This magazine gives you good reading, good writing and good arithmetic.

We present the information in our articles clearly, accurately and objectively. That’s good writing. Which means good reading.

We present the information in our circulation statement clearly, accurately and objectively. That’s good arithmetic.

BPA (Business Publications Audit of Circulation, Inc.) helps us provide precise and reliable information to both advertisers and readers.

An independent, not-for-profit organization, BPA audits our circulation list once a year to make sure it’s correct and up to date. The audit verifies your name, your company, your industry and your job title.

This information enables our advertisers to determine if they are reaching the right people in the right place with the right message.

The audit also benefits you. Because the more a publication and its advertisers know about you, the better they can provide you with articles and advertisements that meet your information needs.

BPA. For readers it stands for meaningful information. For advertisers it stands for meaningful readers. Business Publications Audit of Circulation, Inc. 360 Park Ave. So., New York, NY 10010. BPA

We make sure you get what you pay for.
This is quality Sulphur Coated Urea from C·I·L. It is the prime ingredient in outstanding blended fertilizers from major manufacturers from coast-to-coast. You can recognize it by how it looks and how it grows grass.

Try it and let your grass be the judge.

Quality S.C.U. (32-0-0) from C·I·L is a proven source of slow release nitrogen, formulated to feed turf the way it should be fed...daily.

For Information, Sales and Service, Contact: P. Buckley
C·I·L Inc., P.O. Box 5201
London, Ontario
N6A 4L6
Telephone 519-672-9220

Professional Turf Products
A division of C·I·L CHEMICALS, INC.
the "Piggyback" Will!

Versatile Material Handler

Princeton's mighty "Piggyback" is the perfect low cost, heavy-duty material handler for all your industrial or agricultural needs. It gets its name from the way it rides suspended behind your truck to and from the job... never needing a trailer or taking up valuable load space. The "Piggyback" is light... strong... last... durable... and completely stable on the job!

- Will lift and load up to 4500 lbs... yet weighs only 3500 lbs.
- Navigates curbs, logs, and other normal loading area obstructions with ease.
- Powerfully trudges through gravel, sand and mud... but floats over normal soil or sod.

"Piggyback" loaded for transport

Added Versatility with Quick-Mount Options!

- Large capacity, hydraulic or mechanical scoop
- Hydraulic hole digger (6" to 36" diameter)

For further information or demonstration, write or call collect for the dealer in your area. Dealer/Distributor inquiries invited.

The "New Concept" People

955 West Walnut Street, Canal Winchester, Ohio 43110
Phone: (614) 837-9096

Circle No. 156 on Reader Inquiry Card

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
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.

Dormant turfgrass plants continue to produce rhizomes and roots, even though vertical growth has stopped. During this time nitrogen should be made available to the turfgrass plant as carbohydrates are naturally accumulating. Thus, scientists say, the optimum timing for nitrogen applications is during the fall and early winter months.

IBDU (31-0-0) is ideally suited for dormant nitrogen fertilization. Because of its slow release characteristics based on hydrolysis, IBDU releases nitrogen later in the fall and earlier in the spring promoting better rhizome and root growth. A fall fertilizer program using IBDU should produce healthier more vigorous turfgrass plants and reduce the severity of several turfgrass diseases.

Remember. Healthy turf next spring starts with IBDU this fall.

Healthy Turf Next Spring Starts With IBDU This Fall

Estech, Inc.
Professional Products Division
P.O. Box 1996
Winter Haven, Florida 33880

PAR EX® and IBDU® are registered trademarks of Estech General Chemicals Corporation.

Circle No. 120 on Reader Inquiry Card
INTRODUCING
PURRRRFORMANCE
Announcing a dramatic new standard of dependability in gas powered cars. We call it pur-r-r-formance. The new Harley-Davidson WhisperGlide is:

• newly designed to provide the reliability you demand and, for the rider, the quietest operation in the industry.
• built around a unique engine that delivers unparalleled fuel economy and simplified servicing.

The WhisperGlide™ story is very hush-hush.

Our tests prove this is the quietest gas car for the rider in the industry. In fact, when compared to our closest competitor, WhisperGlide was 2.5 decibels quieter for the rider. Why so quiet? Five new features — full engine speed at only 2800 rpm, a finely tuned exhaust system, an exclusive new transmission, a redesigned combustion chamber and a new piston — combine to hush the engine noise to a very pleasant purr.

New WhisperGlide™ delivers up to 35% better fuel economy.

WhisperGlide's new engine incorporates innovations that enable it to achieve full engine speed at only 2800 rpm. This, coupled with the new overdrive transmission, results in a more efficient use of fuel. Superb fuel economy also comes from a new carburetor, newly designed cylinder porting, and a modified engine exhaust system. In our tank-to-tank, on-course testing we found WhisperGlide passing the pump for an equivalent of 30, eighteen-hole rounds — up to 35% better fuel economy than the competition.

WhisperGlide™ is built with a lion's share of durability.

The WhisperGlide lightweight body is made of impact and rust-resistant fiberglass so it stands up to constant use. Underneath, the engine's crankshaft and main bearings are built tough and fitted to closer tolerances to ensure reliable operation. In fact, most engine components are covered by the exclusive Harley-Davidson two-year parts warranty.

New WhisperGlide™ is simple to service.

Merely lift the tilt-up body to expose an easy-access engine, transmission, starter and battery. Regular maintenance is easier. The carburetor is accessible without removing the air cleaner. Drive belt can be replaced without removing parts or using tools. To service the primary transmission, only one cap screw needs to be removed. Switches and wiring are more conveniently located. And the new rear bumper design and transmission permit easy towing.

See your Harley-Davidson dealer. Listen to WhisperGlide™. Test the handling and maneuverability of our new four-wheel model. Or, try the three-wheel model with our exclusive tiller steering. Look for little things like a forward/reverse key switch with a reverse warning buzzer and the new clip-on scorecard holder.

We have the largest network of dealers in the industry, all with a complete line of gas and electric cars and genuine Harley-Davidson replacement parts. Your local dealer has the WhisperGlide that will be pur-r-r-fect for your course.

For more information write or call:
Harley-Davidson Motor Co., Inc.
3700 W. Juneau Ave., P.O. Box 653
Milwaukee, Wisconsin 53201
414-342-4680

Circle No. 125 on Reader Inquiry Card
Northrup King turf gets trampled, torn, squashed, and scuffed and it still looks great.

But that's not news to you.

The days when turf just laid around looking pretty are long gone. Now your turf has to be pretty—and pretty tough, too. Tough enough to take all kinds of wear and still go on looking terrific.

That's just why so many pros like you specify turf seed from Northrup King. For years, Northrup King has given pros all they need—low maintenance varieties, winter hardy blends, special mixes for specific geographic problems, and expert help in selecting the right one.

And no matter what Northrup King turf seed the pros use, they get turf that's good looking and hard working.

Find out more about quality turf seed from Northrup King. Talk to your Northrup King representative or distributor. Or talk to someone with great looking turf.

Northrup King Co., P.O. Box 959
Minneapolis, MN 55440

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
Versatile
SKY-WORKER
fills the bill from
tree-trimming
to hot line work

Why? Because Sky-Worker can prove cost-
savings up to 50% through utilization of its
built-in sturdy features and superior
manuverability.

Platform stays level under all conditions
-dual controls operate unit from work plat-
form or vehicle deck - Fail-safe hydraulic
system, combined with optional heat-
exchanger requires little warm-up time.
Lower boom on Model 1035 moves through
overhead arc of 135° degrees - 45 degrees
past vertical - horizontal rotation is 400
degrees, 40 degrees beyond full circle.

See how Sky-Worker fits into your mainte-
ance and trouble-shooting work plan. Write
for FREE catalog, on your letterhead please.

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 an-
other 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

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 ac-
celerate 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 dam-
aged 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 Ser-
vice 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 sec-
ondary organisms, which are attracted to a weak-
ened or declined tree. Whether a tree will die or
not depends on other factors as well. After a com-
plete 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 re-
serves that the tree needs to maintain itself dur-
ing 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.

CORRECT
MANUFACTURING
CORPORATION
London Road Extension
Delaware, Ohio 43015
614-363-1951

Circle No. 112 on Reader Inquiry Card
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.

Most lawn areas have both sun and shade naturally. That's why Glade Kentucky bluegrass is the natural choice. Specify Glade for your next turf grass mix.

For more information call or write to:

**Vaughan's**

SEED COMPANY

CHIMNEY ROCK ROAD
BOUND BROOK, NJ 08805
800 / 942-7706 Inside NJ
800 / 526-3814 Outside NJ
8343 ARDMORE ARDWICK
LANDOVER, MD 20785
301 / 322-8800

Circle No. 173 on Reader Inquiry Card

---

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**