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Moyer Chemical Co (Estech, Maag) Santa Ana 714-549-2871  
Pacific Lining Co (Clean-Flo) Indio  
Robinson Fertilizer Co (Aquashade, Estech) Anaheim 714-632-9710  
Ronco Chemical (Aquashade) Anaheim  
Target Chemical Co (Estech, Maag) Cerritos 213-865-9541, 714-821-9020  
Target Chemical Co (Estech, Maag) Fresno 209-291-7740  
Target Chemical Co (Estech, Maag, Mauget Co) San Jose 408-293-6032  
Weathercheck Wood Fiber Products (Int'l United Chem) Benicia 707-746-5060  
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Tasty Lean Pork Inc (Aquashade) Palmyra 217-436-2108  
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## Gypsy Moth from page 34

an average oak tree 80 feet tall and 24 inches in diameter.

If policed properly, no danger to humans or animals exists. Costonis warns that if not policed properly, that is, if the capsules are not supervised while they are in the ground and removed before the applicators leave, you're "asking for a hell of a problem." Once the chemical with a concentration of 80 percent is in the tree, the danger of poisoning is minimal. "When seven or eight milliliters are put into trees which flush through 150-200 gallons a day, you get a dilution factor. An insignificant amount remains in the trees. You'd have to eat an awful lot of leaves to become ill," Costonis claims. "If the rules are followed, you can get 75-80 percent foliage protection."

Some experts fear that the injury the tree sustains during the injection may make the cure worse than the disease. Dr. Alex Shigo, chief scientist of the USDA's Forest Service Northeastern Forest Experiment Station in Durham, NH, states that "injections properly done can be beneficial; injections improperly done can be harmful." Shigo says that often holes are too deep, too wide and too far from the base of the tree. Too much pressure is also applied. "Don't go beyond the current growth ring," Shigo warns. "We have to trade off the injury to the tree with the benefits it gets. The process of injection will be with us; it's our responsibility to find ways to inject for the benefit of the tree and not to the detriment of the tree."

Costonis concurs and draws an analogy with a human doctor. "If you shoot yourself up with a compound, you get hurt. If a doctor does it the risk is minimal."

Arborists throughout the Northeast had positive results with their sporadic usage of injections. Ellis Allen of Allen Tree Experts, Inc., in Medfield, MA, summed up the feelings of many when he said although injections are effective they "won't take the place of sprays. They're too slow. Two men can't inject as quickly as they can spray. It's good for use on isolated trees or for people leery about spraying."

Sex pheromones were also used with mixed results. The scent given off confuses the male gypsy moth in order to decrease mating. It can also lure gypsies into traps. The expense, the incredible number of eggs spawned from one successful male and the fact that the traps draw the moths onto your property before they are caught prove that pheromones, like most weapons against the gypsy moth, are not a panacea.

### Moth is a Nuisance

In late June, the gypsy moth stops chomping on trees and starts to pupate. From then on, the gypsy moths are more of a nuisance than any-

*Continues on page 108*



## Healthy Turf Next Spring Starts With IBDU This Fall

Sure, there's more to maintaining quality, disease-free turfgrass than a couple of fertilizer applications. But turfgrass scientists across the country are reporting that a fall application of IBDU (31-0-0) can produce turfgrass with better root development and less disease problems.

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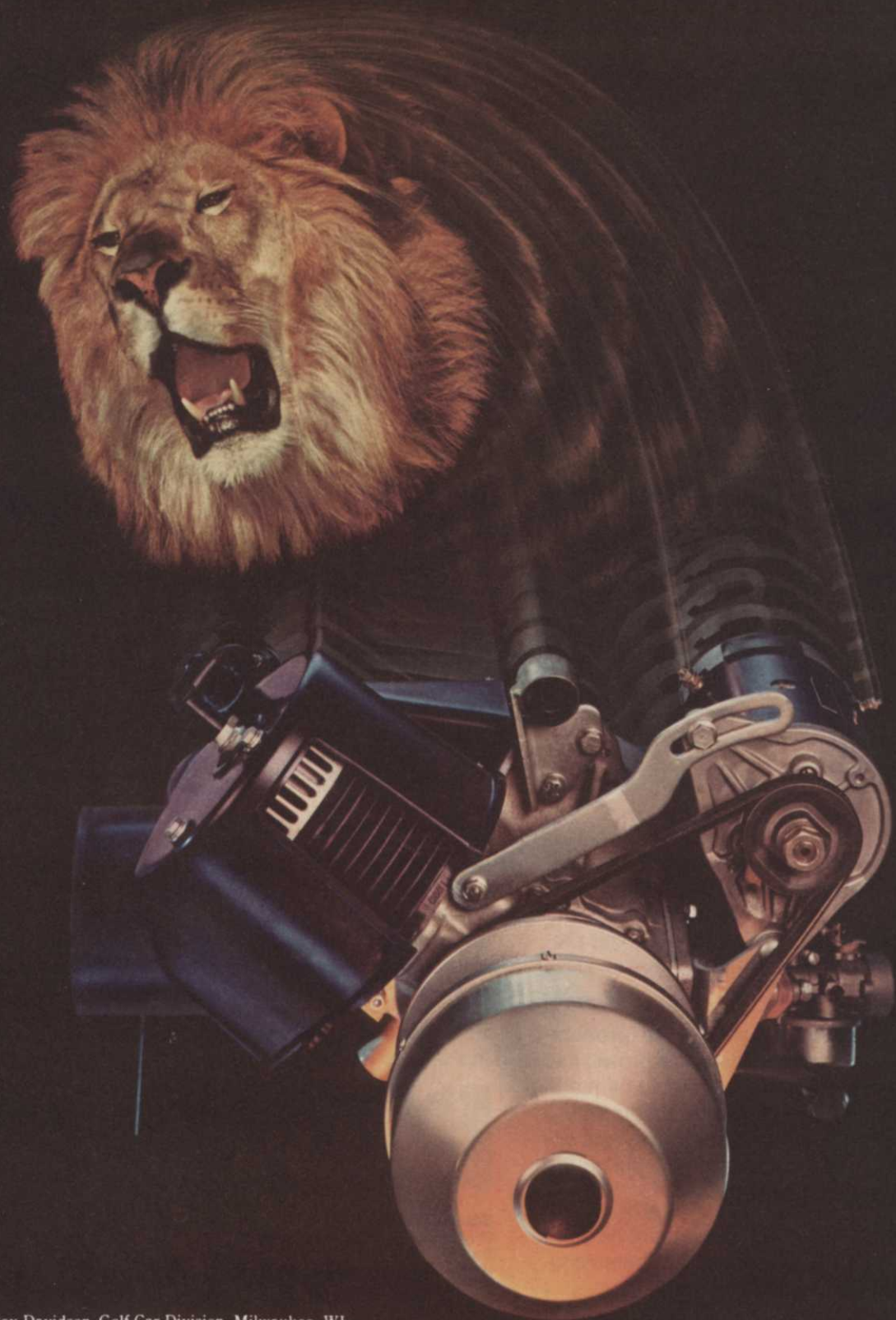
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### Gypsy Moth from page 104

thing else. "The moth's sole purpose in life is to mate," Walt Dages explains. Pesticides to stop the moths are not in use because they are either too expensive, or, like DDT, have been outlawed.

#### Consumer Reaction

Given that all the weapons against the gypsy moth have their advantages and their disadvantages, consumers beleaguered by the insatiable insects were bound to be frustrated. Some firms realized that during a crisis such as this one, education has to supplement insect control. "There was more education and a lot of media coverage this year. The crisis was more fully understood in 1981," according to Walt Dages. Dages's firm, the Bartlett Tree Expert Company, sponsored public meetings to further educate the public.

"From midwinter on, even before the season began, we had educational meetings to teach about the gypsy moth," says Dages. "They were extremely well attended. We held them in town halls and school auditoriums, people spilled out into the hallways. Very intelligent questions were asked. We always made sure there was a scientist, usually an entomologist, on hand. The meetings were very effective—you learn what to expect and what not to expect."

The Haupt Tree Company sent letters out to its clients at the end of the season. The letters were a "recapitulation of the season. We want people to be prepared for more," says Eric Haupt.

Even with the education and publicity, all was not quiet on the public relations front. People who had been sprayed but were unaware of the effective date of application, complained when they were revisited by the gypsy moth. People who were unable to get through to any tree companies and helplessly watched their trees lose their leaves, complained. People who feared the side effects of aerial spraying also complained.

Some arborists complained about inaccurate media coverage and emotionalism emanating from environmentalists. Old allegations that Sevin produces birth defects were resurrected and vehemently denied.

"By and large," according to Haupt, "the people we serve were very understanding. There was relative calm. A majority of our existing and new clientele had an understanding of the nearly crisis nature of the infiltration."

#### Refoliation Debate

The issue of refoliation surfaced and divided environmentalists and arborists. Dr. Dick Plunkett pointed to the Taconic State Parkway in New York as a good example. "Three weeks ago," Plunkett said in mid-July, "hundreds of thousands of acres were defoliated. The Taconic was



completely bare with nothing in sight; it looked like the landscape of the moon. It's now refoliated—you can't say you have a denuded landscape anymore."

"That doesn't mean there weren't trees that died," Plunkett continued. "Defoliation does accelerate tree mortality. In one or two years the number who would have died in eight or ten years, die. But those are the diseased and damaged trees, it will even out in the long run."

Some arborists contend that statements made by Plunkett and others foster a false sense of complacency. Plunkett and his compatriots maintain that they are trying to calm the hysteria and place the "crisis" in proper perspective.

All agree that "defoliation certainly doesn't help the tree." Dr. William Wallner, Forest Service research project leader for the ecology and management of northeastern forest insect pests, explains that after a "defoliation of one or two years, the tree is susceptible to invasions by secondary organisms, which are attracted to a weakened or declined tree. Whether a tree will die or not depends on other factors as well. After a complete defoliation in forest areas, it takes up to ten years to get back to what is considered normal growth."

Refoliation depletes the starch reserve of the tree, thus reducing the amount of food energy reserves that the tree needs to maintain itself during the winter months and to bud in the early spring.

This year, some trees that refoliated still had larvae on them and were defoliated for a second time around.

#### **Better Luck Next Year?**

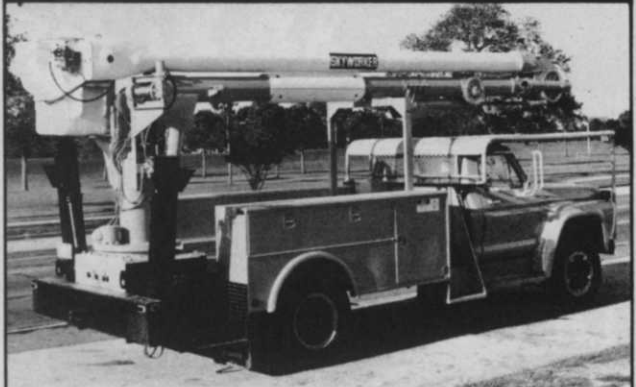
While the various controversies and debates about the 1981 gypsy moth infestation have yet to die down, arborists are digging in for the 1982 infestation. Preliminary reports based on the number of egg masses laid seem to point to another busy year for arborists. "Unless we have a very cold winter or there's a great deal of disease, we could be due for even greater gypsy moth infestation and even greater defoliation," Plunkett warns.

This year's incredible infestation may have tipped the scales against the gypsy moth. Many larvae starved before they fully developed. The egg masses of females might be smaller and therefore more susceptible to egg parasites. The population of predators might increase.

Even if next year's infestation is worse than this year's, slightly different areas could be the hardest hit. Wallner compares it to an "old war movie with guns in the distance and big flashes at night. The pattern of movement is from the core area. They're blown out of the area, and they

*Continues on page 110*

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turf beauty.**  
*The natural choice.*

Glade performs well in up to 60% shade with a higher resistance to powdery mildew. Additionally, Glade has better-than-average resistance to Fusarium blight. It's now used as a prime ingredient for fortification in many professional turf grass mixes. A Rutgers selection, Glade has outstanding medium to deep green color. Low-growing Glade germinates and establishes fast, developing a thick rhizome and root system for close-knit sod.

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### Gypsy Moth from page 109

spread into another area." Mullane agrees: "They start in an area adjacent to what was worst."

Next year, arborists should be better able to handle the gypsy moth. Mullane observes that "each year some improvements are made over the previous year. We were more prepared this year than last. We had minimal equipment breakdown. This year we didn't have as many headaches with chemicals as we had the previous year. The pH of the water we were using would change and it would affect our spraying. This year we used litmus paper to test the water. We saw that it did change in some streams and became very alkaline."

Marilyn Mulhern of Woodwind Associates, Inc., Princeton, NJ, says that next year they'll have "more effective planning. This year we were running and putting out fires, we have to tighten up the planning."

#### Arborist's Windfall?

Was all this activity a windfall for the arborist? "It's an expensive proposition," says Walt Dages. "Everyone thinks the tree companies are cleaning up. We're doing an awful lot of billing, but the profit margin is not all that different. Infestation kills trees. Tree companies can't work on dead trees. It's not all favorable."

Richard E. Almstead, president of Almstead Tree Company, Inc., in Westchester, NY, says that the "picture everyone paints that we're all making a fortune is a lie. What with time-and-a-half for overtime, working Saturday and Sunday, and the prices that keep on going up, we're not making that much. For instance, chemicals keep on going up. You use a chemical at \$1.50 a pound, you have to reorder it at \$1.75 a pound. You price a job for \$40, it costs you \$38.50. We're doing a great volume, but at the bottom line, there's no great difference."

All the extra work and effort notwithstanding, doubts remain as to whether the gypsy moth has been conquered or if it will ever be conquered. Eric Haupt noticed that the Governor of North Carolina declared war on the gypsy moth. "I wish him luck. There were efforts in the '30s with the Civilian Conservation Corps to eradicate the gypsy moth. Thousands of men worked on a more limited infestation with literally no success."

Arborists will have to keep trying.

WTT



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