

# "This John Deere tractor runs in places I can't even walk."

—Mike Dougan, Mike Dougan Enterprises,  
Olathe, Kansas

Mike Dougan is in the seeding business. He plants grass and other seeds on hills and tricky grades alongside of highways. And in places where a tractor could easily get stuck.

According to Dougan, "You almost never find yourself on flat ground!"

So when he started looking for a tractor to handle his jobs, Mike Dougan needed one that could really perform.

It had to be powerful enough to get him in and out of tough places. Yet small enough to maneuver easily in tight spots.

The tractor he chose was a John Deere 1050 Diesel with factory installed mechanical front-wheel drive (optional).

## The power to run uphill.

The John Deere 1050 Compact Utility Tractor has a 33-PTO-hp liquid-cooled diesel engine. Which makes it real easy for Dougan to pull right out of tough places.

"We get in tight spots all the time," says Dougan. "The 1050 with mechanical front-wheel drive moves right out!"

The 1050 is also the only diesel tractor of its size to have an engine that's turbocharged.

A turbocharger gives you more power in a smaller package. And fewer emissions. Not to mention superb fuel economy.

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To look at the 1050, or any of our other compact utility tractors, they don't seem all that big. Nonetheless, they have features you usually find only on bigger "full-size" tractors.

The transmission has 8 forward speeds, starting with a 1 mph "creeper" gear to a transport gear that moves you along at a speed of around 12 mph.

The 1050 has a load and depth sensing 3-point hitch (Category 1) that gives you better control of working depth in a variety of soils.

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We also offer a choice of high-flotation turf tires or traction tread tires.

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"If you're going to spend money on a tractor, you might as well buy quality," says Dougan. "We haven't had a single problem!"

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\*Maximum PTO hp at 2600 engine rpm for the 650 and 850, 2400 engine rpm for the 750, 950 and 1050. All ratings by official test except for the 650 and 750, which are factory-observed.



The Task Master Tractors from John Deere

Circle No. 115 on Reader Inquiry Card

Corporation, Jonesboro, AR, is the largest manufacturer of sprayers in the United States. "We tried to foresee demand, but we still didn't have enough. We sold out earlier than we ever had," exclaimed Marion Meredith, advertising manager at FMC. "Our 600 and 1000 gallon sprayers ran out in early spring. We ran out of our smaller units in early summer." Although FMC hasn't started building new sprayers yet, dealers are already ordering sprayers for next spring.

Not all equipment companies were overwhelmed by the gypsy moth infestation. A spokesman for Broyhill Company in Dakota City, NB, says the gypsy moth infestation in the Northeast "hasn't changed a thing. The Mediterranean fruit flies had more of an impact on our sales."

Chemical companies that supply Sevin, methoxychlor and other weapons for use against the pest experienced sales increases, but did not run out of material. Roy Lockett, communications manager of Union Carbide Agricultural Products Division in Raleigh, NC, estimates that even though less than 10 percent of their sales of Sevin are used against the gypsy moth, the fight against the moth helped make 1981 "the best year we've had in sales for our program. The supply fluctuated, but we had anticipated heavy use because of the gypsy moth."

Miller Chemical and Fertilizer Corporation had also anticipated an increase in demand. Charlie Svec, executive vice president of the Hanover, PA firm, said the gypsy moth "very definitely had an impact" on the Sevin and methoxychlor his company sells. "A pretty substantial volume of product was sold. There might have been some delays in getting the product out, but we were consolidating two plants during the year. I wouldn't expect a recurrence of the minimal delays next year."

### **Arborist's Arsenal: Results**

The arborist has a variety of weapons in his arsenal against the gypsy moth. Most agree that a well-timed, well-planned, integrated pest management program (IPM) is necessary. "The gypsy moth should be dealt with as part of an overall biological problem and not as if there is one solution to stamp them out in one fell swoop," says Charles Roth, chief educator and naturalist of the Massachusetts Audubon Society.

Nevertheless, different arborists rely on different weapons as their mainstay in the fight against the gypsy moth.

The most popular method still remains spraying, with arborists mentioning Sevin as the pesticide used most often. Bruce Walgren, Jr., director of operations for Walgren Tree Experts in West Hartford, CT, says that his firm uses a two spray approach. They spray early with Sevimol, a Sevin with an additional "sticky" substance to

keep the chemical on the tree. They then do a second application of malathion and Sevin for good knockdown. "Sevin did a super job," says Walgren. "We achieved very good control. Approximately 97 percent of our customers were satisfied. There were not many complaints, especially for the volume of business we did." Robert Mullane of Alpine Tree Care prefers a combination of Sevin, malathion and methoxychlor. Others, like Carl Bosenberg, used Sevin by itself.

Sevin was neither universally used nor was it universally acclaimed. Eric Haupt uses methoxychlor "almost exclusively. It's very effective from a money standpoint and a control standpoint."

### **Okay to Spray?**

Some ecologists object to the use of Sevin because it is "broad spectrum like so many of our pesticides," according to Dr. Dick Plunkett, a staff ecologist with the National Audubon Society in New York. "A broad spectrum pesticide affects the natural controls—parasites and predators. Whatever controls we destroy increases the intensity of the next outburst."

Plunkett points to the adverse effect of Sevin on honeybees as but one example. "Natural pollination is of great importance to fruit crops. The commercial beekeeper is warned to keep away for a week after Sevin is sprayed."

Others maintain that Sevin is less than beneficial to humans and animals in the area being sprayed. Sufficient doubts exist, they claim, but the pesticide still remains on the list of accepted chemicals.

Roy Lockett of Union Carbide is unconvinced. The Environmental Protection Agency just completed a four year investigation of Sevin. "They went through all our files, and through information from outside laboratories," Lockett explains. "They found that Sevin poses no threat to humans or animals—they gave it a clean bill of health."

Few people on either side insist on taking their case to its extreme. Plunkett says the Audubon Society approves of the United States Department of Agriculture's program which advocates an IPM scheme to combat the gypsy moth. Plunkett also says that he would not object to the "use of chemical insecticides for extreme conditions. What I do object to is aerial spraying near people."

Many arborists who are confident that Sevin and other pesticides are not harmful to humans, are still wary of spraying wantonly. Carl Bosenberg "firmly believes that the fewer chemicals we have in use, the better off we are in the long run. If we could control the gypsy moths without chemicals we would be very happy. It's not that Sevin is harmful, but we would do any-

*Continues on page 34*

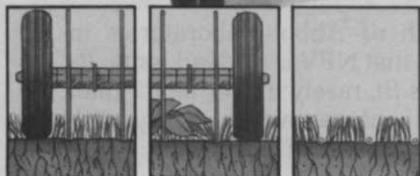
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## Gypsy Moth from page 32

thing to avoid spraying into the atmosphere. We like to soft pedal the use of chemicals."

Eric Haupt agrees. "We view spraying as a necessary evil. We won't take advantage of the concern of the public to scare them into additional spraying. We won't sign them up for 30 years. There's too much indiscriminate use of pesticides."

Charles Roth was particularly disturbed about indiscriminate spraying in reaction to the gypsy moth attack. "There's an awful lot of garbage being sprayed around. People are spraying chlorox, kerosene, anything, into the atmosphere."

The attitude of the general public toward spraying was, as usual, mixed. Bosenberg found that this year "people were so glad to see us, it was fun to spray. Last year we had lots of hassles; this year anybody who could spray was accepted. People's trees were being chewed up, they were willing to accept anything. If your neighbor's tree is chewed up you feel sorry; if yours is chewed up you get excited."

Walt Dages of Bartlett Tree Expert Company says that when the company's helicopter landed for a break or to check an address "people started running up to the helicopter and asking to be sprayed."

Attitudes toward spraying seem to be determined by how desperate the individual is for relief. Tom Wolf, a forester with the New York State Department of Environmental Conservation, discovered that in New York City. The DEC was going to spray 800 acres in the Bronx and Staten Island with Dylox. In Staten Island, where homeowners were suffering, a public protest was made and the environmentalists were "hooted down." In the Bronx, the outbreak was localized in Van Cortland Park. DEC officials were besieged with protests and petitions from community groups, assemblymen and state senators. The city was forced to drop the program.

Wolf discovered that you can't please everybody. "Before the gypsy moths start chewing, people yell 'don't spray, you'll poison children and dogs.' After they start chewing, people yell, 'how come they didn't do anything?'"

### Alternatives: Bt and NPV

Given the widespread discomfort with spraying, other alternatives were examined. Many people advocate *Bacillus thuringiensis* (Bt), a spore-forming bacteria, as a safer, but equally effective, alternative. Charles Roth recommends Bt. "There's less of a biological impact, it's better in the long run" and knocks out the gypsy moth, according to Roth.

Last year, Alpine Tree Care used a considerable amount of Bt. "This year, says Robert Mullane, "we used it on a limited scale. We got terrible results. The gypsy moth lays eggs over a six week period, from May 1 to June 20. It takes Bt

a week to become effective. It works for the next week, but it couldn't control them the next month."

Roth grants that Bt "is more expensive and needs to be applied at proper times." However, its major advantage, "that it is only effective with caterpillars of the lepidoptera family," outweighs its additional cost and inconvenience.

Another highly touted alternative that only affects the gypsy moth is a gypsy moth virus, nucleopolyhedrosis (NPV), trade named Gypchek. It is also known as "wilt disease" because when killed by the disease, the gypsy moth hangs in an inverted "v." The advantages of the virus, which occurs naturally in high gypsy moth populations, is that it is specific to gypsy moth larvae and has "no effect whatever on anything else in the environment," according to Tom Wolf.

The disadvantage of the virus, Wolf notes, is that two applications, between five and ten days apart during the early instars, are required in order to be effective. Also, it takes one to two weeks to start killing the moth. Once the disease starts, if it has been properly applied, Wolf says you can expect a 75 percent mortality rate.

"Wilt disease" has been synthetically reproduced, but it is not yet commercially available. One of the reasons is that the virus is specific to the gypsy moth. The episodic nature of the gypsy moth makes the synthetic virus a less than profitable investment.

Stuart Aimsforth of Abbot Laboratories in North Chicago says that NPV is a "dead issue. Its control is as good as Bt, rarely if ever better than Bt. Bt has certain advantages over the gypsy moth virus and has some safety profits as well."

### Injections and Pheromones

For one who does not wish to use biological agents or resort to spraying, injections are also possible. Injections of Bidrin, made at the base of the tree, become effective within 24 hours and sometimes as early as six hours, according to Dr. Arthur Costonis, president of Systemics Inc., in Massachusetts. Injections to the root flare send the poison throughout the tree. Only insects which eat the leaves are affected. "The poison stays six times as long as a spray—30 days conservatively, and up to 60 days. A minimal amount is used, only target trees are treated, it's non-blowing and the concentration found in gypsy moth larvae is almost non-detectable. If you compare it cost-wise, biologically-wise, efficacy-wise, as far as I'm concerned there are no disadvantages," says Costonis.

Costonis injected the street trees in Babylon, Long Island. "We did 30-40 trees at a time," says Costonis. Costonis estimates that it takes approximately 20 minutes, from the time you leave the truck until you pick up the last capsule, to inject

*Continues on page 104*





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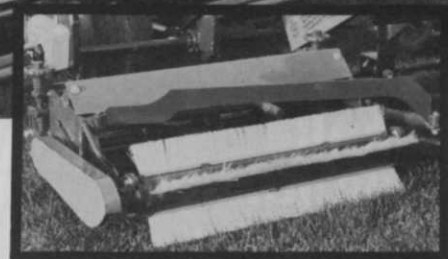
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# WEEDS TREES & TURF 1982



## Manager's Guide to Equipment Chemicals, Supplies and Distributors.

# WEEDS TREES & TURF

## 1982 Manager's Guide to Equipment, Chemicals, Supplies and Distributors



### 1. Equipment

From aerators to vibratory plows, manufacturers of the tools and materials for outdoor maintenance

40



### 2. Equipment Companies

Alphabetical listing by manufacturers' names of who makes what, with address and phone number

56



### 3. Chemicals and Supplies

From adjuvants to wetting agents, a comprehensive list of liquids, granulars, and organic compounds for turf and trees

81

### 4. Chemical Companies

Alphabetical listing by manufacturers' names with address and phone number

85

### 5. Seed Companies

A full line of growers and marketers

89

### 6. Equipment Dealers

A state-by-state breakdown of who to contact; includes Canada

92

### 7. Chemical Dealers

Where to find chemicals and supplies in every state

100





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- ★ Otterbine-Barebo Inc

## Aerators, Soil

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- Brinly-Hardy Co
- ★ Cushman Turf/OMC Lincoln
- ★ Dedoes Industries Inc
- ★ Feldmann Engineering & Mfg Co
- Fuerst Brothers Inc
- Giant Vac Mfg Inc
- ★ Hahn Inc
- Howard Rotovator Co
- ★ Jacobsen Div Textron Inc
- ★ F D Kees Mfg Co
- Lindig Mfg Corp
- ★ MTD Products Inc
- Olathe Mfg Inc
- ★ Ryan Turf/OMC Lincoln
- ★ Toro Co
- Turfco Mfg Inc
- Universal Tractor-Equipment Corp
- Wheel Horse Products
- Young Industries

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- Friend Mfg Corp
- Jaeco Pump Co
- ★ Spraying Systems Co
- ★ Tuflex Mfg Co

## Anchors, Earth

- ★ A B Chance Co

## Aquatic Weed Harvesters

- Air-Lec Industries Outdoor Prod Div
- Aquamarine Corp
- Aztec Development Co
- Hockney Co
- ★ Mud Cat National Car Rental

## Aquatic Weed Shade Cloth

- Menardi-Southern Corp

## Augers

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- Clements Associates Inc
- Dynamic Ind Inc
- Fairmont Hydraulics
- ★ Ground Hog Inc
- ★ Hoffco Inc
- ★ International Reforestation Suppliers
- ★ Massey-Ferguson
- McMillen Div States Engineering Corp
- Seymour Mfg Co
- Soilmoisture Equipment Corp
- ★ Stihl Inc

## Backfillers

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- ★ J I Case Light Equip Div
- Yanmar Tractor (USA) Inc

## Back Hoes

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- Brillion Iron Works
- ★ J I Case Light Equip Div
- Clark Equipment Co Melroe Div
- ★ Deere & Co
- ★ Ditch Witch Div Charles Machine Works
- Ford Tractor Operations
- ★ Kubota Tractor Corp
- ★ Long Mfg NC Inc
- Sperry New Holland
- Union Fork & Hoe Co
- Universal Tractor-Equipment Corp
- ★ Vermeer Mfg Co
- Yanmar Tractor (USA) Inc

## Batteries, Turf Vehicles

- ★ Bunton Co
- Exide Corp
- ★ Goodall Div Bunton Co
- Gould
- Trojan Battery Co
- Wheel Horse Products

## Battery Chargers

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- Exide Corp
- Ford Tractor Operations
- Milwaukee Electric Tool Corp
- Wheel Horse Products

## Benches

- Algoma Net Co-Div Gleason Corp
- American Playground Device Co
- BigToys
- Columbia Cascade/Timberform
- Gerber Mfg Inc
- Landscape Forms Inc
- Mexico Forge/Kilgore Corp
- Trojan Playground Equip Mfg Co
- Victor Stanley Inc

## Blades, Mower

- Orbex Inc
- ★ Power Lawnmower Parts Inc

## Blades, Dozer/Scraper

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- Ariens Co
- Auburn Consolidated Ind Inc
- Bomford
- Brillion Iron Works
- ★ Bush Hog Div Allied Prods Corp
- Caterpillar Tractor Co
- ★ Deere & Co
- Dountz Equipment Co
- Engineering Products Co
- ★ FMC Corp Agricultural Mach Div
- Ford Tractor Operations
- Hinds International Inc
- International Harvester Const Equip Grp
- ★ Kubota Tractor Corp
- ★ Long Mfg NC Inc
- Ransomes Inc
- Rhino Products
- Seaman Co
- Simplicity Mfg Co
- Speedex Tractor Co
- Steiner Corp
- Universal Tractor-Equipment Corp
- Wheel Horse Products
- ★ Woods Div Hesston Corp
- Yanmar Tractor (USA) Inc
- York Rakes Div York Modern Corp

## Bleachers

- Kay Park Rec Corp
- Playtime Equipment Corp

## Blowers

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- ★ Atwater Strong Div
- Beaird-Poulan/Weed Eater
- Ben Meadows Co
- Billy Goat Industries Inc
- ★ Bunton Co
- Central Quality Industries Inc
- ★ Deere & Co
- Dragon Irrigation Equipment by Wes-Co
- Echo Inc
- ★ Finn Corp
- Giant Vac Mfg Inc
- ★ Goodall Div Bunton Co
- HMC/The Green Machine
- Homelite Div Textron Inc
- ★ Jacobsen Div Textron Inc
- Lambert Corp
- Lawn-Boy Product Group
- ★ Morbark Industries Inc
- ★ MTD Products Inc
- Olathe Mfg Inc
- Parker Sweeper Co
- Ransomes Inc
- Reinco Inc
- ★ Stihl Inc
- Tanaka Kogyo (USA) Ltd
- ★ Toro Co
- Turf Vac Corp
- Universal Tractor-Equipment Corp
- ★ Vandermolen Corp

## Bridges

- ★ Continental Custom Bridge Co
- Standard Golf Co
- Western Cascade Inc
- Western Wood Structures Inc

## Brush Cutters, Hand Held

- American Standard Co