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Eurasian Watermilfoil

Reduces Waterwa

NFESTATIONS of Eurasian watermilfoil have become a serious threat to ponds, lakes, and tidewater areas by reducing their use for recreation, as well as hampering navigation and commercial shellfishing operations. This weed, Muriophyllum spicatum, has also diminished the size of open waterfowl feeding areas and reduced the value of waterfront real estate.

The persistence of this aquatic pest is indicated in the tidewater area of Maryland where it inhabits an estimated 100,000 acres. Since 1961, watermilfoil has doubled its water surface coverage in the Maryland tidewater area. Heavy concentrations of this weed also have been found in the waters of New Jersey, New York, North Carolina, Alabama, Indiana, Ohio, California, and Texas. In the Tennessee Valley Authority watershed, infestations of the weed have demanded major control programs.

Milfoil Grows from Seeds, Rhizomes, or Stems

First found in this country in 1902, Eurasian watermilfoil is a successful invader primarily because it reproduces three ways. It can sprout from seeds, creeping rhizomes, or even from a simple broken stem part having a single joint or node. Such plant segments are spread by water currents and carried by propellers and hulls of boats. Seeds are so hardy that they remain alive even after passing through the digestive tract of migratory waterfowl. In any one or all of these ways, single plants can develop into a new bed of watermilfoil within a few years.

Control by **Cutting is Temporary**

Watermilfoil is difficult to control because, to halt the weed and its power to reproduce, the entire plant must be eliminated down to its roots. Limited control is accomplished with mechanical "harvesting" equipment which cuts off the upper part of the plants a few feet below the water surface. Water areas cleaned out in this manner have been reclaimed for limited recreational uses such as swimming, boating, and water skiing. Fishing and shellfish dredging operations, however, remain seriously



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Hand-held granule spreaders are used to apply herbicide to small areas infested with submersed aquatic weeds. Granular fertilizer spreaders are sometimes mounted to boat sterns when large areas are treated.

hampered by the growth left under the water surface. Also, within a short time, watermilfoil grows back and soon brings a halt to the surface sports.

TVA Dries Watermilfoil

Successful mechanical control was achieved on some Tennessee Valley Authority waters by dewatering and drying the plant. Results from "Studies on the Biology and Control of Eurasian Watermilfoil in the Tennessee Valley," conducted by Reservoir Ecology Branch, Division of Health and Safety, TVA, Muscle Shoals, Ala., indicate that water manipulation has limitations. Necessity of maintaining a 9-foot navigation channel, water intake structures, and adequate flow for power production restricts this mechanical control method on TVA waters.

Chemicals Offer Continuous Control

In pools, slow-flowing channels, and tidelands, weed control chemicals are successfully used. Owners of commercial marinas, boat docks, beaches, and supervisors of watershed prop-



erties have tested, with much success, the effectiveness of granular butoxyethanol esters of the chemical herbicide, 2,4-D. One product, labeled Aqua-Kleen, incorporates this compound which is impregnated into specially hardened, 8/15-mesh attaclay particles. These granules contain 20% active ingredient by weight. After sinking to the base of the weed beds, they release the herbicide in the root zone area. A toxic concentration is produced and gives a maximum kill of watermilfoil. Waterlillies, stargrass, spatterdock, and other aquatic plants have also been controlled by this granular product. In some large-scale applications, 18-month control has been achieved.

Herbicides and herbicidal combinations found most effective against the aquatic plant in the TVA studies include Aqua-Kleen, as well as propylene glycol butyl ether ester of 2,4-D, liquid and granular potassium

Recreational use of waters is seriously hampered by infestations of Eurasian watermilfoil. New beds of watermilfoil start from broken parts as well as from creeping rhizomes and seeds.

No Other Chipper Has ALL These FITCHBURG FEATURES



Look inside a Fitchburg Chipper—note its heart—the spring-activated feed plate. No other chipper has this patented feature that adjusts to the size of the wood up to the machine's rated capacity. Chipping is smoother, quieter, faster, permitting the chipping of larger size wood without the need for extra power or the cost of extra fuel.

The spring-activated feed plate also makes a fly wheel unnecessary. No waiting for the fly wheel to speed up-less worries about safety, bearing troubles-and clutch strain. We invite you to compare the ease, economy and efficiency of operation of a Fitchburg Chipper with any other chipper on the market.

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its rugged construction—safety stop switch—large hinged waist-high feed apron—solenoid switch*—and patented, quick opening two-way chute.*

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°Optional equipment.



silvex, and propylene glycol butyl ester of silvex.

Aqualin, a hydrocarbon acrolein, introduced by Shell Chemical Corp., has also been found effective against Eurasian watermilfoil. Shell reports Aqualin reacts with vital enzyme systems of the plant cells and causes treated vegetation to become flaccid and disintegrate within a few hours. Temperature is an important factor in application of the chemical. Warmth makes the compound work much faster (at 60° F the dosage must be double that used at 80° F).

Other factors influencing Aqualin application include amount of water flow, water temperature, velocity of flow, and density of weed growth. For temperatures above 70° F, $\frac{1}{2}$ to 2 gal. of Aqualin per acre ft. are said effective (1.5 to 6 ppm). Below 70° F, 1 to 3 gal. (3 to 9 ppm) per acre are recommended.

Uniform Application: Critical in Small Areas

Conventional cyclone spreaders and fertilizer applicators. either hand-held or mounted on the stern of boats, are used to apply herbicide granules. When treating large areas, diffusion of the chemical in water compensates for slight inaccuracies during application. In small areas. however, uniform application over the entire infested area is important to prevent skips and watermilfoil regrowth. When using many granular products, volume of the water involved is not a factor in computing rates. Surface area can be used and easily determined to assure the correct dosage.

Aquatic Weed Clinics Set

How to eliminate bothersome aquatic weeds in lakes and ponds will be the subject of a series of weed control clinics given this spring by the Pennsalt Chemicals Corp. Over 50 group presentations will be held in Central and Northeastern sections of the U. S.

Readers interested in these clinics should write to Pennsalt Chemicals Corp., 309 Graham Bldg., Aurora, Ill. 60504.

"Now that we're using Copper Sulfate, our water problems are very few"

reports Mr. John Courchene, Director of Water Quality for the Seattle Water Department

Seattle uses copper sulfate to treat not only the 725 acres but also the 7 mile shoreline of its primary storage and sedimentation reservoir. "Our primary objection to using other algae control chemicals is the difficulty of application," Mr. Courchene says. "When you total the cost of chemical purchase and application, copper sulfate is less expensive."

Seattle has been using copper sulfate for water treatment since 1940. At that time, they used approximately 20,000 pounds per year; in 1963, they used 70,000 pounds; in 1964-92,000 pounds. Mr Courchene says, "We usually treat the entire lake in fall, winter and spring. During the other months we generally make shoreline applications. At one time we had a problem with Isoetes, an aquatic rooted plant which rises to the surface and drifts over the lake. Before using copper sulfate we had to rake the shoreline, which proved expensive. Now that we apply copper sulfate from winter through spring, this problem is virtually eliminated."

While water can be treated by simply dragging a burlap sack of copper sulfate crystals behind a rowboat, labor costs frequently suggest more efficient procedures. The Seattle Water Department has designed and built two specialized pieces of distributing equipment. For the treatment of the lake itself, a large, bronze, mesh-screened hopper was constructed. Copper sulfate is fed into the submerged screen hopper which is mounted on the stern of a power launch. The boat is steered over parallel courses approximately 100 feet apart. Prop wash spreads the copper solution out over an area ap-



Constant sampling is one of the safeguards insisted upon by Mr. John Courchene, Director of Water Quality for the Seattle Water Department.

proximately 100 feet wide. For shoreline application, a portable blower is mounted on a truck and a belt of copper sulfate 30 to 50 feet wide is blown out over the shoreline from the truck as it is slowly driven along the top of a dike that encircles the lake.

The Seattle reservoir, when full, holds about 11 billion gallons of water, of which about 4.6 billion gallons are available to intake. "We use the available water figure when determining how much water we wish to treat. The amount of copper sulfate is determined by the quantity of water, water temperature and number and types of algae present. Both shallow and deep samples are collected each week from six sampling stations, as well as from the reservoir's source of supply and its distribution system. There is no industrial contamination and, now that we're using copper sulfate our water problems are very few."

For assistance on your water problems, Phelps Dodge Refining Corporation – one of the world's major producers of copper sulfate – can supply the following: Information on systems and equipment developed and used by water works and commercial applicators; literature, containing data and chemical formulas; technical assistance in algae and water weed control. Write: Phelps Dodge Refining Corporation Information Service, 300 Park Avenue, New York, N. Y. 10022.



Seattle designed and built simple, efficient equipment for distributing copper sulfate by power launch.





Industry harmony comes when competitors exchange problems and solutions.

How We Can Do a Better Job of

Selling the

Tree Maintenance Program

By HORACE P. BRYAN Bryan Tree Service, Dallas, Texas

Veteran tree man Bryan recounts in this article his views on the need for improving the public's image of the tree maintenance industry in Dallas, Texas. His observations may well be equally applicable to other areas of the country where training, cooperation, and public acceptance could be improved.

A TREE maintenance program is sold, like everything else is sold, on the basis of confidence. The customer must trust the tree contractor's competency and know he's capable. And the customer must know that the contractor is reliable, that he will fulfill his contract, and respect the customer's property.

To promote the customer's confidence and sell him services,

a tree service contractor needs the following assets.

First, he must have a good image, operate from a permanent location, be identified by a business sign, and be located preferably on a thoroughfare. He should have a permanent telephone number, yellow page listings, and listings in the business directory of local newspapers. A good image consists, also, of good trucks and equipment, marked by company signs, and neat courteous workmen. Uniforms bearing company insignia are also useful.

Needs Trade Association

Second, a tree service contractor needs contact and cooperation with other tree service firms through a trade organization to sell "tree care" and confidence in the tree maintenance industry. The organization should advertise through various media (newspapers, radio, TV) and work to make its officers the community spokesmen and contact men for inquiries about the tree care profession.

Organized tree service contractors should participate in programs for community improvement sponsored by business, fraternal, church, and other organizations. Tree men are especially well equipped to participate in programs relating to water pollution, parks, street and roadside beautification, and conservation.

Tree servicemen, in their daily work, serve in one of the most important phases of conservation. They should know what conservation is, generally, and ally themselves with the conservation movement. This is a powerful movement, serving the country well, and it can be of great aid to tree service contractors who promote it because of natural sympathies and understanding.

The American Forestry Association can be very useful to tree men. Programs sponsored by the area chapters of the National Audubon Society are enjoyable, inspiring and most informative. And the friends you make in the Audubon Society, and other conservation organizations, will back tree men to the end, once they understand their problems.

This may be called "playing politics," and that it is; but in this case it is not a "dirty" word. There's an old adage: Birds of a feather flock together. Birds are smarter than tree men who stand apart.

One tree man's misery is every tree man's misery. And very few tree contractors are going to solve their biggest misery—sales, until the industry is generally uplifted. It will be lifted when tree men learn to "flock together," and do enough "politiking" to gather unto their "flock" all those of like mind.

Third, to promote the sale of his services the tree contractor must have something to sell and somebody who knows how to sell it. Tree men sell *service*, and they must give *service*. This means that each firm must develop an adequate program, provide the necessary materials and equipment, and train themselves and their men to carry it through.



At this stage of development, only a few large firms employ professional salesmen. Things are changing fast, but today the number of professional salesmen who are qualified to analyze and price a tree job is scarce. Most tree service contractors do their own selling, and they have about as much natural sales ability as any other type of contractor. But contractors in practically every other field are organized. This gives their salesmen a great advantage over tree men, mainly because they do not have to battle that old demon, suspicion. Through their organizations, most contractors have established standards of practice and brought about favorable laws by city, county, and state governments. These laws protect both the contractor and the customer, providing a basis of confidence, before the sales talk starts. This makes sales much easier.



Updated crews sell, service better

Two Schools Needed

As a preliminary to the enactment of laws which would give tree service contractors a common ground of confidence with their customers, a trade organization would bring them together to compare experiences in trade practices and sales work. This is one essential step toward maturity. As a second step toward maturity, the trade organization should sponsor two schools or institutes.

First, a school for the training of tree care servicemen in practical work. This is important in the South and even more so in the Southwest where there is probably less training than anywhere in the country.

The second school, or institute, would be for tree service contractors and their more advanced men. Experts on soils, insects, plant diseases, and tree maintenance practices are available through the U.S. Dept. of Agriculture Extension Service that cooperates with universities in all the states, and from private companies which manufacture and supply materials for the industry.

The cost of such schooling is practically nothing to the tree service contractors, except for the time involved. The Agricultural Extension Service, and most universities are tax supported. Private companies know also that the materials and supplies which they have to sell cannot be effective except when they are correctly used. Therefore they provide, as part of their promotion program, a group of superbly trained men who are looking for a chance free of charge — to help train men in the field of their operations.

In many areas, where tree contractors are organized, such schools, or institutes, are conducted. And in such areas, the tree business has overcome many of the problems of services and sales they formerly faced. It is a simple 3-point matter: (1) improve what the tree servicemen have to sell and their services, (2) improve their selling methods, and (3) improve their relations with the general public.

Keeping Customers Important

The first act of selling is to get new customers. But, keeping customers is the most important part of a successful selling program for the tree service contractor. And keeping customers is more than doing a good job and giving satisfaction. A good job only provides the basis for keeping customers. There is more work to be done if customers are to be kept, year after year. And a stable tree business is built upon repeat business. This means creating a program to keep old customers.

Don't forget



those old customers

Stay Put So Customers Can Find You

Old customers must know where you are and how to contact you at all times. This is another place where a permanent location and a continuous telephone number help. These are important not only to keep old customers but to get the customers that old customers recommend. Sales to people whose friends have recommended you are the easiest. Many of us

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> UNION CARBIDE



AGRICULTURAL PRODUCTS would have starved to death long ago if it had not been for the business resulting from the recommendations of old customers.

Many treemen have never been able to establish and maintain a permanent location or a continuous telephone number. It became a laughing matter in several areas, where we had established many customers who were relatives. Where can you find Mr. Bryan? We laughed with them, but it made us a little sick. Not only did we lose old customers every time we moved, but we also lost the recommendations all these old customers would have made, because they did not know just where to find us. We have never moved, when we had even a fair location, of our own decision. But we were the victim of our own indecision. We came to Dallas in 1950 with a climbing rope and saddle, plus a few pruning saws and some know-how. We should have bought our own place, long ago. when we knew we needed it.

Keep Card File And Sell With It

We keep a card filed on all of our old customers and mail out cards to them from time-to-time.

A typical one says, simply: "It's time for Dormant Oil Spray." The card carries our name and address and telephone number. We also try to visit our old customers, from time to time. not to make a direct effort to sell, but to recheck our work and see how their trees are doing. This is not pretense or hypocrisy; every tree is something to us, and sales often develop from these visits. Even though sales do not come immediately, we learn later that the customer has not forgotten us.

Mails Free Bulletin

But our most important link with old customers is a mimeographed bulletin which we call "Trees." It deals with trees and the various aspects of tree care and interesting things about trees.

The biggest obstacle to overcome in establishing a profitable business in the tree maintenance field is lack of confidence in tree servicemen. In Dallas, for example, the potentially available business is unlimited. Literally, thousands would call a tree service contractor tomorrow if they could call with confidence. But the image of the tree man in Dallas could be improved. And the same is true, we believe, in many, many other areas.

This poor impression is only partially the fault of established tree service firms. This fault lies more in what they have not done, than in what they have done.



Fly-by-nighters are headache.

Three Causes For Bad Image

The "bogey-man" image of the local tree man has been created over a long period by a combination of circumstances.

First, standards of work are very low; competent men are scarce; and the struggle for survival has led to many undesirable practices.

Secondly, we are plagued by fly-by-nighters, year after year, who are interested only in the immediate dollar. The fly-bynighters are a breed unto themselves, plaguing large growing areas or flitting from town-totown and from business-to-business. After one of our big hailstorms, we have hundreds of roofing contractors posing as tree men; following a windstorm or ice storm, causing widespread tree damage, many of the same crowd show up.

Actually, they are painters and house levelers or other temporary workers. Following such a diverse range of business practices, they have to be very fast talkers to survive.

Thirdly, we have other permanent liabilities who have worked a growing Dallas for years. One oldtimer drills holes and inserts his "magic water" into many of the finest trees on some of the largest estates in Dallas. This man has little or no formal education, but his magic water is good for all tree ailments, and he has the most wonderful guarantee! He picks his tree, a magnificent specimen or one of crucial importance, before he makes his bid. If he gets an audience he is likely to come up with a sale.

Another thing contributing to the bad image of the tree man, and quite unintentionally, are daily newspapers in our area. Periodically, usually at the height of the season, they run a well-meaning article warning the populace against the tree expert and "tree quacks" working in the neighborhood. These articles invariably warn readers against the "tree quack" and advise people to call their old reliable nurseryman. Nurserymen do more tree work in Dallas than tree maintenance contractors. Except for a couple of notable exceptions where independent tree firms are associated with large nurseries, the nurseries do not hire tree surgeons. Tree surgeons will not climb for what nurseries pay their working foremen. It would upset their wage schedules. So the nurseries do their own tree surgery with yard maintenance and landscaping crews.

In Dallas, tree service contractors have inherited this situation and consequently a bad image. Also, they have done nothing, collectively, to improve it.

We are not condemning local newspapers and nurserymen; neither is at fault. It is more the fault of the tree surgeons for what they have not done. When tree surgery becomes a business with recognizable standards, the nurserymen will be happy. Most of them will cooperate with independent tree men and establish these standards. Local newspapers have never intentionally "knocked" the tree men. They have no reason to do so. When the tree men take the steps to create a favorable image, it will be reflected in our newspapers ... and by the buying public.