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Special for This Issue

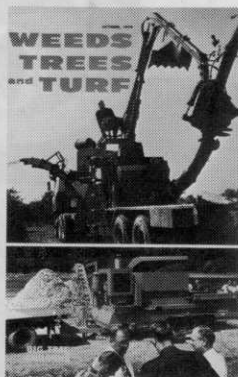
- Big Tree Chippers** 8
Whole trees up to 20 inches in diameter or trunk sections up to four feet in diameter disappear into chips in a matter of seconds. Cities can solve disposal problems and sell the chips.
- Hydrionic Method Patented for Killing Aquatic Weeds** 14
Robert W. Hyde of Crystal River, Fla., tells how he uses commercial sulfuric acid to kill weeds in running water.
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The Cover

Cities and parks—also commercial contractors, for that matter—who have had tree disposal problems should welcome the introduction of the two machines featured on the cover. These machines are truly industry firsts, designed specifically to ease the tree-removal burden of metropolitan areas imposed primarily by Dutch Elm disease. At the top is the Chiparvestor, manufactured by Morbark Industries of Winn, Mich. The other one is the Vermeer 604 Log Chipper, made by Vermeer Manufacturing Co. of Pella, Ia. A report about these machines, including what they can do, how they are being used, and how the end product—the chips—is being marketed, begins on page 8.



WEEDS TREES and TURF is published monthly by The Harvest Publishing Company, subsidiary of Harcourt Brace Jovanovich, Inc. Executive, editorial headquarters: 9800 Detroit Ave., Cleveland, Ohio 44102.

Single Copy Price: 50 cents for current issue; all back issues 75 cents each. Foreign \$1.00.

Subscription Rates: WEEDS TREES AND TURF is mailed free, within the U.S. and possessions and Canada, to qualified persons engaged in the vegetation care industry and related fields in controlled circulation categories. Non-qualified subscriptions in the U.S. are \$7.00 per year; Canada and other countries, \$10.00 per year. Controlled circulation postage paid at Fostoria, Ohio 44830.

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Member Business Publications Audit



WEEDS TREES and TURF®

Volume 9, No. 10 October, 1970

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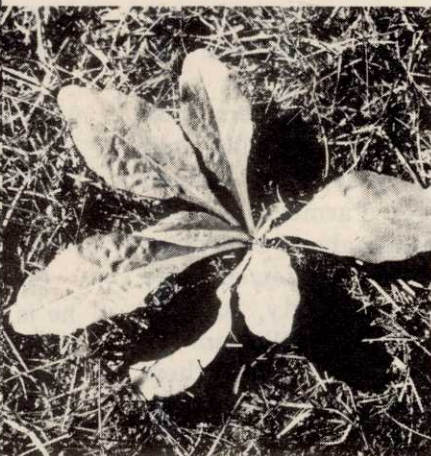
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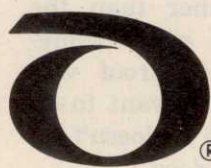


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THE system of weed and disease control.

For More Details Circle (106) on Reply Card

To Maintain a Balance With Ecologists in Nature

"Modern farming is a parasite on ancient plant production . . . a system that cannot endure forever as it presently exists."

"The paddy rice system is one of the world's most elegant ecological systems."

"Americans are burning things at such a rate that the U.S. depends on an importation of oxygen."

"What about eating grasshoppers? They're two to three times as good at protein production on a pasture field as a beef cow is."

"Demanding that every apple be blemish-free . . . will ultimately cause—not Eden—but hell on earth."

ECOLOGISTS speaking.

These statements are overly alarming because we've taken them out of context. We've done so to jar your attention to a series of articles that is available as a reprint.

If you are a pesticide applicator, we strongly suggest you shell out a dollar for the whole story. We practically guarantee you will re-evaluate your opinion of ecologists, and re-evaluate the future of your business.

When ecology moved into the living room, took its seat between motherhood and the flag, and began blasting everything previously judged "beautiful progress," Michigan Farmer magazine undertook to inform its readers about ecologists.

Staff writer Richard Lehnert interviewed three ecologists at Michigan State University, John E. Cantlon, Manfred Engelmann and William E. Cooper. He asked them to tell their story on their own terms to acquaint farmers with their ideas. Five articles are packaged as a 12-page reprint entitled "Ecologists Look at Our Environment." If you're interested, send a dollar—unit price for 1-10 copies (75¢ for 11-19, further discounts available) to Michigan Farmer, 4415 North Grand River Ave., Lansing, Mich. 48906.

You should be interested. We agree with John Cantlon, who says "Ten years from now, environmental quality will be a major restraint on what people do."

At the least, you will be affected to the extent of the methods, equipment and products used; at the most, you could be put out of business.

The sudden concern for our atmosphere brought a turn in thinking, say the ecologists.

"A major shift in psychology made its appearance," said William Cooper. "Rather than the burden of proof falling on us—to prove something was harmful—the burden of proof was shifted to industry. Now if industries want to do something, it's up to them to prove it doesn't do damage—rather than us proving it does."

There is still a more compelling reason for you

to become better acquainted with ecologists. It is human nature to be irresponsible occasionally. Some people, however, are in a position to be irresponsible on a grandiose scale. Example:

The Environmental Defense Fund has petitioned the government to establish a zero tolerance for DDT in raw agricultural commodities. If we're to accept the alleged universal presence of DDT, it means, says Dr. W. G. Eden of the University of Florida, that "such a law could reduce the production and sale of many agricultural commodities in Florida and elsewhere by as much as 50%."

This irresponsible petition from persons close to the seat of government comes in the face of not one shred of evidence that DDT residues are harmful to mankind. The petitioners, it is shuddering obvious, could not have given much, if any, thought to the full consequences of their demand.

We believe the Michigan State trio to be responsible ecologists, as evidenced by Cantlon's position on pesticides.

"We always will have, and should have, pesticides, judiciously chosen, to keep pests down," he said. "But we do not live in a sealed world, in which everything can be neat and clean. We cannot kill every weed, every insect that threatens, nor should we want to."

Cantlon's position has special significance for he is president of the Ecological Society of America, a group with some 4,000 members.

Applicators of chemical pesticides have no comparable organization!

It is imperative that a counter-force be mustered to check any ecological irresponsibility to assure that the "Balance of Nature" remains favorable to man.

* * * * *

Early morning, recently, I flew into Chicago to find it as crisp and clear as the Colorado mountains in the wintertime. A violent storm the night before had swept away the polluted air leaving this magnificent symbol of man's progress glistening in unblemished sunlight.

It was an indelible spectacle. Mankind should demand that his air—and water—be that pure every morning.

We hope the push for a "pollution-free" environment is relentless. But we must guard against a leadership that would prescribe a route requiring us to replace a New York strip sirloin with a handful of grasshoppers.

Gene Ingalsbe

the wiser winter izer

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BIG



ONE MACHINE will chew an entire 50-ft tree into chips in less than 15 seconds. The other one will chip a six-foot section of a tree up to four feet in diameter.

Together, these machines may represent the solution to the massive tree disposal problems of major cities. The bonus benefit is that the end product—the chips—are marketable.

Chips are being sold, depending on quality, for use in making paper, building materials, livestock bedding, temporary ground cover for areas such as fairgrounds, pathways, and parking lots, erosion control on slopes, and for a variety of mulches. They're also being used to charge municipal incinerators to hasten the combustion of heavy-moisture garbage.

The two machines were designed to combat a compounding problem that has come about in the past few years. As Dutch elm disease was killing tens of thousands of trees in cities and multiplying removal and disposal costs, air pollution became a public issue. Many cities have banned open burning. The result has been a rapidly building mountain of logs and brush. The only disposal—for cities that could not burn—has been for landfill. But as these sites disappeared and as distance to new dumping locations increased, hauling and dumping costs soared, both in terms of labor and utilization of trucks.

The new machines are the Metro Chiparvestor, manufactured by Mor-

bark Industries, Inc., Winn, Mich., and the Vermeer 604 Log Chipper, made by Vermeer Manufacturing Co., Pella, Ia. Morbark is a large-scale equipment manufacturer serving the lumber and papermaking in-

dustries. Vermeer is a leading manufacturer of a wide range of equipment for the nursery and tree-care industries.

While he still believes that burning is the most efficient and total dis-



Bud Taylor and Jerry Kloostr of Vermeer's Jackson, Mich., sales office answered questions at a demonstration of the 604 in the Detroit area. The machine below was a popular attraction at the International Shade Tree Conference Field Day in Rochester, N.Y.



TREE CHIPPERS

Problem-Solving Moneymakers



posal method, Jim Garvey, district tree foreman for the Chicago forestry division, called the Chiparvestor "a tremendous step in the right direction."

According to unit price tag, the machines are expensive. The Vermeer 604 Log Chipper is tagged around \$20,000; models of the Morbark Chiparvestor exceed \$85,000.

"But just from an operating expense viewpoint, savings in time and labor justify the cost of the Chiparvestor," say Morbark officials. And Bob Peterson, co-owner of Peterson Wood Chip Producers, Lansing, Mich., exclaimed in scooping up a handful of chips at the site of Ver-

meer machine recently, "that's a pile of gold."

Chipper Descriptions

Here's a brief profile of the two chippers:

METRO CHIPARVESTOR — It's 42' long, 8' wide and 12½' high. A 6110 mill chain on a 20'10" conveyor moves entire trees (placed on it by a Prentice loader) into a three-knife, 75" chipper operating at 500 rpm. Power is a 310 hp diesel with a 100-gal fuel tank.

Operating speed is hardly believable unless you see it in action. The maximum speed at which the machine turns trees into chips—for the biggest model—would produce 250 tons in a working day.

Describing the maximum capacity another way, Leo Bronson, assistant manager of the Chiparvestor division, talked about "filling a 20-ton van in 20 minutes." A more realistic figure," he said, including down time," would be 1,000 lbs. a minute."

Trees up to 20" in diameter can be handled by the Chiparvestor, provided there are no large lateral limbs. For more details about the Morbark chipper, circle (719) on the reader service card.

Bob Peterson, co-owner of Peterson Wood Chip Producers, Lansing, Mich., bought the first model of both machines. What's he holding? "A handful of gold," he says.



Some 200 persons watched both the Morbark Chiparvestor (above) and the Vermeer 604 log chipper (below) perform in the Detroit area in September.

Leo Bronson, left, assistant manager of the Chiparvestor division, chats with Samuel Nimlin, Jr., Wayne County air pollution control official.

VERMEER 604 LOG CHIPPER—

The name implies what it is best suited for, although it will chip all parts of a tree. A coffin-like box, filled with a loader, will handle practically any size tree—unless you happen to find one with a diameter in excess of six feet. The receiving box, however, is designed to take tree sections 6' long and up to 4' in diameter. The box travels over a high-speed rotary cylinder with 45 carbide-tipped cutting teeth planing away chips at a maximum rate of about 40 tons per day.

Vermeer's machine is 22'5" long, 7'5" wide and 9'8" high. It can be towed from site to site and is a



practical machine to move about on city streets. It's power plant is either a 391 cu. in. Ford or a 453 GMC diesel. For more information about Vermeer's chipper, circle (720) on the reader service card.

Machines evaluated

Both machines were demonstrated at the same time the first of September outside of Detroit, Mich. Some 200 persons, representing municipalities, parks, highway departments, pollution control boards, and so on, watched the performance.

Among visitors were Bob and John Peterson, whose wood chip products company was the first purchaser of both machines.

Bob Peterson evaluated the two machines, conceding that they can't be compared with each other any better than comparing apples with oranges. "They actually complement each other," he said. If a city had to go the "either, or" route, then the kind of disposal program—whether and how the chips were to be marketed—has a definite bearing, he added.

Fewer saw cuts are necessary to

prepare a tree for the Chiparvestor, which takes any length, and has tremendous speed, he said.

For city tree disposal, Peterson believes that the 20-inch diameter limitation may be somewhat of a disadvantage. "Many of the trees dying in the city are the larger, older trees," he pointed out. "To get rid of these, you would have to get a log splitter at a cost approaching the price of the Vermeer machine."

"You never drop a whole tree in the city," he continued. "And many of these trees have large lateral branches. So the need for cutting trees into six-foot lengths for the Vermeer may not be a disadvantage at all.

While the Vermeer chipper is far slower than the Chiparvestor, Peterson reminded that for the same money a city could buy four or five Vermeer machines and get a greater volume of chips. The cost of operating five machines as opposed to one would have to be weighed against the advantages of judiciously employing multiple machines to lower hauling costs.

One of the hazards of chipping "trash trees," Peterson said, is encountering metal objects. During the Detroit demonstration, the Vermeer machine chewed into a 12-inch lag bolt, breaking two or three of the 45 cutting teeth. Had the bolt gone through the Chiparvestor damaging one of the three blades, Peterson estimated the chipper would be out of action longer in order to change the blade.

Chicago Disposal Operation

Chicago is one of eight cities and private contractors that have purchased Chiparvestors, introduced early this year. Ray Toren, who's directly in charge of the Morbark machine for the Chicago forestry division, said his crew on the 100-ton model had been averaging 30 tons of chips per day, a phenomenal amount, considering the "dead time" that inevitably occurs between feeds. Peterson reported the same operating capacity for his 100-ton model.

"We once turned out 12 tons in an hour and 17 minutes," Toren said. "Volume depends on skill of the clam operator, kind and condition of wood, moisture in the wood, and sharpness of the blades."

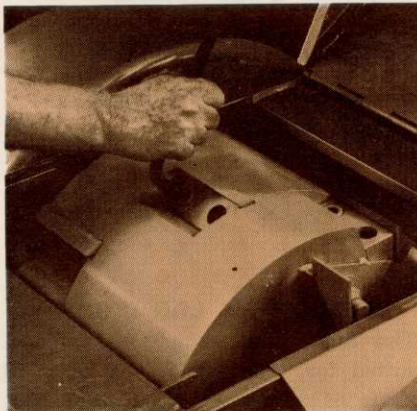
So far, Jim Garvey said, keeping the blades sharp has been a big problem. "You have to sharpen them practically every day. We ordered extra blades. Right now we're using the same grinder we sharpen

Mitts & Merrill Brush Chippers For...

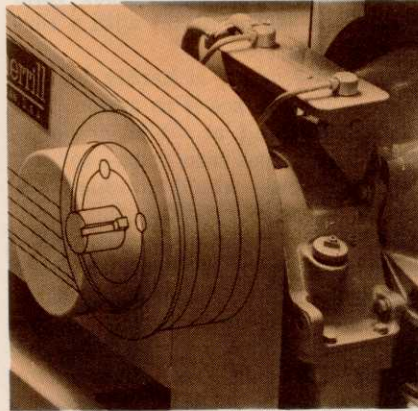


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For complete information, specifications and name of dealer nearest you, contact Mitts & Merrill, Inc., Dept. WTT-95, 109 McCoskry St., Saginaw, Michigan 48501.

