremen for taking the initiative in the 1972 safety campaign. The safety meetings and information presented on OHSA have improved the safety standards of this job. We believe that highway construction crews, both private contractors and highway employed personnel should observe these safety standards more closely. Fewer accidents result when engineers, foremen and crews make safety part of their working team.

THE FORD DIFFERENCE

PRECISION DIGGING WITH THE POWER OF AN ARM INSTEAD OF A WRIST.



Many backhoes dig only with the curl of the bucket. They scoop instead of dig.

Ford is different. A Ford backhoe *pushes* the bucket through dirt. That's because boom and crowd cylinders are mounted *in-line*. So the full power of both cylinders can be applied at

once. You get the muscle of the entire backhoe digging in a strong, *arm-like* motion.

A Ford backhoe also has super-sensitive hydraulics and easy-acting controls. The result is *precision* bucket action in areas where you can't afford to tear up surrounding turf.

Your Ford tractor dealer will show you some other Ford backhoe differences. Like box-beam construction, arched boom design and a new line of Ford backhoe buckets!

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Your Ford industrial tractor and equipment dealer is listed in the Yellow Pages under "Tractors" or "Construction-Equipment." See him for information on how to buy, lease, rent or finance.



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save trees



Leonardo da Vinci introduced chemicals into trees by using an auger.

By eliminating the undesirable need for the drill and the wedge, the Mauget process becomes the first basic improvement in tree injection in 900 years.

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P.O. Box 3422

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Ag-Organics Department, Midland, Michigan 48640

Dursban insecticide. Bugs have another name for it.

They call it "The Unsurvivable One!" Because nothing wipes out chinch bugs, sod webworms and many other serious turf pests like DURSBAN* insecticide. And DURSBAN insecticide won't leach. It has excellent residual activity. It's safe, too, for all common turf grasses. And economical—you get more bugs for your buck, because so little goes a long long way. Ask your Dow distributor or your contract applicator for "The Unsurvivable One!"

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Government News / Business

U.S. District Judge Charles R. Scott has thrown out two Florida court lawsuits against chemical spraying of water hyacinths on the St. Johns River. The controversy arose when seven persons filed suit in federal court for an injunction against the use of 2,4-D to kill hyacinths. Defendants named were Army Corps of Engineers Stanley R. Resor, his chief of engineers Lt. Gen Frederick J. Clarke, and the head of the Environmental Protection Agency William D. Ruckelshaus. Witnesses for the Corps said that other means of controlling hyacinth are being studied but so far they are experimental and spraying remains the only effective measure. It was pointed out that spraying of hyacinths was stepped up this year because the mild winter had resulted in rapid growth in the headwaters of the river. The danger of an emergency would dislodge the plants and impede river traffic. Judge Scott ordered the Corps to complete by next Dec. 31 an impact statement showing the effects of the chemical spray on the environment.

Overruling the findings of Edmund Sweeney, William D. Ruckelshaus, EPA Administrator, closed the lid on the DDT coffin. He decreed that "the continued use of DDT involves, over the long run, an unacceptable risk to the environment and possibly man's health." Sweeney had concluded that the benefits of DDT outweighed the risks. But while the environmentalists were toasting the victory, 27 manufacturing firms filed an appeal in the Fifth Circuit Court of Appeals in New Orleans. The issue has now returned to the courts for settlement.

Gypsy Moth quarantine regulations have been extended to include mobile homes and recreational vehicles. USDA previously ordered that timber, plants and similar products could not be moved from regulated areas unless free of gypsy moth. The mandate which now includes mobile homes and recreational vehicles was issued partly in response to finding gypsy moth larvae in a mobile home park in Missouri. New residents to the park had moved from Connecticut and transported larvae in the trailer.

The wrong advise can cost you. A retailer paid part of the loss to a homeowner who used the wrong weed killer on his lawn which resulted in the elimination of weeds, trees and turf. Although the package label contained the appropriate warning, the retailer was required to pay part of the loss. The rest was tax-deducted over IRS objections.

The Office of Management and Budget has recommended that the Environmental Protection Agency charge fees for registering pesticides and boost fees for establishing residue tolerances. Representatives of the National Agricultural Chemicals Association, Chemical Specialties Manufacturers Association and others have voiced strong objections to this proposal.

Wage-Price Laws now exempt small businesses employing 60 or fewer persons. Donald Rumsfield, Cost of Living Council Director, says about 5 million small firms will be affected. All price and wage increases are now restored for these firms. Rumsfield emphasized that the exemption was not a move to "decontrol."

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