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The Utility View

By
GORDON MUNDRANE
Superintendent of Operations
Jersey Central/New Jersey
Power and Light Company

IN NEW JERSEY, like many other states, we are confronted with an increase in regulatory agencies stressing environmental protection and concern with the impact of future transmission construction and maintenance on the land use plan.

By way of orientation, Jersey Central/New Jersey Power and Light Company, subsidiaries of General Public Utilities Corporation, supply electrical power to 555,000 customers in a service area representing approximately 43 percent of the State of New Jersey. The two utilities, operating as one company, are composed of six divisions located in the northwestern and east central part of the State.

Prior to 1947 our transmission right-of-way maintenance program consisted of periodic cutting. This was an expensive and time consuming program. It was decided at this time to experiment with brush control by the use of chemicals and applied by a contractor. This pilot program was so successful both in maintenance results and economics that we decided in 1950 to continue the program on a permanent basis and to place all rights-of-way under chemical management.

Today, approximately 15,000 acres of transmission rights-of-way are under chemical control. Lines are currently under repetitive treatment cycles of from three to six years as the need requires. Basal spray treatment has been the primary application method in the maintenance program.

All chemical applications are selective. Our objective, of course, is to eliminate, within the confines of a right-of-way, certain specified undesirable vegetation, and to promote a stable ground cover of grasses, wild flowers and native low-growing shrubs and trees. To this end we believe that our right-of-way management programs have

(continued on page 29)

Permitting trees and other vegetation to grow where utility rights-of-way cross roads provides an effective visual barrier. However, because transmission lines cross many roads, future maintenance must include tree trimming costs. As more and more visual barrier are permitted and rights-of-ways are allowed to return to more natural vegetation than before, future maintenance will include much hand labor and at a high cost per ROW mile.

Many rights-of-ways have practiced blanket spraying to control unwanted vegetation. The opportunity to create environmental diversity by encouraging the growth of a variety of low shrubs has been wasted. The transmission lines above would be little affected by low growing species of ornamentals. The 50 million acres of rights-of-ways have great wildlife production potential. There is no need to condemn all woody vegetation as brush. Herbicides, properly used, are an important tool in vegetation maintenance. Rational and intelligent use of herbicides is all that the future asks.

RIGHTS-OF-WAY MAINTENANCE — THE FUTURE

The Public View

By
ROLAND C. CLEMENT
Vice-President
National Audubon Society

Editor's Note: *No issue is worth discussing unless all sides are presented. While we believe that many readers are familiar with the side of the utilities, less is known about the views of the ecologist and those of the public. We have presented the comments of Mr. Clement as the public view to provide a broader perspective from which to make an opinion. Publication of this article in no way constitutes an endorsement. The National Audubon Society continues to be instrumental in creating increased interest in wildlife preservation and conservation practices.*

THE analysis of trends called for in the title of this discussion calls for recognition of the fact that current projections for supplying electric demands involve some 197,000 extra miles of right-of-way by 1990[1].

However, I am interested in changing these trends because I believe that such growth projections are suicidal. Whatever the ultimate acreage we commit to rights-of-way, we can begin by recognizing that the existing 50,000,000 acres now so committed represent a nationally important open space in a diminishing pool of national open space.

In short, we have already committed to rights-of-way an area the size of New York State, or ten times the size of Connecticut. The revolution in environmental awareness we are witnessing calls for giving this land use much more thoughtful consideration than it has had in the past.

As a wildlife conservation specialist, I call your attention to the fact that these 50,000,000 acres have a great wildlife production potential. Since these are mostly private lands, you need to be sensitive to the fact that wildlife includes several hundred species in addition to the pheasants and quail equated with wildlife in the past. The non-hunting general public is more interested in the scores of bird species that might utilize the rights-of-way than they

(continued on page 25)

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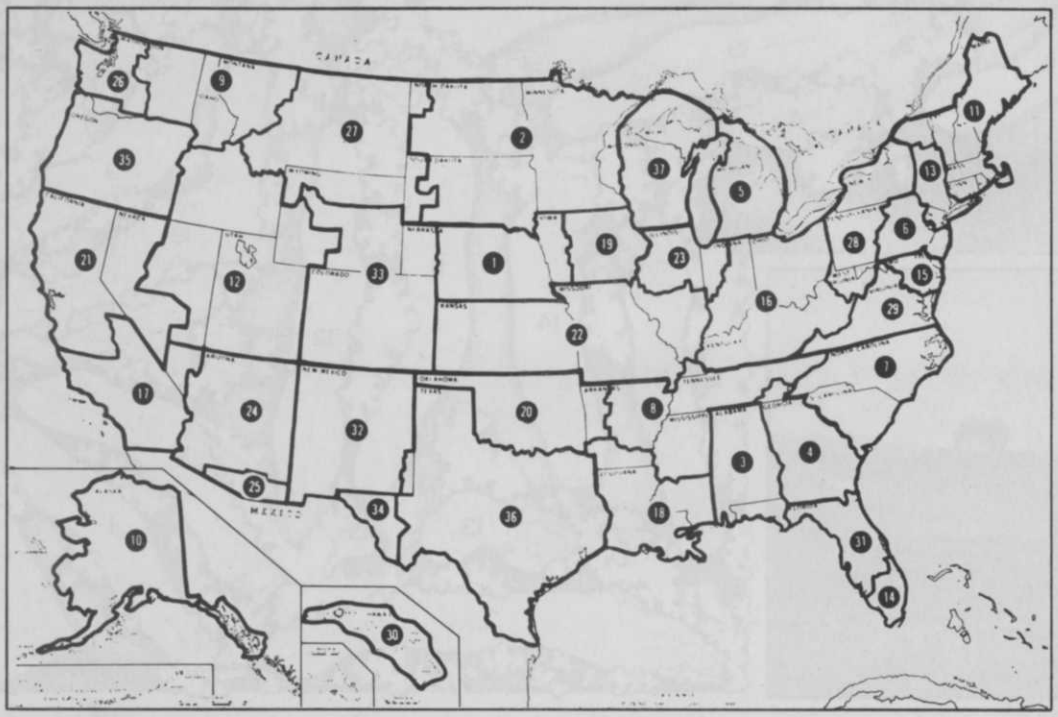

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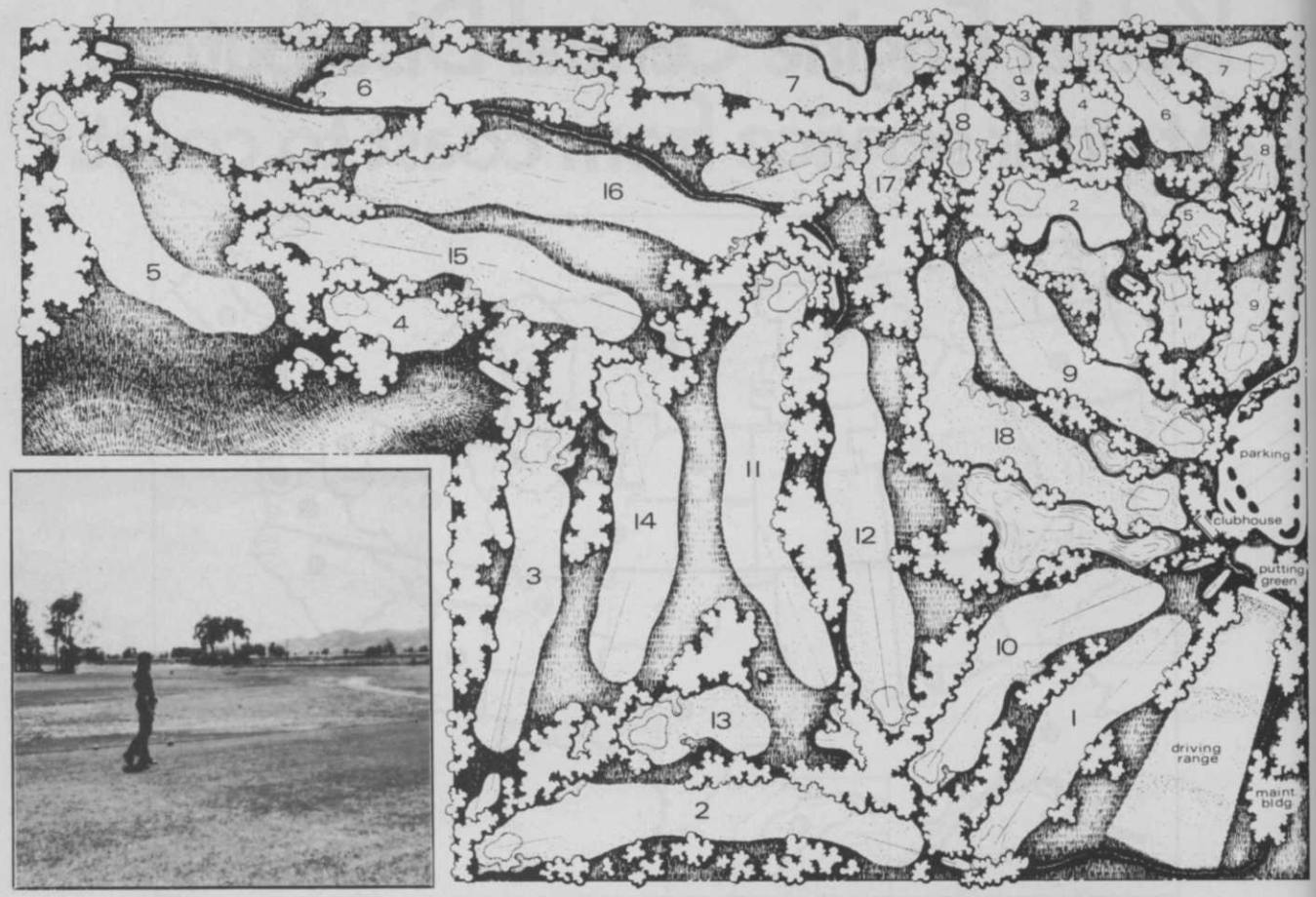

A modern golf course makes maximum use of available land. Note the use of water hazards around fairway seven. In addition, the plan has enhanced the difficulty of the course by the judicious use of trees on the outside of dog legs. This course is the Foothills Golf Course, Lakewood, Colo. Inset shows player at the number one tee.

WHAT A GOLF COURSE SHOULD BE

Contractor Cites Building and Remodeling Trends

By RICHARD M. PHELPS
Phelps-Brauer & Associates
Lakewood, Colorado

NO two golf courses are alike. Each is a unique combination of a particular site, its environment and man's ideas of what a golf course should be.

Golf is a battle with nature and self, within a set of man-made rules. An infinite combination of shots required to play a given course. exists. Thus, the definition of what makes a golf course, aside from 9 or 18 tees and cups, gives an architect considerable latitude.

Any comments about trends in design, or how to improve older courses, can only be general. There is no perfect golf course. The best, or what some people label "championship" layouts, probably fit this definition: *A golf course which by means of its design and standard of maintenance fairly tests the judgment of golfers of all degrees of skill and their ability to execute expertly all the various shots required in the game.*

Notice that this definition says nothing about length or difficulty. It does emphasize, however, the need for skill and judgment by architect, superintendent and player. The best golf courses are challenging and fun for all players, not just the experts.

Many new golf courses are still being built. Earlier this year the National Golf Foundation reported 290 new golf courses or additions to existing facilities in some stage of construction. (See p. 18, WTT, Jan. 1972) The boom of the 1960's has slowed only a little. For the country, 3,229 new courses and 720 additions to operating courses opened for play in the past decade. As an example of one of the fastest-growth states Colorado has 113 courses, 12 opened in 1971, and about 20 more under construction.

While it is impractical to compare courses as to construction, layout and difficulty, an architect frequently analyzes trends in courses much like an agricultural economist views the livestock market. Here is what we see developing in new golf course design and development.

More flexibility in length and/or shorter (executive) courses. More than 20 percent of the new municipal courses that opened in 1971 were par-3 or executive layouts. Shorter

(continued on page 36)

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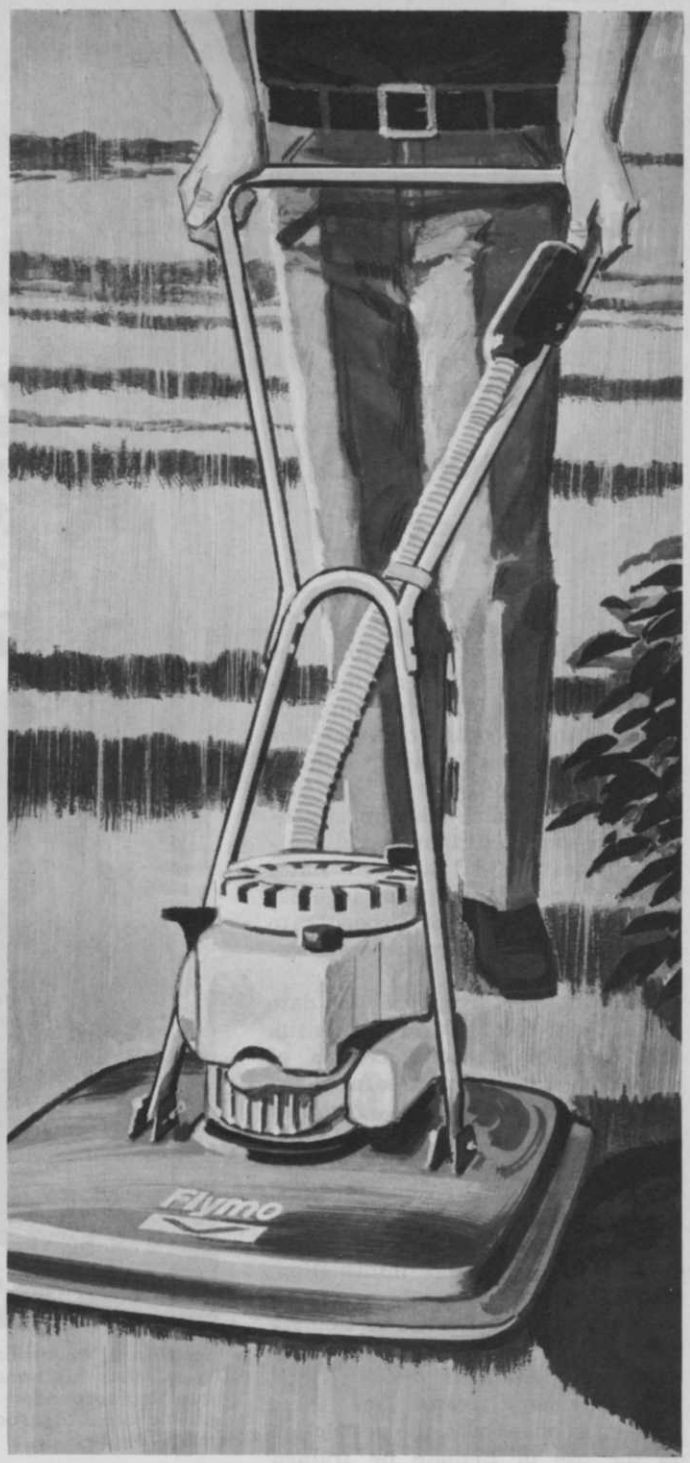
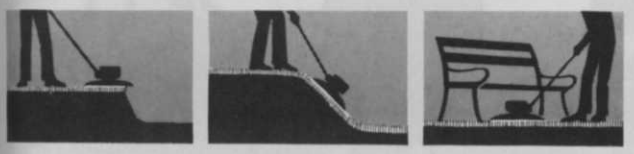
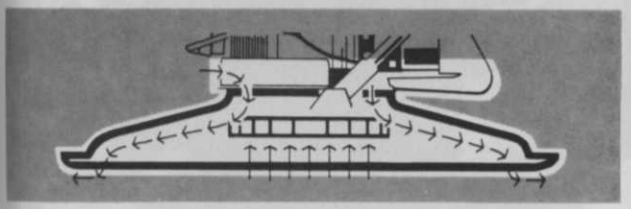


FLYMO FLOATS—TRIMS CLEAN AND CLOSE



Edgings, traps/Steep inclines, bunkers/Under benches, close to trees.



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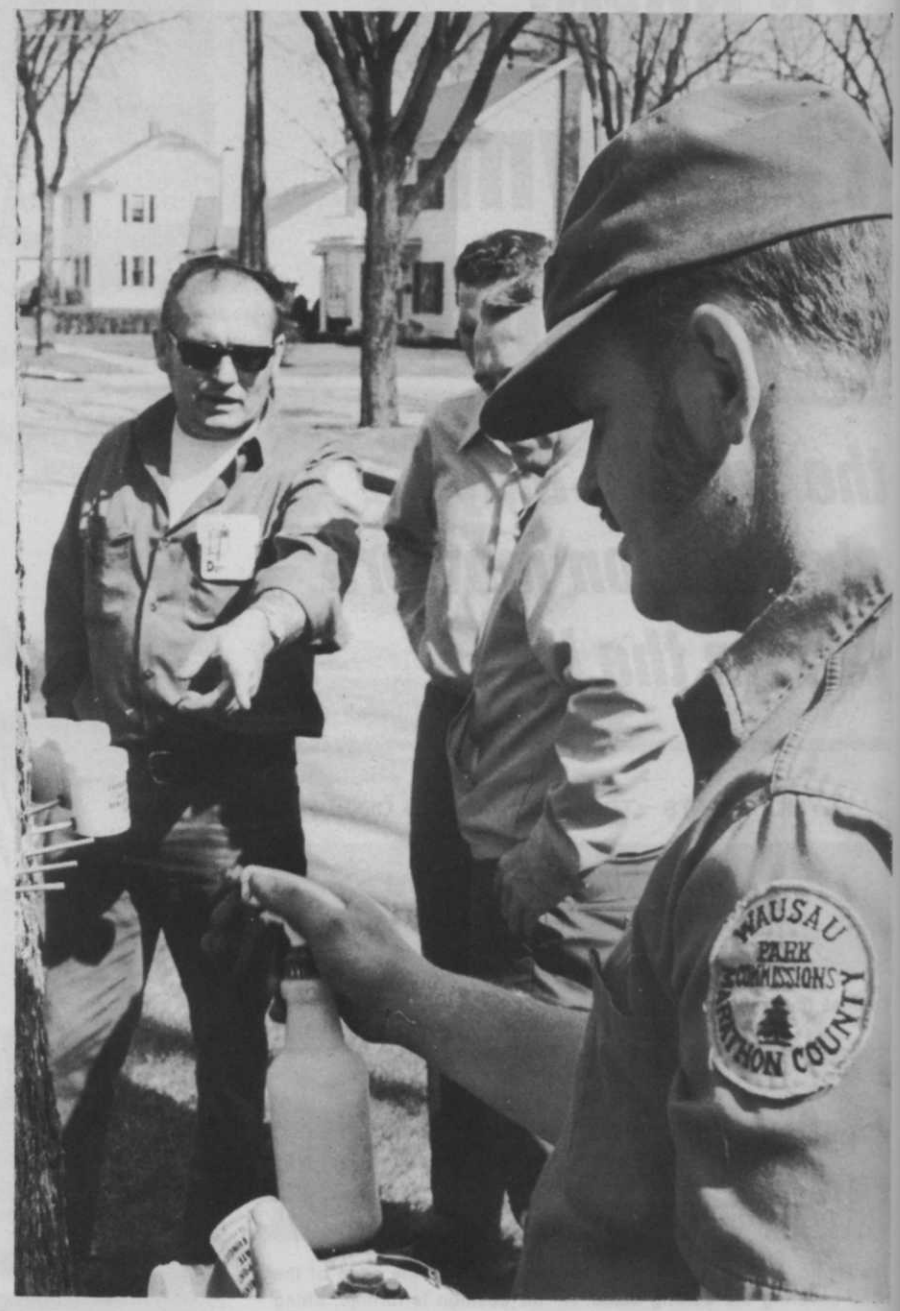
STAFF REPORT

DED Control Kindles Strong Arborist Interest



Scott Trull, an arborist with the Wausau Park Commissions in Marathon County, Wisc., tries his hand at learning the Mauget Tree Injection system. Here, he is inserting suspended Benlate into the feeder tube just prior to the placement of the plastic cup. All arborists attending this field workshop received training such as this.

ARBORIST reaction across the country to the Federal registration of Benlate benomyl fungicide as an aid in the control of Dutch Elm Disease has been growing enthusiastically. While it can be said that the EPA label came when most people least expected it, state universities in heavy DED affected states have hurriedly whipped together training programs for arborists to comply with the Federal requirements.

Most notable response to date comes from the state of Wisconsin. In mid-April, capacity crowds of arborists — some from as far away as Texas and Maryland — jammed meeting sites in Madison and Milwaukee. (See p. 34, April 1972, WTT) Dr. Gayle Worf, Dr. Gene Smalley, plant pathologists at the University of Wisconsin, and a host of others presented background information, recent test results and university recommendations for use of Benlate both in foliar application and with the injection method.

The primary reason for these training sessions was the restriction on the use of Benlate by *trained arborists*. While it's still anybody's guess as to what constitutes a trained arborist, university extension specialists have assumed the responsibility for training within each state. As one Wisconsin extension specialist pointed out, "applicators need to know what results are realistic to expect, and how and in what way the product can be used to supplement existing control measures."

Wisconsin's training program consists of a training seminar and one or more field workshops. Four major areas have been discussed: 1. The biology of Dutch Elm Disease; 2. Dutch Elm Disease status, locally and regionally; 3. Benlate application and use procedures; and, 4. Tree physiology.

Currently, Wisconsin's field workshops are designed around the trunk injection technique. While this technique is admittedly more difficult for arborists to master, it eliminates certain hazards associated with foliar sprays. However, it is expected that later workshops will also include foliar application of Benlate.

Data presently available concerning effectiveness of this treatment are from trials conducted during the past three years. Early data suggested that the disease was arrested only when infections were quite limited at the time of treatment. In 1970 researchers found that the most effective time period for treatment was after June 25, when only the new bark beetle-induced branch infections were appearing. Later, injection of healthy municipal elms on a preventive basis reduced the incidence of new infection from 16.4 percent to 6.5 percent.

While several methods of injection and other forms of application of Benlate are being tested this year — soil injection, sump treatment, collar method, Medicaps, trunk injection under high pressure currently being

(continued on page 20)

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Del Kennedy, president of CLM National Company, says the Mauget Injector has been used in applying minerals and insecticides. It is only natural to consider it in terms of disease control, he says.

DED CONTROL *(from page 18)*

evaluated by the Shade Tree and Ornamental Plants Laboratory at Delaware, Ohio, and others — the most popular method being demonstrated at DED training meetings is the Mauget Tree Injector. Slightly modified from the Mauget vials used to inject chelated iron and systemic insecticides, the Mauget cups are designed to hold 65 ml or about 2 ounces to conform with the label for Benlate.

CLM National officials and the J. J. Mauget Co. have given full support to the University of Wisconsin training sessions. As Del Kennedy, CLM National president put it, "We want to talk to arborists about their problems. We teach arborists the advantages of the Mauget Tree Injection system by example. By attending meetings and giving demonstrations these men will gain a fuller understanding of this system and what it can do for them to control DED and increase local business."

Last month, Wisconsin arborists around Eau Claire, Wausaw and Milwaukee tried their hand at mastering the Mauget tree injection. Meeting in areas of heavy elm populations, arborists heard Rodney Johnson, a veteran DED specialist and forester for the Village of River Hills, Wisc. discuss mixing procedures.

"Benlate should be mixed at the rate of two pounds per 100 gallons of water," he said. "Thorough agitation is necessary because Benlate is a wettable powder that is suspended in water." Agitation before each step in the injection process will keep the chemical suspended for a longer period of time.

Following the mixing discussion, Del Kennedy demonstrated the various steps of the Mauget system. Holding an inserting tool, he slipped a feeder tube over the penetrating pin. He then approached the tree at about chest level and taking a hammer drove the inserting tool at a right angle to the trunk through the bark or cambium layer into the xylem or sap wood. When the feeder tube was in place, he rotated the inserting tool and drew it straight out.

"We've found that slanting the beveled end of the feeder tube slightly to one side prior to injection improves the drainage and uptake by the tree," Kennedy told those present. "In addition, once the tube is in the tree, a light tap or two on the inserting tool will secure the tube and prevent it from falling out."

He then filled the feeder tube (sleeve) with the suspended Benlate. This expels air and prevents trapped air bubbles in the tube, he said.

The last step consisted of placing the reusable plastic body cup on the feeder tube and filling it with suspended Benlate.

He repeated the entire procedure at two inch intervals around the trunk of the tree.

Bill Bennett, vice-president of CLM, said that the chemical is absorbed by the tree within 24 to 48 hours, depending on environmental and climatic conditions. Once inside the tree, the chemical is translocated via the xylem to the upper parts of the tree and more particularly to the diseased area.

One arborist described this technique as the woodpecker approach to DED control. Others cited such advantages as: use in areas inaccessible to foliar sprays; application on windy days; and where public concern will not permit use of sprays.

Dr. Worf pointed out that with the injection system, there is no concern over environmental contamination. Only the target elm is treated. He also mentioned that equipment costs are considerably less.

Disadvantages to this method of tree injection are also evident. Arborists have already cited that Benlate suspended in water will not stay this way for long periods at a time. Frequent agitation is needed. Following the uptake of the fluid in the two ounce plastic container there appears much white residue of Benlate that has settled out. This has lead arborists to sepculate on the actual amount of chemical in the tree system.

Deane W. Finnerty, development and service representative for the Du Pont Company says that although this is a visual problem it is not one with which to be concerned. "Only an infinitesimal amount of Benlate is needed to control the disease," he told Weeds Trees and Turf.

Other disadvantages which arborists have mentioned include: excessive time consumed in application and removal of injection equipment; trunk wounds (no serious injuries to date); the possibiilty of erratic distribution of Benlate in the tree; uptake and translocation of the chemical is dependent upon external environmental conditions and the physical condition of the tree; and vandalism of injection equipment.

One major problem that still com-

(continued on page 22)

C. B. (Bill) Bennett, vice-president of CLM National, demonstrates how to insert the feeder tube into the xylem layer of the tree. He says you can "hear" how far to insert the feeder tube. Tubes are placed at two inch intervals.