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WEEDS TREES AND TURF magazine is making available its series on Turfgrass Management Training which ran earlier this year. This series listed college level training available at 26 colleges and universities across the nation.

A number of universities have requested reprints for use with their own student counseling programs and for use by high school counselors.

If these can be used in your state, contact WTT. Because such information on training can help in informing prospective students about the industry, WTT is making these available at the reprint cost. Cost per thousand for the 10-page reprint will be \$30, plus shipping. Lesser amounts can be ordered at \$5 per hundred, plus postage.

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WEEDS TREES AND TURF
1900 Euclid Ave.
Cleveland, Ohio 44115

WEEDS TREES and TURF

FORMERLY WEEDS AND TURF

November 1967
Volume 6, No. 11

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Profit In National Beautification

Profits and the National Beautification Program can go hand in hand. No program in the past, nor any in the foreseeable future holds forth the promise of cash income coupled with the common good of the citizenry as does the National Beautification effort. It could not have been planned as an aid to the vegetation control market and been any more helpful.

Take any phase of the industry. Tree care men face the greatest opportunity since the first company was formed to enhance the beauty of city streets, parks, suburban areas, and industrial parks. The public image of adding beauty with trees and general landscaping has been greatly enhanced since the advent of the national program. People think beauty. They expect it. Tree companies have only to sell.

The contract applicator is in an equally advantageous position. The public expects well groomed rights-of-way, whether highway, street or utility line. Ragged, mechanically handled brush control today is definitely not the in thing. Fortunately, the chemicals to provide the grooming necessary are either on the market or coming. A good example is Uniroyal's new growth regulator, Slo-Gro. Dow's Tordon, which kills brush and then stimulates the native grass, is another. Though Dow isn't claiming the latter characteristic, it is a factor. Another factor is the several types of equipment and products to control drift and swath width during spraying. Operators have the opportunity to sell a service with grooming ramifications which has previously been unavailable.

The turfgrass industry, including sod producer and landscaper, can't help but profit. The instant lawn idea has been widely accepted for the newly constructed home. It still needs promotion for the older home where the original seeded lawn needs replacement, and on the industrial park site which was established prior to the ready availability of quality sod.

Landscape possibilities are going begging. They need to be sold. Community awareness of the poorly kept industrial site is a factor today in getting action on improvement. What better opportunity for the new landscape leasing idea?

The end result can only aid the industry by way of profits and establishment as an integral business of the community. The public can only gain. And the National Beautification Program will be given the boost it deserves. Efforts in developing good service and quality products are worthy. But we believe the sales promotion phase has been neglected in certain areas.

WEEDS TREES AND TURF is the national monthly magazine of urban/industrial vegetation maintenance, including turf management, weed and brush control, and tree care. Readers include "contract applicators," arborists, nurserymen, sod growers, and supervisory personnel with highway departments, railways, utilities, golf courses, and similar areas where vegetation must be enhanced or controlled. While the editors welcome contributions by qualified freelance writers, unsolicited manuscripts, unaccompanied by stamped, self-addressed envelopes, cannot be returned.



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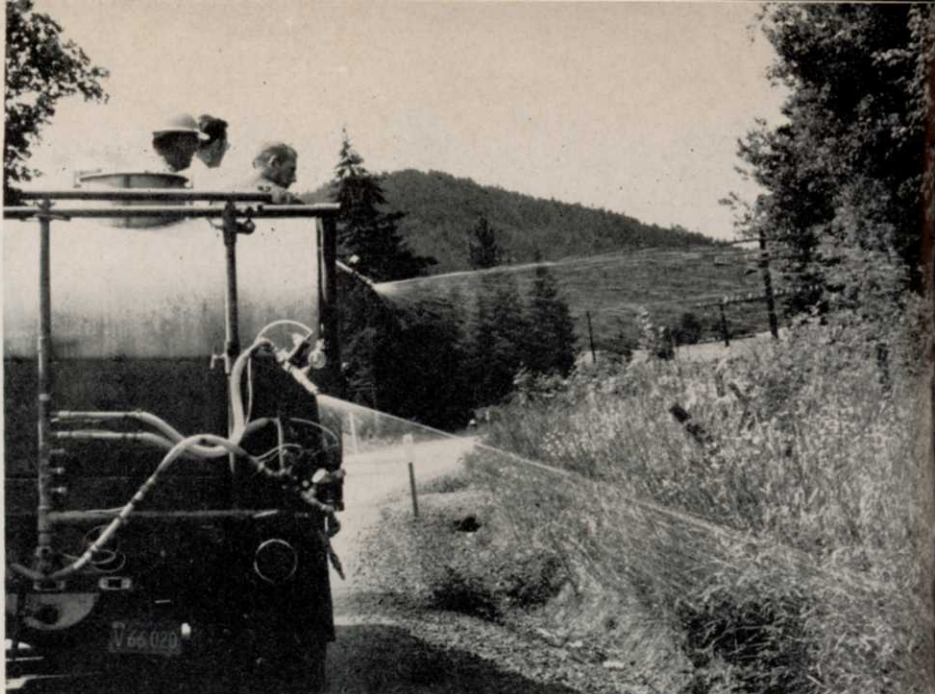
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Dow Roadside and Range Tour



Directed spraying from the Dow roadside spray demonstration truck, using a mixture of Tordon with Norbak. This technique assures precision application with minimal drift.

A Look at New Product Field Tests

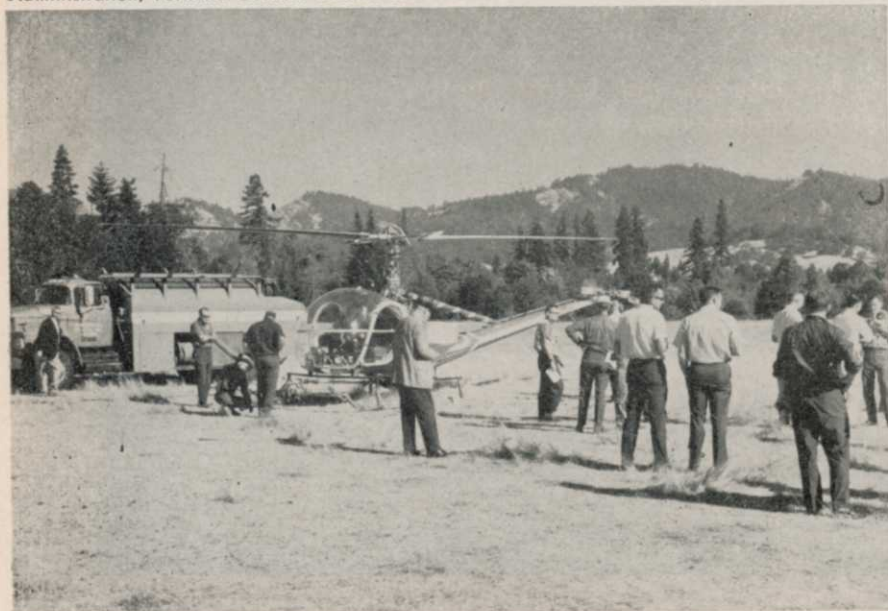
A WTT staff report based on a tour of roadside and rights-of-way field test areas during September '67 in Southwestern Oregon.

PINPOINT spray placement has been a constant goal of spraymen. Costly drift, which means chemical loss and liability from kill outside the target area

still mars the public image of the spray industry.

Outcrys about wildlife kill, injury to humans, and damage to landscape beauty affect the entire pesticide industry. Manufacturers and spraymen together share the public concern for safety and efficiency in chemical use. Both are making great

Evaluating Dow field test results during tour were representatives of Oregon and Washington state highway commissions, Oregon State University, University of California, Bonneville Power Administration, Portland General Electric and Pacific Gas and Electric companies.



Lew Corbin, sales manager for agricultural and industrial bioproducts for The Dow Chemical Company, Midland, Mich., at the right, and Weeds Trees and Turf editor Art Edwards visit during tour of Bonneville Power Administration right-of-way brush control demonstration.

strides in improving the total picture.

The Dow Chemical Company is among those who have developed effective chemicals, along with a delivery system to assure on-target spray placement. A tour of their field testing program in Oregon shows the tremendous progress made during the past few years.

Tordon, a Dow chemical, is a new selective herbicide which does not harm people or wildlife. It gives excellent vegetation con-

trol. When used with Norbak, a particularizing agent which picks up the lightweight fine particles in a spray and turns them into easily controlled heavy gelled droplets, the chemical has been safely targeted from both helicopters and ground spray equipment.

The tour of field test demonstrations where these two new products have been used was staged during September by Dow Chemical Company near the Coos Bay area of Oregon and inland for some 50 miles. Helping evaluate results were members of the Oregon and Washington state highway commissions, Oregon State University, University of California, Bonneville Power Administration, Portland General Electric and Pacific Gas and Electric companies.

Dr. J. F. Kagy, research director of the bioproducts western division of Dow, and one of the key Dow research personnel who developed Tordon, said that the nation now has the chemical tools to carry out safe and effective vegetation control. Besides Tordon, he pointed to the phenoxy herbicides such as 2,4-D and 2,4,5-T, and others which Dow and other formulators have made available to the market. These have practically eliminated the need for expensive mechanical brush control.

During the tour of roadsides,



Roadside maintenance near Bandon, Oregon. The strip at right was cleared of gorse by Tordon treatment and has since grown a desirable grass cover. Note dead gorse stumps in foreground, and gorse plants at left.

Dow developed adjustable in-flight swath system is demonstrated by Jim Welton, representative of Dow's western division for bioproducts.



TABLE 1 — Broadleaf weed control obtained from single treatments made in April, 1965, with FORMULA 40 and TORDON 101 MIXTURE

State	Applic. Date	Eval. Date	Broadleaved Weed Control Rating (a)			
			FORMULA 40		TORDON 101 MIXTURE Q1/A	
			1 1/2 Q1/A	1	2	3
Connecticut	4/13	9/23	7.5	10.0	9.7	10.0
New Jersey	4/10	9/24	9.2	10.0	10.0	10.0
Pennsylvania	4/19	9/21	9.0	9.0	9.7	10.0
Ohio	4/20	9/15	6.0	9.9	10.0	10.0
Michigan	4/22	9/13	5.0	5.0	9.5	9.5
North Carolina	4/6	6/7	7.3	8.5	8.3	9.0
Illinois	4/27	8/30	5.0	9.0	8.7	9.8
Minnesota	4/30	8/31	4.5	7.5	9.4	9.8
Wisconsin	4/28	8/31	5.0	8.0	8.9	9.7
Iowa	4/29	9/1	7.2	8.0	8.6	9.7
Indiana	4/23	9/15	4.0	5.5	7.0	7.8(b)
New York	4/14	9/22	4.5	7.5	6.0	9.5

(a) 0 = No control 10 = Complete kill
(b) One replicate treated during hard rain

Formula 40 is 2,4-D. It was applied at the rate of 1 1/2 qts. per acre or 1 1/2 lbs. per acre acid equivalent. By contrast, Tordon 101 Mixtures if 2 lbs. of 2,4-D and 1/2 lb. of Tordon. Used at the rate of 1 qt. per acre, this is .12 lbs. per acre of Tordon and 1/2 lb. of 2,4-D.

utility rights-of-way and livestock ranges, Dr. Kagy stressed the need of the industry to learn more about the how of using these chemical tools. Applicators must be well trained and properly directed, he said.

Tordon, Dr. Kagy said, is a

persistent herbicide. Tordon's persistence, according to Dr. Kagy, lies in its ability to stay in the soil and to be taken up by the root system. This has enabled Tordon to control field bindweed, Canada thistle, and other hardy-type weeds. Research has made possible recommendations which prevent excessive over or under dosage. With proper use, Dr. Kagy stated that Tordon can be used to kill only undesirable vegetation and permit growth of desirable grasses. Tordon, while toxic to many plants, is not toxic to all. It is non-toxic to animals. In common with many of the herbicides on the market today, the low order of toxicity to animals eliminates the danger to wildlife and domestic animal populations. Tordon, not as yet cleared for use on livestock rangeland is expected to be very shortly. Also of interest to contract applicators is the fact that almost all production is now being utilized in the war in Viet Nam.

Tordon has been extensively
(Continued on page 25)



Using truck mounted crane, Ontario tree trimming contractor, Andy Hamilton, removes entire sections of tree in single cut. Without crane, method would be impractical on removal projects near power lines and buildings.

efficient

Tree Removal

with 2-man crew

By BUCKLEY JOHNS

ANDY HAMILTON may have one of the smallest tree removal operations in terms of crew size, but he's one of the busiest.

Hamilton's operation consists of mechanized equipment, himself and one man. He has developed a technique for tree trimming and debris removal which he says permits him to handle many jobs faster than normal 5- and 6-man crews.

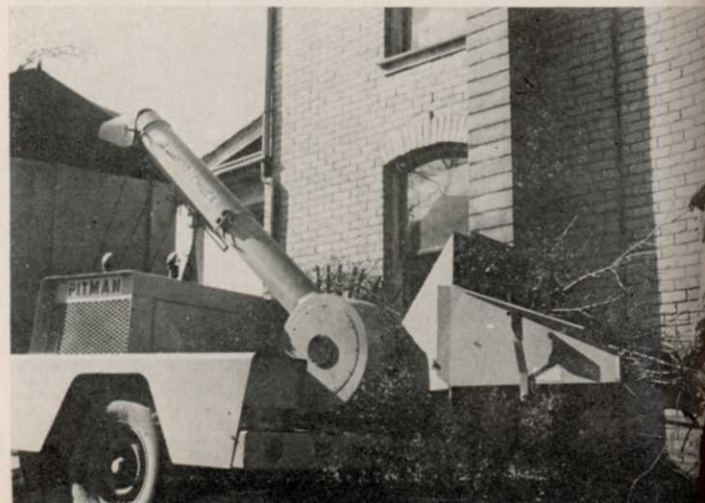
A Canadian of the province of Ontario at Brantford, Hamilton started tree trimming and removal to boost income during the winter months when his material handling business was at a low point. Result has been development of a solid business

and an efficient tree operation with up-to-the-minute equipment and only two men.

Equipment in the operation

consists of a truck-mounted, 5-ton telescoping crane—a principal unit used in his material handling business—power chain

Limbs 8 inches in diameter and smaller are fed into 12-inch chipper. Hamilton reports chipper saved \$1000 in labor costs on recent Brantford, Ontario, project.





Two men handle removal job in less than 2 hours. Stump, logs, and chips are all that remain of 85-foot tree. Hamilton says mechanized equipment makes this type operation possible.

saws, a 12-inch brush chipper, and a chip truck.

Hamilton's technique has enabled his 2-man crew to remove 85 foot trees in less than two hours. This includes chipping the branches, loading limbs too big for the chipper, and raking the area.

Rather than starting at the top of the tree and working down by removing each limb in 4- and 5-foot sections, the procedure used by many, Hamilton starts near the bottom and removes large sections of the tree in one cut. This is where the crane pays dividends.

Crane Is Key To Easy Bow Removal For Hamilton

To remove a tree, the crane—a Pitman Hydra-Lift with 47-foot telescoping boom, is positioned alongside the tree and outriggers extended. The crane operator extends the boom and positions it over the center of the first large bough to be removed. Meanwhile, Hamilton has climbed the tree and is ready to connect the crane's loadline to a choker placed around the limb. The loadline is used to steady the limb as it is sawed from the tree trunk.

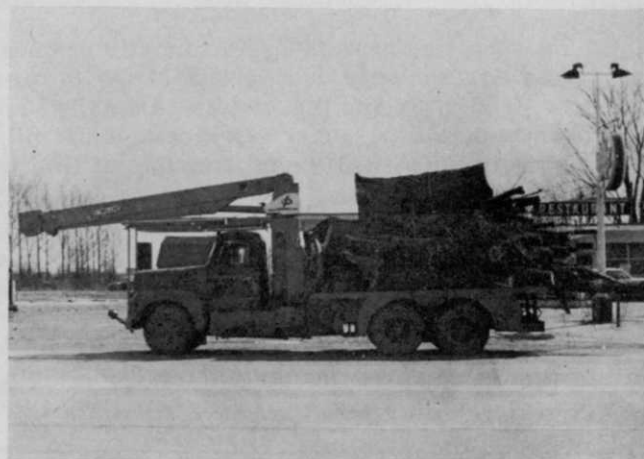
During the sawing operation, the crane operator, as necessary, picks up on the bough to keep it from pinching the saw. Once the cut is completed, Hamilton's operator rotates the boom in order

to bring the bough out from the tree and spot it on the ground near the chipper. This procedure is continued until the tree is stripped of all main boughs.

While Hamilton works his chain saw through the tree trunk, at an approximate height of 2½ feet above the ground, his helper—who has already trimmed the protruding branches and has cut the large limbs in 10 foot sections—begins loading the logs on the truckbed. The mounting position of the crane, 23 inches behind the cab, permits full utilization of load space.

All branches 8 inches in diameter and smaller are fed into the Pitman Wood/Chuck brush chipper which reduces them to 1/15 their original volume and deposits them in a tarp-covered chip truck that also tows the chipper. The chipper, powered by a 330 cubic inch V-8 Ford industrial-

Mounting position of Hydra-Lift truck-crane enables Hamilton to make maximum use of load space. All limbs of 85-foot tree, except those on truck, were fed into brush chipper.



type engine, has a 12 inch solid steel rotor, 4 self-aligning cutting knives, blower and dust suppressor. The dust suppressor provides a fine spray of water over the wood as it enters the chipper. This curtails dust and also prolongs life of the blades.

After Hamilton has felled the trunk of a tree and then sectioned it, both trunk and logs are lifted onto the truck with the crane. All that remains is chipping the small branches.

Hamilton says that the crane and chipper combination which allows him to remove an entire section of the tree at once, eliminates waste time due to over-cutting. "Without the chipper, we would make at least three and possibly four trips to the dump in removing trees in the 65-foot to 85-foot height range. Instead, we end up with about a half truckload of chips and one load of logs. As for the chips, I'm working on a couple of ideas to sell them in the future," he concluded.

Hamilton recently used his mechanized system to remove 93 trees in a Brantford Winter Works project. His tender for the job was \$4,000—approximately \$1,000 under the nearest bid. He attributes his low tender to mechanized equipment which reduced three men, or 24 manhours per day, from his labor cost.

Hamilton, who finished the job in 15 days, claims his total labor cost was \$885. When figuring his tender for the job, he estimated his labor cost at \$2,200 and allowed five weeks for the job. Thus, Hamilton says, the chipper saved approximately \$1,000.

New Underwater Menace

Eurasian Watermilfoil

By ROBERT D. BLACKBURN and LYLE W. WELDON

Research Botanist and Research Agronomist, Crops Research Division,
Agricultural Research Service, U. S. Department of Agriculture,
Fort Lauderdale, Florida



Parrotfeather, above, is shown growing in association with cattail and aquatic grasses. It is one of three common species of milfoil in the southeastern U.S. and has populated the state for a number of years. More serious is the newly established Eurasian watermilfoil.

EURASIAN watermilfoil (*Myriophyllum spicatum* L.) is spreading at an alarming rate in the United States. It was first reported in the USA late in the nineteenth century. However, only in the last decade has it become a serious aquatic weed problem. It has invaded over 200,000 acres in the Chesapeake Bay, 5,000 acres in the TVA reservoirs, and 67,000 acres in Currituck Sound (3, 4, 6). The manner in which it dominates the water surfaces and decreases

utilization of water resources is causing alarm (2). Commercial and sport fishing, boating, hunting and other activities are being destroyed or severely damaged. The rapid rate of its growth, fragmentation, migration, and establishment makes it a serious threat (5). The plant thrives in water containing a salinity equivalent to one-third sea water (1). All of Florida's fresh and brackish waters are threatened.

Parrotfeather (*M. brasiliense*)

and broadleaf milfoil (*M. heterophyllum*) infestations have occurred in Florida for many years. These two species have presented only minor problems in local areas. However, Florida now has eurasian watermilfoil well established in two areas.

This report presents information on identification of the three most common milfoils in Florida, where eurasian watermilfoil is established, and how rapidly it is spreading.

The three common species of milfoil in Florida will be discussed individually and the identifying characteristics compared. It is important that new infestations of eurasian watermilfoil in the state be reported immediately to the proper state agencies. To accomplish this objective one must be able to differentiate among the three species.

Parrotfeather, *Myriophyllum brasiliense* Camb. is a perennial aquatic rooted in the bottom mud. The stems are quite stout and are sparingly branched. The emerged tip may extend 3 to 12 inches above the water level. The individual leaves are

Abstract

Eurasian watermilfoil (*Myriophyllum spicatum* L.), a submersed aquatic weed, is a serious threat to the commercial and sport fishing, to boating and swimming, and to other uses of Florida's abundant water resources. Watermilfoil has recently become established in Lake Seminole at Chattahoochee, and in the Crystal-Homosassa River Basin. The Crystal-Homosassa River Basin is estimated to have 3,000 partially to heavily infested acres. In these areas the weed is already hampering fishing, boating and swimming, and it is choking out waterfowl plants, providing mosquito breeding habitats, and lowering real estate values. Two related species, parrotfeather (*Myriophyllum brasiliense*) and broadleaf milfoil (*Myriophyllum heterophyllum*), are described as a means of differentiating the three species.