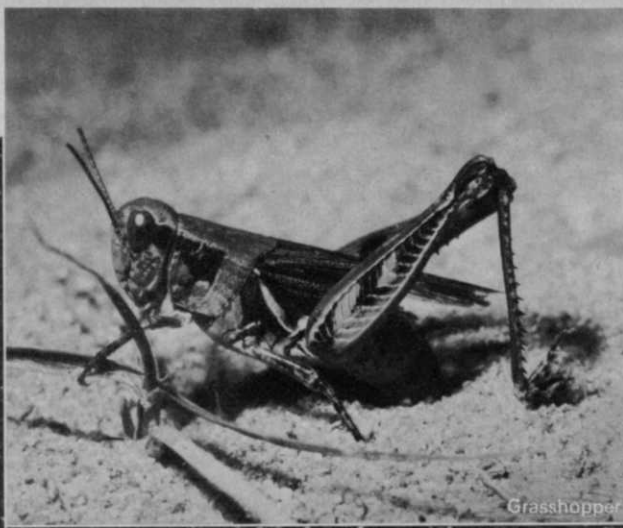


Leafhopper



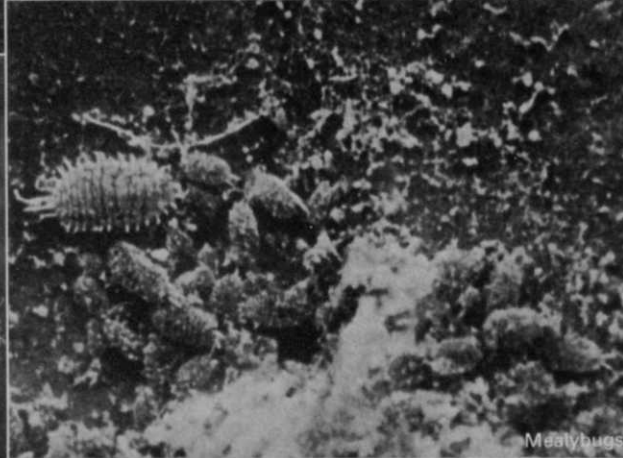
Grasshopper



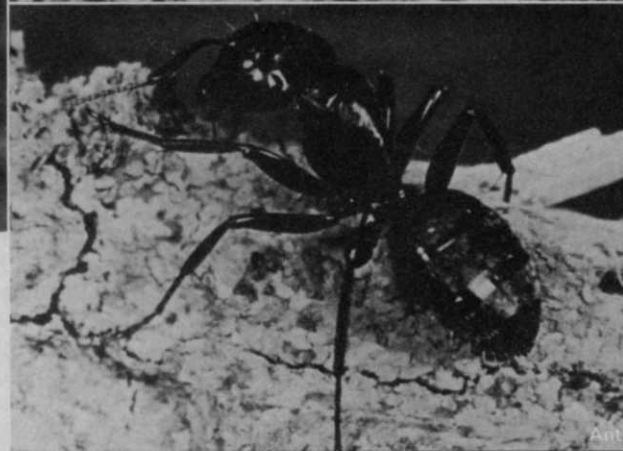
Hairy chinch bug



Cutworm



Mealybugs



Ant



Bagworms

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## These are only seven of the turf and ornamental pests Dursban controls.

If we had more space, we could show you another seven. Like sod webworms, brown dog ticks, earwigs and *Hyperodes* weevils in turf. Or ornamental plant pests like mites, spittlebugs, exposed thrips, white flies and many more. But our point is, DURSBAN\* insecticide is the choice of professional lawn sprayers when they need to get the job done. DURSBAN insecticide is effective on a wide variety of insects—including resistant strains. And it's effective in a wide variety of applications. It's economical because a little goes a long way. It's non-phytotoxic, and it is biodegradable. So, if you haven't tried it yet, it's about time you did. Just remember to read the directions for use and follow the precautions for safe handling on the product label.

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## National Arborist Association Report

Nearly 100 professional arborists and guests journeyed to Scottsdale, Arizona in mid-February for the 35th annual meeting of the National Arborist Association.

Scottsdale isn't exactly the "fun and sun" center of the southwest, but it's a great place to shed the mid-winter blues. Unfortunately for a few, rain spoiled several days of poolside suntanning planned by arborist wives while husbands met.

The business at hand for this year's meeting was multi-fold. Of particular note were reports from various committees and the president's address.

Ed Irish, Charles F. Irish Co., Inc., Warren, Mich. reported on the activities of the educational committee. He said that the Home Study Program continues to show progress. In 1972, 34 members and 96 non-members enrolled in Series I of the course. Series II enrollment accounted for 44 members and 26 non-members. Completions to date for Series I are 149 and for Series II 16.

Erik Haupt, The Haupt Tree Company, Sheffield, Mass., next reported on the industry statistical survey. He said that although much information was received, the results compare favorably with those

previously published. The industry statistical survey is a means whereby rates and charges for various arboricultural jobs are published for a given geographical area.

In addition to this survey the NAA has also published a Professional Fact Sheet about its members. Here are some of the highlights: 14 percent have been in business 1-10 years; 25 percent from 11-20 years; 25 percent from 21-29 years; 7 percent from 30-39 years; and 26 percent from 40-50 years.

The greatest amount of business comes from pruning. Twenty-eight percent of gross receipts is in this area. Next comes spraying with 17 percent; tree removal, 12 percent; utility line clearance, 11 percent; landscape, 9 percent; fertilizing, 6 percent; planting, 5 percent; and moving, bracing, cavity repair and diagnosis, each 2 percent.

About 10 percent of the NAA members reported business volumes less than \$50,000, 23 percent between \$50,000 and \$100,000, 23 percent between \$100,000 and \$200,000 and 25 percent between \$200,000 and \$500,000.

Eighty percent of the members are engaged in an employee safety training program and 98 percent

operate their firms in one to five states.

Boyd Haney, Boyd Haney & Sons, Inc. Franklin Park, Ill. reported that the current membership of NAA is 233, an increase of 18 members over last year. He said that the association gained 22 new members and lost 15 due to resignations and/or nonpayment of dues. He made particular note of the addition of The Davey Tree Expert Company, Kent, Ohio who became a member during the annual meeting.

Robert Felix, Harder Services, Inc., Hempstead, N.Y. and president of NAA highlighted the morning session in a wrapup of NAA activities for the past year. "This year we became sustaining members of the International Shade Tree Conference," Felix said. Another highlight was the planting of a tree at the White House in commemoration of Arbor Day. In addition NAA published a new membership roster, cooperated in the preparation of a consumer article for Good Housekeeping Magazine, manned a booth at the I.S.T.C. convention, sold 56 thousand brochures as a member service, created an OSHA manual for arborists, published a professional fact sheet, and developed guidelines for a new code of ethics.

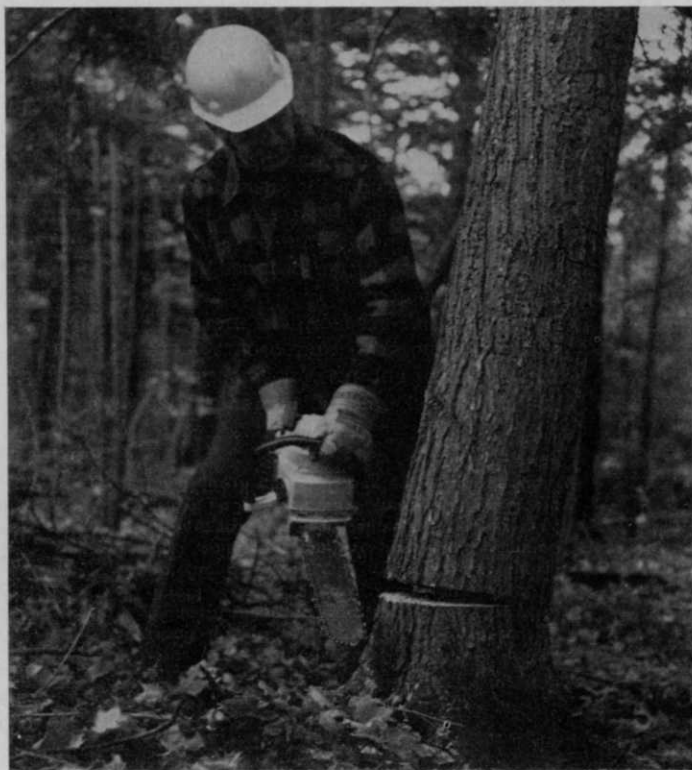
Felix said that greater member participation is needed in NAA to make it command the leadership role in the field of arboriculture. He pointed out that this comes through member cooperation, member education, member unification and member identification of how the organization meets the needs of the individual.

Following the business meeting Kenneth Kirk, Shield Shade Tree Specialists, Clayton, Mo. and Walter Money, Guardian Tree Experts, Rockville, Md. spoke on "Taking Your Image Into the Buyer's Home." Kirk pointed to these rules in creating an image with the customer: 1. crews alert, 2. clean shaven, 3. a uniformity about dress and appearance, 4. have the crew on the job on time. He said it was important for the client to see the same foreman each time service is rendered. "If we are going to try to sell NAA, we've got to get the NAA decals on our equipment and on our stationery letterheads. Advertising in the Yellow Pages that we are members of NAA helps, too," he said.

"The best advertising we get is a job well done," commented Walt Money. Each year Money paints his

*(continued on page 41)*

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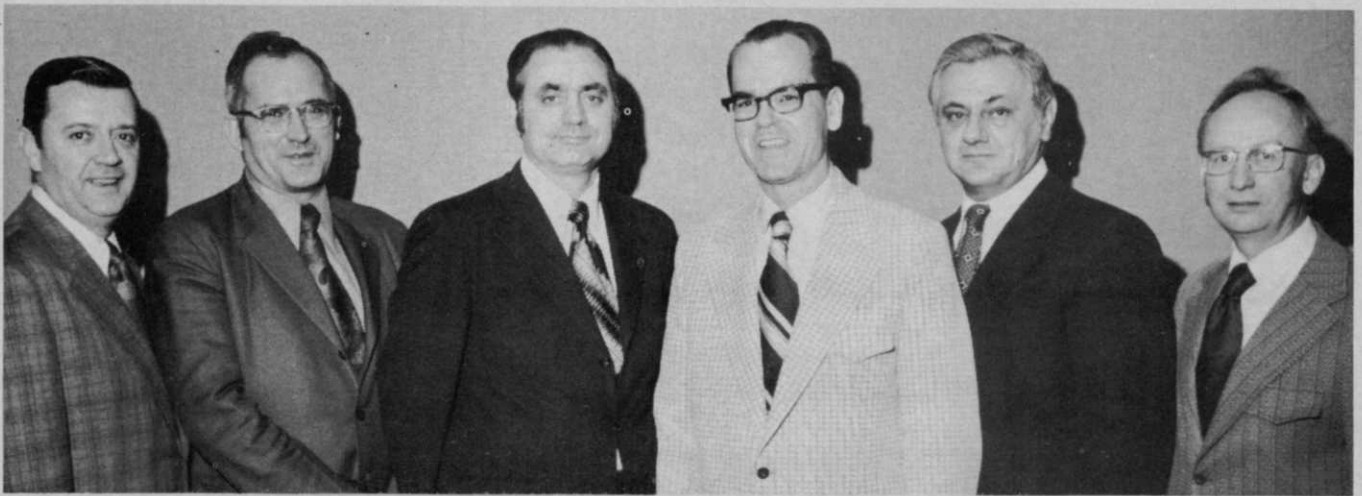
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New officers of WSSA are: (l-r) F. W. Slife, Univ. of Ill., exec. secretary; E. L. Knake, Univ. of Ill., president-elect; R. P. Upchurch, Monsanto Company, past-president; E. G. Rodgers, Univ. of Florida, president; R. D. Ilnicki, Rutgers Univ., secretary; and C. R. Swanson, USDA Agr. Research service, vice-president.

## WSSA REPORT

# Scientists And Industry At Work Together

FOR three days put 700 weed scientists into one hotel, mix thoroughly with 224 technical papers accented by 11 sections and what do you have? The Weed Science Society of America's 13th annual meeting.

This year's meeting was in Atlanta and more than one weed scientist was seen soaking in February's warm Georgia sunshine while trying to forget about the winter chill back home.

The theme this year was "A Glance Backward — A Look Forward," and there was a note of this portrayed throughout most of the papers given.

Society president, Dr. R. P. Upchurch delivered a challenge to delegates in his president's address. "To those of us who are concerned with the scientific aspects of weed problems and their resolution there is unquestionably the need to bend every effort to understand the nature of weeds and the role which they play in human affairs," he said. "Our subject is a difficult one and individually we cannot but help feel inadequate for the task which confronts us. Only by banding together as a group of dedicated professionals can we hope to meet the obligations which we must choose for ourselves and fulfill on behalf of society."

Upchurch pointed out that "more energy is said to be expended for

the control of weeds than in any other human endeavor. Millions of people are chained to a sub-human level of existence because of weeds."

He cited the challenges of the

future—maintain and improve a professional approach, participate in the setting of courses of action for the environment, and speak out in favor of the proper use of a properly managed technology.

President Upchurch spoke of the Society's achievements over the past year. Active committee involvement; liaison support for the Council for Agricultural Science and Technology and other organizations; steady contact with the Environmental Protection Agency, USDA and other governmental agencies; and, an active awards program for research, teaching and extension were mentioned as major accomplishments.

EPA assistant administrator, David D. Dominick next spoke on "improving agriculture and the environment." He highlighted the enviable history American agriculture has achieved and said that even though total number of acres is down, production is up. The increases have been due to technological advances. Better farming, new equipment, new hybrids, lower farm failure rate, farms have become large businesses and the role of chemicals—all have helped productivity, he said.

"The one practice which remains the most controversial today is the use of chemicals for insect and weed

(continued on page 28)

### EPA Liaison To WSSA

Dr. Jake McKenzie, chief of the pesticide program in the Environmental Protection Agency's San Francisco regional office has been named official EPA liaison with the Weed Science Society of America. The announcement was made during the 13th annual meeting in February.

McKenzie has been a member of WSSA since 1964. He has a B.S. degree in farm management from Edinburgh University, Scotland and M.S. and Ph.D. degrees in crop science from Oregon State University. He studies under W. R. Furtick, a past president of WSSA.

In making the announcement, David D. Dominick, EPA assistant administrator said, "I am certain that by working through Dr. McKenzie this organization can be assured that its views will be made known to EPA, and that you will have full knowledge of our progress in implementing the Federal Environmental Pesticide Control Act."

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## Ohio Short Course Draws 1850 Delegates

Over 1850 persons attended a five-day meeting in January of the 44th annual Ohio State University Short Course for Arborists, Turf Management Specialists, Landscape Contractors, Garden Center Operators and Nurserymen.

Meeting at the same time was the 31st annual meeting of the Ohio Chapter, International Shade Tree Conference and the 65th annual meeting of the Ohio Nurserymen's Association.

Speaking on the topic, "Diagnosis of Tree and Ornamental Plant Troubles," Dr. Dan Neely, Illinois Natural History Survey, Urbana, Ill. said that industry and population growth have increased the problems relating to trees. Survival of trees and other vegetation is now dependent on the care and maintenance rendered by people.

Neely said that to accurately diagnose tree problems three things are needed, the ability to observe, simple tools and background knowledge. He offered these questions to arborists and others in helping to solve a tree problem: 1. What type of abnormality exists? 2. Is the condition general? 3. Is only one species or genus affected? 4. Is the problem occurring only in one tree or is it widespread through a certain area? 5. Is necrosis complete or partial in the affected area?

Check for mechanical, chemical or thermal injury, said Neely. Leaf spotting, aerial drift, or uptake of soil-borne chemicals must be taken into consideration. Physiological diseases are also important. Deficiencies in water, nutrients, oxygen, and other essential materials can bring on tree problems.

Lastly, Neely said to check out the possibility of pathogenic diseases. These are the most difficult to diagnose.

Erik H. Haupt, The Haupt Tree Co., Sheffield, Mass. discussed spraying techniques and application methods. Noting that spraying can be hazardous, the arborist cautioned that proper chemical selection and spraying mixture was important. Spraying techniques must be effective, he said. No one uses exactly the same techniques as another. Each must be custom designed to fit the

needs of the operator and the job situation. Nevertheless, equipment must be in top operating condition at all times.

Dr. John A. Weidhaas, Jr. of V.P.I. and Dr. E. B. Himelick, Ill. Natural History Survey tackled systemic insecticides and fungicides. Systemic chemicals can make important contributions to disease and insect control if the applicator understands their use, said Weidhaas. Little has been done to more fully understand



Officers of the Ohio Chapter, ISTC are: (seated l-r) Alex Wynstra, Jr., Div. of Parks & Forestry, Columbus, past president; Kenneth H. Funk, Funk Bros. Tree Service, Ashland, president; (standing) Dr. L. C. Chadwick, Columbus, sec-trees; William H. Collins, Cole Nursery Co., Circleville, vice-pres. Not present are Gary P. Mitten, Ohio Power Co., North Canton, pres. elect; and Dr. Philip Kozel, Ohio State Univ.

the role of systemics, however. Use rates, time of application, selection of the right material and others were pointed out as areas where more research is needed.

Himelick said that because many materials are being phased out, the pathologist today has fewer chemicals to recommend for disease control. He pointed out that disease control is not just a matter of applying chemicals, however. Sanitation practices, natural disease resistance and application of chemicals at the right

time must all be considered to combat disease effectively.

H. M. Van Wormer, Van Wormer Tree Service, Inc., Richmond, Va. said that soil drainage around transplanted trees is important to their survival. He cited overwatering, flooding, changes in the water table, clay subsoils, little aeration, soil compaction and ball planting depth as factors which influence tree survival.

It is essential that air reach the roots of trees, he said. Without air, root hairs will not develop. The arborist recommended six-inch drains installed five feet apart between original ground level and the fill level as a countermeasure to poor drainage. In low areas, he said to plant the tree ball higher than the natural ground level.

For large tree transplants Van Wormer recommends a six-inch circular tile system be installed four inches above the base of the ball. Upright tiles should be placed in the ground at each end of the circular system to aid in aeration of roots.

According to Ernest G. Gebhart, division of forestry and reclamation, Ohio department of natural resources and Mark Ryan, urban forester for the city of Columbus, urban forestry is becoming more important. They reported that many communities within metropolitan areas have established shade tree commissions. Mass communications media are being utilized increasingly to provide information about the care and preservation of trees.

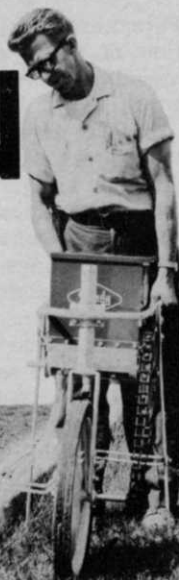
Dr. Elton M. Smith, Jr., department of horticulture, Ohio State University, told the group what was new in research in arboriculture and landscape horticulture. He discussed nutrition, slow-release fertilizers, weed control, anti-desiccants, growth regulators and winter damage.

Smith said that the university is working with the Davey Tree Company in studying iron chlorosis in oaks. They've found that injection of iron sulfate into the trunk may be one of the better treatments as far as color recovery is concerned.

Another newer "tool" is leaf analysis. By determining what level of minerals and other nutrients are in the leaf vegetation experts can better recommend additions to correct problem deficiencies.

The extension horticulturalist reported that research on burlaps and various other container materials is underway to determine their lasting ability and their possible phytotoxicity. Polyburlaps examined after 18 months in the ground showed evidence of root penetration, he said.

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## WSSA REPORT (from page 24)

control," Dominick said.

"The Environmental Protection Agency realizes that the use of farm chemicals in this regard is essential for the foreseeable future."

Dominick then went on to explain the framework of the Federal Environmental Pesticide Control Act. "Before this law was passed, under the old FIFRA of 1947, we were in the untenable position of being forced into deciding the use of a pesticide as an 'all or nothing' proposition . . . In the past we licensed and oversaw labeling of pesticide products for interstate shipments. But, there was no control over the actual use of products," he said. "Under FEPCA pesticides have been distinctly categorized."

The EPA official said that the timetable for implementation of the law is staggered over a four-year period. Although an EPA task force is already at work on implementing the law, Dominick invited WSSA's views in working out the details of the Act. Public participation has already been solicited.

Dominick concluded by expressing his support of pest control methods beyond those of chemical control.

Parasites, biological methods, rotation of crops and mechanized removal of unwanted growth were cited.

In the area of weed control of turfgrasses, Dr. Robert W. Schery, director, The Lawn Institute, Marysville, Ohio discussed "Weed Influences on Lawnseed Quality." Based on the findings his tests which involved random commercial samplings of lawnseed offered for sale in major market areas. Schery said few had to be severely criticized for formulation. Germination was almost never deficient, and purity claims for the most part were only mildly if at all questionable.

Noxious weeds, according to the director, were not a problem. More serious were crop inclusions, fairly frequently present and sometimes rather abundant on a seed count basis. Ryegrass and field forage species were the chief culprits.

Schery concluded that bentgrass and annual bluegrass seemed not too serious a problem. Generally, lawnseed is of good quality. Seed growers have shown vast improvement in commercial responsibility over the condition prevailing only two decades ago, he said.

S. W. Bingham, Virginia Polytechnic Institute and State University,

presented an interesting review of his work involving the influence of herbicides on rooting in turfgrass sod. Unlike other studies in this area, Bingham applied herbicides over the top of *freshly* laid sod. The herbicides used in the study were Betasan, Balan, Dacthal, and Tupersan.

Results? Betasan and Balan gave similar responses on the rooting of turf. Least inhibited was Kentucky 31 fescue. At rates normally used for crabgrass control, bluegrass rooting strength was reduced more than 50 percent. Dacthal and Tupersan had little effect on fescue and bluegrass. However, Tupersan completely inhibited the rooting of Tifgreen bermudagrass and Dacthal reduced rooting by 30 percent.

One month after the last treatment in the fall evaluations were again made. Dacthal and Balan did not reduce the rooting of Tifdwarf bermudagrass sod. On the other hand, fall rooting was reduced by spring treatments with Betasan and Tupersan.

In a similar study J. A. Jagschitz, University of Rhode Island, reported on the effect of 2,4-D, Banvel D, silvex and mecoprop and combinations of these herbicides on the root-

(continued on page 64)



WSSA Outstanding Teacher's Award winner F. W. Slife (l) receives plaque and \$1000 check from E. R. Laning, Jr. of Dow Chemical Co., award sponsor.



D. E. Moreland, N. C. State Univ., receives Outstanding Research Award. J. J. Hood, (r) Ciba-Geigy Corp. presents plaque and trophy as award sponsor.



J. L. Hilton, USDA, (r) is the recipient of the Outstanding Research Paper. C. L. Foy, Virginia Polytechnic Institute makes the presentation.



Outstanding Extension Award went to E. P. "Dutch" Sylvester, (l) Iowa State University. G. C. Klingman, Elanco Products Co. makes presentation of \$1000 and plaque.



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- **Victa/Baron Blend**—Combines the characteristics of these two new Kentucky Bluegrasses with improved disease resistance.
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## BRUSH CONTROL PROGRAMS

(from page 20)

we now cut and windrow brush. This method doesn't disturb the topsoil; and grass moves in much faster. And, the faster the grass comes, the faster wildlife returns to the right-of-way.

### SPRAY ONLY HIGH-GROWING BRUSH

Next came a change in our chemical brush control program. Instead of broadcasting chemicals to control all brush along our transmission rights-of-way, we've adopted what we call a "selective foliage spraying program."

Our contracted crews move in with hydraulic equipment and spray only tall-growing, troublesome brush, leaving the low-growing brush for a home for birds and small game. This "selective spraying" is employed on virtually all 1500 miles of transmission lines with the exception of a few hundred, inaccessible acres in our Northern Division. Here, on rocky, swampy terrain, we have no choice but to spray by helicopter.

### BRUSH SCREENS HIDE FOLIAGE BROWNOUT

While selective spraying helped to increase New Hampshire's wildlife population, it did not solve one of our major complaint producers — foliage brownout. That's why we leave a 100 foot-wide "buffer strip" or "screen" on every right-of-way road crossing.

Screening rights-of-way has all but eliminated public complaints. The same holds true for substations which are either screened or, if that's not practical, landscaped to present a more pleasing appearance. A case in point is the projected generating station at Newington, New Hampshire. Here every environmental factor is being considered, including both the architectural and landscaping treatment of the facility.

### NO FUEL OIL, NO COMPLAINTS

Finding a way to control sprouting stumps without fuel oil solved two major problems — fire hazard and public complaints. A carelessly thrown match cost us equipment losses in the past and State Forest Fire Officials often called a halt to our spraying during dry spells. Moreover, we were constantly answering complaint calls because of the oil's heavy, lingering odor.

Our search for a better way to control sprouting stumps ended last



By encouraging easement landowners to raise Christmas trees under transmission lines, PSNH reduces maintenance costs and improves scenic quality. About 700 acres of land are now in trees which yield about \$1,000 per acre when trees are harvested.

season following test applications of Hyvar XL bromacil weed killer. We tried the liquid herbicide on 680 acres and results were even better than anticipated. Hyvar XL provided better control than oil-chemical mixtures. And, we didn't have a single complaint in treating these acres. What's more, the new material allowed us much greater latitude in timing our applications. (We achieved nearly 100 percent control by applying Hyvar XL) 6 months after the clearing operation was completed and yet still contained control of all species. Oil-chemical mixtures had to be sprayed within days after clearing to be effective.

### CONTROLS BRUSH THROUGH THE SOIL

Unlike stump-absorbing treatments, Hyvar XL is soil active, controlling brush through the plant's root system. This accounts for the herbicide's control of both seedlings and sprouting stumps. It is also the reason why we were able to obtain excellent control with very little chemical. We mixed six pounds of bromacil (3 gallons of Hyvar XL) in 100 gallons of water and sprayed at the rate of 7 to 10 ounces of mix per 2-inch stem. The amount required per acre is determined by the brush density.