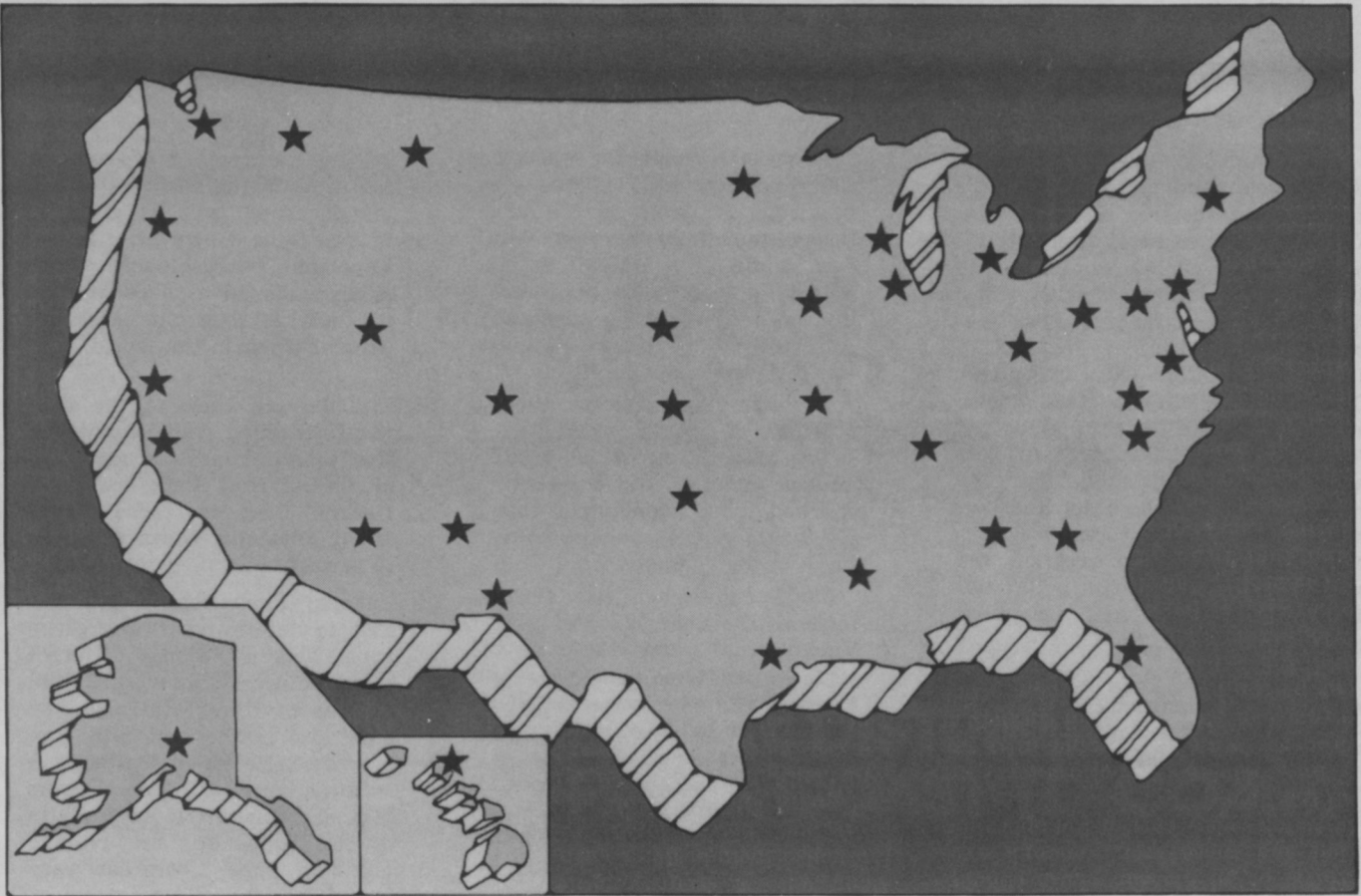


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Rope Failure Causes and Cures

Editor's Note: Rope failure in the tree care industry is one of the greatest hazards tree climbers face. Yet, with proper care, accidents involving ropes can be minimized. In an exclusive interview with Karel H. Liebenauer, sales manager, Lanphear Supply, Div. of Forest City Tree Protection Co., Cleveland, Ohio, WEEDS TREES AND TURF asked about different kinds of ropes and the advantages of certain newer materials used in rope construction over the older and better known manila rope. We present this interview in question and answer form to help you better understand the care and treatment of ropes.

WTT: Rope condition has always been an important item with the professional arborist. As a safety standard, the American National Standard Z133.1 specifies certain precise details about ropes. Why is there so much attention directed to ropes?

Liebenauer: Two recent rope accidents by tree climbers bring into sharp focus the answer. In one instance manila rope at least three years old broke at a knot causing the climber to fall from the tree. In the second case, a rope was stored near a storage battery. Acid fumes disintegrated the rope fibers. Accidents such as these can be prevented. Proper care and handling of rope is vitally important.

WTT: What is manila rope and why is it used by the arborist?

Liebenauer: Manila rope is basically composed of selected manila fibers which are twisted together to form rope. The clinging together of these fibers in close proximity gives the rope its strength. But remember that manila rope is organic, that is, coming from a plant. It is not able to withstand a lot of flexing. If you tie a knot in the rope and leave it there for a long period of time, the fibers are bent sharply and eventually the knot will break.

Arborists use manila rope because until recently it was the best rope available for the job. It gave the climber greater freedom while in a tree. It could withstand loads such as lowering tree limbs and tree climbers. And with proper care it could last for a period of time.

In years past, a tree climber's rope was a very personal item. It was essential to his work. He kept it with him and frequently checked it for even minor cuts. He would never consider leaving it to the elements.

Modern equipment has falsely lessened the importance of rope. Bucket trucks and cranes have replaced life lines and lowering ropes. Chain saws have enabled the climber to make many cuts that have reduced the size of limbs that heretofore needed careful rigging and powerful ropes to lower the whole limb.

Today we've found the tree climber's attitude has become more casual about the condition of ropes. Instead of hanging the rope up and hanking it, some tree climbers will throw a coiled rope onto a truck bed; they'll throw tools on it, sometimes sharp tools; they'll throw gasoline cans on it (The gas could spill out and enter the rope fibers); tar can get on it; and the rope can get wet. Moisture in the case of manila fibers is fatal.

WTT: So while rope is still an important item with the tree climber, its relative importance in relation to other items in use has diminished. Is this correct?

Liebenauer: The advent of the bucket truck and the crane made the job of the arborist somewhat easier. It required less skill to operate this type equipment than to rig a series of ropes in limb removal.

There is a tremendous turnover of help in the tree care business. Arborists have been forced to use other equipment and do less training in order to get the job done. Consequent-

ly, the importance of rope as far as the demand of substance is concerned isn't as great as it used to be. However, it is still important, because once a climber depends on a piece of rope for his life it is the most important thing in the world.

WTT: Let's get back to the rope itself. Earlier you mentioned that manila rope was composed of fibers. How long are these fibers? And as these fibers wear, does this cause the rope to break?

Liebenauer: Fiber length is difficult to determine in any given rope. This is because different manufacturers use different lengths of fibers and also, the final size of the rope will govern the size of the fibers. A manufacturer will select fibers that are compatible to the size of the rope. For an average climbing rope fibers can vary from eight inches up to two or three feet in length. By checking ropes regularly, you want to see when those fibers start to break down into shorter lengths. As the rope wears, the fibers break. When enough fibers break in a given area, the strength of the rope is reduced.

WTT: How do you test the condition of a rope? In other words, how can you tell if a rope is safe?

Liebenauer: The condition of manila rope is pretty hard to determine. A man would have to examine a manila rope inch by inch by inch and untwist it and examine the fibers. Regular visual inspection of the rope as a whole is important, however. A man who regularly uses his rope will recall how it was used and prevailing environmental conditions when it was used. He will know how it has been stored and how old it is. A man who regularly uses his rope will keep all these things in mind when examining the rope.

The second way to test a rope
(continued on page 34)



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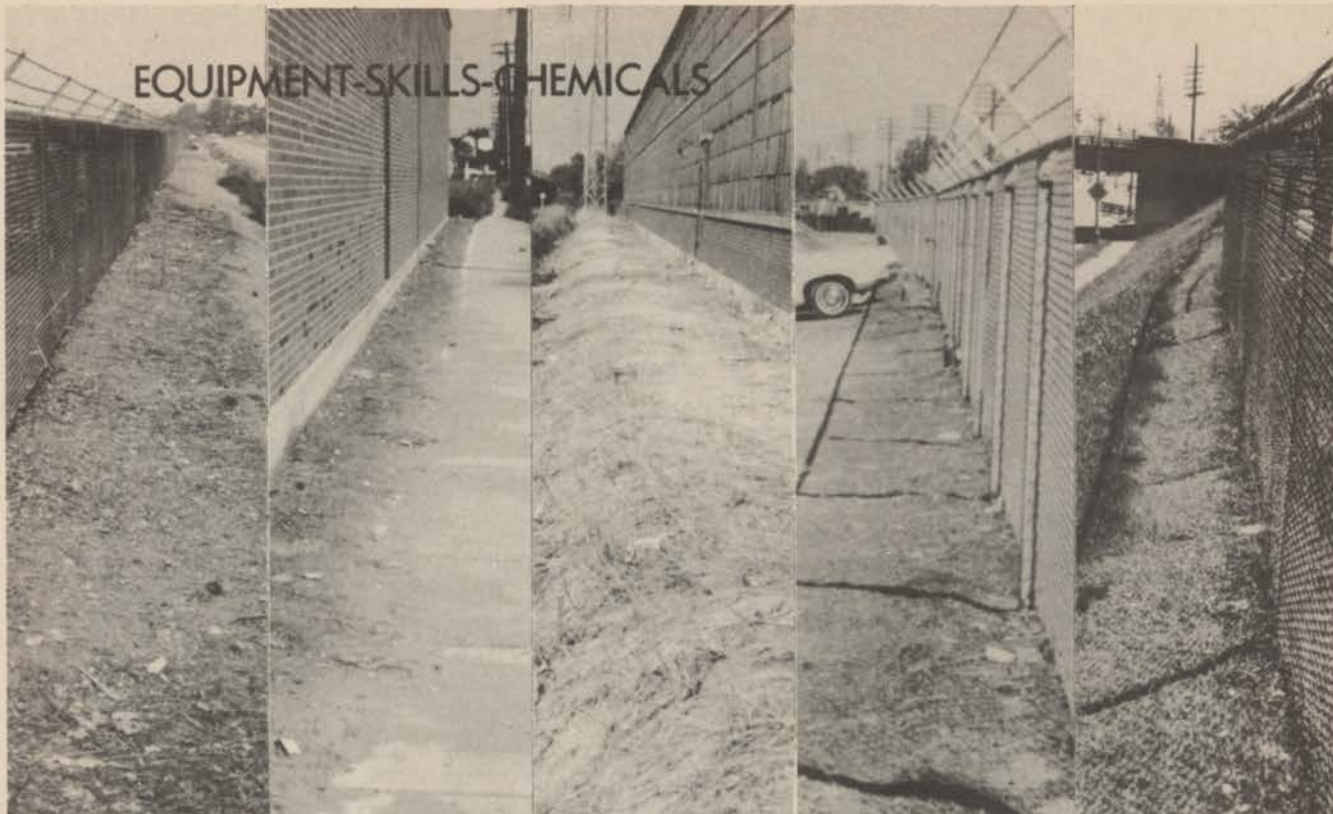
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Simplified maintenance is the pattern along a fence line (left, above) when chemical weed control is used. The weed-free zone next to the building (above) helps in keeping rodents out of this food warehouse. Vegetation under control (center) has

been done with a custom application of Hyvar X-L bromacil. The treated parking lot (above) will stay free of weeds year-round. Note the ease of mowing when weeds along a fence line (above right) are kept away.

Small Plant Site Weed Control

Blue Ribbon Market For The Custom Applicator

SIGNIFICANT maintenance improvement dividends are within reach of small and medium-sized industrial plants that are plagued with weed control problems.

That's the report out of Detroit, where an experienced pest control firm has recently been broadening its service to include weed and brush control on plant sites and has been taking care of a persistent maintenance headache for many metropolitan plant people.

The weed story is told in the experience of Vogel-Ritt of Michigan, a branch of the Philadelphia-based Ritt Consolidated Industries Pest Control firm, and in the work that Vogel-Ritt is doing for scores of plants, warehouses, commercial firms, lumber yards, parking-lot operators and others not only in Detroit, but also in Flint, Bay City, Saginaw, and Lansing.

For the past several years Vogel-

Ritt has been building its capacity to provide custom-applicator weed control service for a segment of industry that is beset with a growing vegetation problem but has hardly known how to attack it.

On the one hand, small to medium-sized plants usually have limited unoccupied land on their sites; but they also are faced with constant maintenance budget pressures and are rarely in a position to keep landscape specialists on the payroll.

So when spring and summer come, the weeds take off—and a small but vigorous and untidy jungle quickly springs up along a fence line, next to a building, in the parking lot or on the rail siding.

To deal with problems like these, Joe Watkins, manager of Vogel-Ritt, says: "A plant maintenance man can have the weeds cut, chopped, or pulled; but he usually finds it's a job that takes a lot of costly hand-

work and must be done a number of times during the growing season. Labor is usually not available for the job.

"We have a new idea now for the small and medium-sized plant—it's a custom chemical weed control program, with all the worry and bother turned over to our specialists who can provide season-long control of unwanted vegetation through attention and treatment that improves the environment."

Benefits of chemical control have been familiar to maintenance men on larger plants which have long carried on vegetation management programs often with their own manpower and equipment. But now in smaller Michigan plants others are learning some of the advantages of a good program that may cost a few hundred dollars—or sometimes as much as \$1100-1200 for larger sites

(continued on page 24)

save trees



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A TALE OF TWO TREES: Six months ago the tree on the left was injected with INJECT-A-MIN (minerals & vitamins). As is revealed by the picture, the tree has returned to perfect health. Before this injection, the tree on the left was more retarded than the one on the right.

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For More Details Circle (157) on Reply Card



Trucks quickly carry many tons of stones away. Stones are used as the base for greens and future parking areas. The entire operation is highly mechanized.



Here's a stone's eye view. Windrowed stones are picked up easily with this converted potato digger-stone picker. Bergman designed and built the picker himself.

Stone Pickin' Pro

PEBBLES, rocks and stones are the unusual trademark of William Bergman, Jr. His business is stone picking, an enterprise that would be a strong candidate for "What's My Line."

He has capitalized on the fact that a stone is like a plant out of place. A problem. And when that problem occurs in multiple quantities and on a golf course under construction, "Stoney" Bergman can bring results that puts smiles on a contractor's face. He's built quite a reputation in his 25 years of experience.

This Reese, Michigan based firm operates anywhere. Operating a fleet of trucks and buses "caravan style," he has picked stones from Florida to Michigan and from Texas to Boston. Like the rollin' stones he gathers, Bergman's mobile operation can descend on a job and be ready to go in short order.

The heart of the operation is his stone picker. Call it homemade and handy, but Bergman claims it will out pick and out live most any other unit on the market.

"The secret is in the construction," he says. "We've essentially taken a potato digger and converted it into a stone picker. Stones like potatoes come in all sizes. So we designed our picker to handle pebbles as small as three-fourths inch and as large as ten inches."

Once lifted by the picker, stones are conveyed by a series of belts and chains to an attached elevator which deposits them into a truck. From the ground to the truck, stones are whisked through the picker at high speed. Little or no dirt remains on the stones.

Bergman will tell you quickly that his picker can pick up every stone on a course but the last one. Then he waits while that statement sinks in. Slyly he says, "This is because it takes a stone to push the stone being picked up. We don't dig up stones with this picker. They must be laying on the ground. The picker rolls a stone forward until contact is made with a second stone. It pushes the first stone onto the revolving platform and then on to the waiting truck."

In a typical operation he will traverse the course several times with tractors pulling drags and rakes. This brings semi-buried stones to the surface. These are

(continued on page 72)



Bergman claims he can keep 200 pounds of stones in the air with this stone picker. The vertical elevator lifts stones and pitches them into the waiting truck.



Stones are windrowed for easy pickup. When finished the course is ready to seed. Bergman picks up stones as small as three-fourths inch. Picker works on most any terrain.

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Security In Your Business

NEXT TIME you can't find that chain saw, electric drill or hank of new rope that you left sitting in the workshop, better alert the local authorities. You could be the victim of a burglary.

Arborists, industrial weed control firms, and professional turf-grass managers across the country are reporting bizarre acts of burglaries that connote professionalism in crime far above the level of local pranksters. And it's on the increase.

City foresters in Illinois recently discovered prized black walnut trees removed. A local arborist in Ohio had three chain saws stolen from a parked truck. A weed control firm in the southeast reported 50 cases of herbicides taken from the back-end warehouse—in broad daylight. A golf superintendent in the mid-west went to his equipment shed early one morning and discovered several power mowers, a tractor and a backhoe missing. He had personally put the equipment away the previous night. The list goes on and on.

Professional thieves have found small business firms one of the most lucrative sources in their "trade." Unlike private homes where they run the risk of neighbors or residents, small businesses seldom have night watchmen, protective equipment or adequate security. Furthermore, the nature of the business often takes the owner and other personnel away from the shop for several hours in a day. In and out traffic of clients can cause congestion and there aren't enough eyes to watch every part of the operation all the time.

Thus, when a truck enters the property with two people in it the owner can have cause for anxiety if one person heads for the main office and the other for the shop area. Whether in the act of innocence or otherwise, it happens every day.

Generally, professional thieves who raid firms of the "Green Industry" are not after high priced equipment such as bucket trucks, chippers, cranes, mounted sprayers and big mowers. Rather, they find it much easier to "lift" smaller items more commonly found elsewhere or chemicals which can be

blackmarketed into the agricultural community.

Chain saws are a hot item. Mobile radios, small power mowers, trailing spray rigs, ropes—almost anything that someone else in another industry or another part of the country can use are potential items. Even larger items, if commonly around like trucks, can be successfully stolen and re-sold. The rule of thumb is that if you need it, someone else probably needs it too.

The professional burglar is as highly skilled in his endeavor as you are in your business. He knows his "market" and just what can be "fenced" quickly to return a fast buck. He also knows exactly the time to strike. Don't necessarily count on being hit only at night. The professionals can pull a heist at mid-morning just as easily as they can at midnight.

They work singly or in pairs; sometimes in gangs. They operate from stolen vehicles, rented cars, or on foot. They know that small items will not be as likely to be missed. Also, many firms have deductible insurance against theft. An owner with \$200 deductible is not likely to report the disappearance of a \$150 chain saw. Or a \$225 mower.

What can you do to protect yourself against these crimes? First, take a good look at your physical arrangement—draw it out on paper—and decide where the most vulnerable areas are. Consider that along with a security system you must also include items such as fire protection, power losses, etc. Second, map out a plan of action that will facilitate easy entrance to company property by workers but provide a barrier to customers. Redesign the job truck beds so that equipment is not visibly exposed. (It may also be to your advantage to do this from a safety angle.) Make sure that responsible people are around the premises during business hours—including lunch and coffee breaks.

Here are some other tips:

Keep a watchdog. One chain saw dealer in Cleveland keeps a large dog tied up in his parts department. One look and two barks from him

and anyone immediately knows that he means business. A dog tied up in the work yard between shop and office can patrol both areas successfully. If you're located in a more rural area, consider keeping geese. While they do not command quite as much respect as a dog, their hearing is more acute. And the noise created by a flock of startled geese will surely get your attention.

Adequate lighting. This is a must if you park equipment outside or have several buildings. Other than the fact that OSHA requires certain lighting for safety, light (particularly bright light) has a deterrent effect. A well lighted area reduces the opportunity for midnight requisitions. For some, stealing is a game with odds on not getting caught. You can reduce the odds by outside and inside lighting.

Install fences. Security fences won't stop the professional, but they may slow him down. The object is to make your firm a less desirable place for a burglary to take place. Additionally when you have fences, you can also have gates and doors. Keep them locked when you or your employees are not there. That goes for daytime as well as dark. When the work crew is not physically in the work area, lock the gate. If you are a superintendent who must travel the course to check on work progress, lock the work area prior to leaving. If necessary, provide keys to trusted employees or job foremen. Be careful with keys, however; they have a habit of getting lost—or in possession of the wrong individual.

Invest in good locks. A cheap \$1.98 lock will give you about the same in protection. But a \$5 to \$10 bolt lock is a good investment. Easily "fenced" items such as saws, tools, radios, etc. should be kept behind an additional enclosed storage area. Good locks on truck compartments make it more difficult to "lift" these items. It's not a bad idea to periodically change locks all the way around the area.

Light beams that trip when crossed can be another device. They silently inform the owner when potential danger exists. Pressure sen-

(continued on page 30)

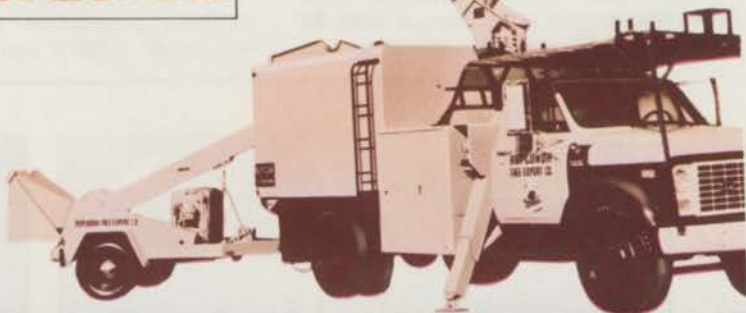
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An infection center of oak wilt as seen from a fire tower. Note how the trees are dying on the edge as oak wilt continued to spread in a circle. More than 19 states have been affected by this disease.

The Silent Tree Destroyer

By **ROBERT L. ANDERSON**

Forester and Forest Pathologist
Missouri Department of Conservation

EACH year approximately 20 billion board feet of sawtimber are lost to disease.^{10,18} This does not include losses to non sawtimber species and trees of smaller sizes.

Each year 45 percent of the total sawtimber loss is to disease with 20 percent to insects, 17 percent to fire

and 18 percent to all other agencies. Once we add the hundreds of thousands of shade trees lost yearly to disease one can conclude that we are facing a mighty foe.

This is even more dramatic as the nation's population increases and our forest land is converted rapidly

into urban developments, shopping centers, super highways and a variety of other uses. More and more we hear the cry from the ecologist that proper management of our timber and shade tree resources is a must.

As foresters and arborists we must take a closer look at what positive action is available before it is too late. The 20 billion board feet lost to disease each year represents a sizable timber loss. Indeed, it can best be described as the silent tree destroyer.

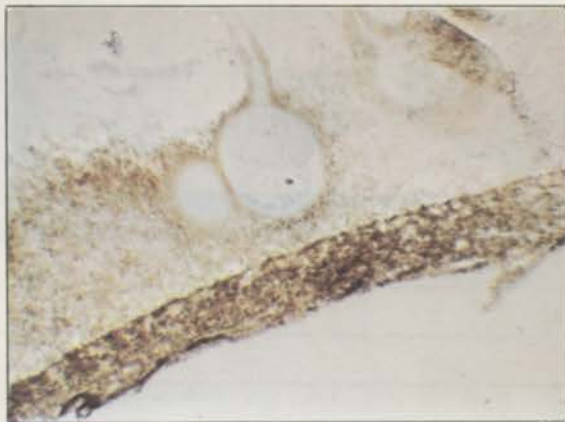
What we can do to reduce this 20 billion board feet of lost timber resource and the thousands of shade trees is a question that is examined very closely by many agencies. The solutions are as varied as the hundreds of diseases that affect our trees annually.

In order to objectively evaluate the problem we must examine the disease/plant relationship in detail.

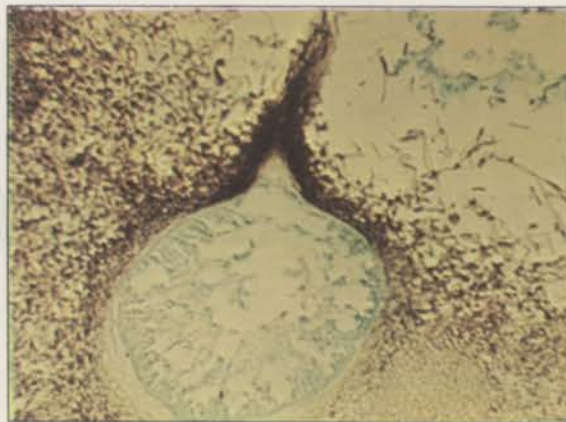
First, we find that the majority of the forest and ornamental diseases associated with the nation's plants require a wound that has opened the tree to the infection. There are a number of ways in which a plant can be wounded. Perhaps fire is our greatest culprit, with man (mechanical damage) and environmental conditions (ice and etc.) causing their fair share.

Once the disease organism has entered the tree, decay and/or death is inevitable. Good management practices have been found to be most effective in reducing disease and in increasing the economic return from a forested site or increasing the value of a property upon which the tree is located.

(continued on page 43)



This is a longitudinal section of the oak wilt fungus. Magnified 100 times by an electro-micrograph, the section shows the sexual structure (Perithecia).



Here's a closeup of the photo at the left. It is magnified 200 times. Note the spores or inoculum inside the circular structure.