Besides developing brush control programs that do the job without raising the public's concern, Public Service Co. of New Hampshire has gained additional community support by encouraging people to take advantage of its rights-of-way.

Some people in the State such as farmers and hunters need little encouragement. They already appreciate the open land for pastures, game and fun. But, for others as well, the Company has taken positive steps toward creating multi-purpose rights-of-way.

**CHRISTMAS TREES ON RIGHTS-OF-WAY**

One program encourages easement landowners to raise Christmas trees under transmission lines. It’s a cooperative venture with participation by the landowner, the Company and the New England Forestry Foundation.

The landowner simply signs an agreement to maintain that section of land for the cultivation of trees in return for the Company’s agreement to help raise the trees. New England Forestry Foundation agents manage the entire operation. They provide tips on spraying, cultivating, harvesting and marketing trees.

By encouraging and establishing a Christmas tree management program, the Company practically eliminates right-of-way maintenance and adds to their scenic quality. But, the big plus is in neighbor relations. Landowners are realizing a profit they never had. Of the 700 acres of easement land now in trees, most will yield about $1,000 per acre (about $1 per tree) when trees attain Christmas size of six to eight feet in anywhere from five to ten years.

Establishment of public recreation areas is yet another attempt to minimize the impact of electric power lines on the landscape. So far Public Service Co. of New Hampshire has three such areas, including a boat launching facility where lines traverse a great spot for fishing. Picnicking, hiking and horseback riding draw most people to the other two right-of-way “public parks.”

But, public access is not without problems, one of which is increase in trash. That’s why all of Public Services’ present recreational areas are located near stations where manpower is available to supervise and patrol the facilities. Regardless of potential problems in such sites, public appeal and support far outweighs the problem of public indignation.

---

**These box scrapers mean business!**

All ten models are built to move heavy loads quickly with minimum power and effort. Curved blades cut and roll soil into maximum loads. Lifting mechanism and scarifier assemblies are designed with higher front end clearance for larger intakes. The exclusive structural design of all Servis deluxe box scrapers provides direct support from the draw link connection to the rear moldboard to prevent warping or bending. See your dealer for the Servis box scraper that best fits your requirements . . . and make fast, easy work of all future soil moving jobs!

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**HYDRAULIC models (66", 72", and 84") feature a positive mechanical lock to eliminate any stress on the cylinder, even when scarifiers are cutting the toughest ground.**

**AUTOMATIC LIFT-TRIP models (66" and 72") feature scarifiers that automatically lift and lock when the box is raised. Trip lever drops teeth back into cutting position.**

**HAND-LIFT models (66", 72", and 84") have manually-operated hand-lift control which easily raises, locks, and disengages scarifier teeth. Highly responsive.**

**SECO, JR. models (66" and 72") are popular with operators who do not usually require scarifier teeth for their routine work. Optional teeth can be positioned manually in UP or DOWN position.**

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City ____________________________ State _______ Zip _______
Newly named Fellows of the Weed Science Society of America are: (l-r) Dr. E. K. Alban, Ohio State University; Dr. W. R. Furtick, Oregon State University on leave to the United Nations; Dr. R. Behrens, University of Minnesota and, Dr. Glenn C. Klingman, Elanco Products Co., Indianapolis.

Robert Ench, (l) president, Flower Time, Inc. presents a plaque inscribed "Best New Product of 1972" to Bob Gioiosa of J. & L. Adikes, Jamaica, N.Y. According to Ench, Adelphi Kentucky bluegrass literally "walked off the shelf" last year. Demand was strong for this new variety.

James Munn (l), general manager of Otis Town & Turf, Otis Elevator Company, congratulates Charles Lapaca (c) of Kenyon Sales Co., Ft. Lauderdale, Fla. upon receiving the Dealer of the Year award. Denver Brown, sales manager of Otis Town & Turf, look on from right.

Bud Harrison, home horticultural specialist at Rutgers University spoke to sales personnel during the 4th annual Horticultural Seminar conducted by S. Klein for its environmental center staff personnel.
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1973 will be a bad year for bugs.
Bad for bugs of turf and ornamental plants. And bad for household and structural bugs. Because Dow has a pair of insecticides that will make their lives miserable. There's ZECTRAN* insecticide, a general use biodegradable insect killer that works on almost all major foliage-feeding insect pests—even the hard-to-kill kinds. Use ZECTRAN on over 600 different flowers, ground covers, trees, shrubs and turf. And then there's DURSBAN* insecticide. Its effectiveness, economy, non-phytotoxicity and biodegradability make it the choice of professional turf men for golf greens, turf farms, home and
industrial lawns—or wherever grass and ornamentals are grown. It’s especially effective to control the hairy chinch bug and sod webworm. DURSBAN insecticide is also preferred by PCO’s for controlling household and structural pests—especially resistant roaches that laugh at other sprays. Please remember to read and observe all precautions on the product label. Bugs, get ready for 1973!
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Acknowledgment

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Ackley tools put you in complete control of big gardening/landscaping jobs. Deliver plenty of power for cutting, clipping, pruning, sawing.

New Ackley Swivel Pruner (illustrated) is designed for fine pruning on new wood or young trees. Gives you the cutting angle you need instantly. Lightweight hook. 360° swivel handle for hard-to-reach areas. 3 to 5 foot lengths.

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For more information/literature, call Harold DePue, Sales Manager, (503) 659-5660. Or write:
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This light-weight unlined glove is available with enough gauntlet to protect the wrist area but flexible enough to allow freedom of finger movement. Cost is less than heavier grade gloves which are less comfortable to wear.

PROTECTION FROM EXPOSURE (from page 12)

Most herbicides are also generally less toxic than other types of pesticides. A dinitro compound (dinitrocresol) used for weed control for many years has caused illnesses of workers in Europe. In contrast, our exposure studies have indicated that under the conditions of use in the Pacific Northwest area of this country there is no significant hazard associated with the application of dinitro compounds for weed control. This conclusion has been corroborated by use experience.

One herbicide, paraquat, is of considerable interest because only a very small oral dose may produce irreversible lung fibrosis which usually leads to death. There is little if any response to antidotal procedures. Although many of the recorded deaths from paraquat have been due to voluntary ingestion with suicidal intent, there have been deaths following accidental ingestion of very small amounts of the liquid concentrate. In one case it was estimated that the quantity of fluid consumed could not have exceeded three quarters of a teaspoon. This compound is also somewhat caustic and may cause chemical damage to the eyes.

This emphasizes the importance of avoiding splashing the concentrate into the mouth or eyes during measuring and mixing operations.

Although illnesses resulting from overexposure to pesticide compounds do occur among applicators and other workers, most are a result of carelessness or accident. Experience has shown that if proper precautionary measures are observed and directions on the pesticide label are followed, even the more toxic compounds can be used safely.

The best insurance against illness from pesticides is to protect the various routes of entry into the body. There are three main routes: dermal, respiratory, and oral.

Dermal Route

Absorption through the skin is the most important route of entry of pesticide into the body during most exposure situations, especially where liquid sprays and emulsifiable concentrate formulations are involved. This route is one that has undoubtedly been responsible for a great many poisonings of workers, especially from the more toxic organophosphorus compounds.

We have conducted exposure studies on several hundred pesticide applicators. Our results indicate that over 97% of the pesticide to which the body is subjected during most exposure situations, and especially to applicators of liquid sprays, is deposited on the skin.

It should be understood that any given amount of pesticide is more rapidly and more completely absorbed by the oral or respiratory routes. However, absorption of pesticides by these two routes is probably
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too small a fraction of the total potential exposure to be considered the main factor in most poisoning cases of workers in the field. Although the rate of absorption of different pesticide compounds through human skin is difficult to measure with any degree of accuracy, researchers have made some progress along that line. Using radioactive labeled pesticides, Maibach and co-workers at the University of California School of Medicine were able to determine approximately what fraction of an applied dose would be absorbed. They were not only able to compare degree of dermal absorption for certain pesticides but also they compared absorption of a single pesticide for different parts of the human body. The results obtained indicate that in the past sufficient importance may not have been attached to protection of certain body areas.

In checking dermal penetration of parathion at different body areas these researchers found that the area of greatest absorption on man is the scrotum where approximately 100% of an applied dose was absorbed. The possibility of pesticide on this body area being completely absorbed emphasizes the need for increased concern about providing protection for the area. This is of utmost importance where spillage of highly toxic pesticides, and especially the liquid concentrate formulations, is concerned.

The head-neck area was found to be an area of greater absorption than the arms or hands.

Of particular interest was the finding that absorption in the ear canal is relatively efficient (46.6% of an applied dose of parathion). Exposure in this area could occur through drift of fine pesticide mists or dusts or by digging in the ear with the tip of a contaminated finger.

When pesticide application is by hand spray gun on target areas below waist level the area of greatest potential contamination from drift may be the lower trunk, legs, and feet. Cloth coveralls or trousers provide a reasonable amount of protection for most of these areas in work situations where contamination does not easily penetrate clothing. However, where there is chance of soaking by continued contact with liquid sprays or penetration of clothing through excessive contact with dry pesticides, waterproof trousers and boots provide the best protection. In fact, we feel that waterproof footgear should be worn during most any type of pesticide application. They should be washed and dried thoroughly, inside and out, as frequently as needed to remove any contamination.

If application involves directing spray upward, the downward drift can often produce relatively high dermal and respiratory exposure. The best protection of the face-neck area from downward drift is afforded by the wearing of a waterproof wide-brimmed hat. This also reduces respiratory exposure to some extent by preventing small droplets or particles from getting near the nose where they may be drawn into the nasal orifice.

Protection of the upper trunk and arms is especially important where heavy spray drift may thoroughly wet cloth shirts, coveralls, and underclothing. A waterproof jacket or raincoat provides the best protection for this general body area.

Waterproof gear is usually worn during cooler conditions, but as the temperature rises and the clothing becomes unbearably hot to wear, workers tend to discard them and work with much less protection — perhaps only a short-sleeved, T-

(continued on page 52)
Another popular way to feed trees is the liquid-forced-into-the-ground under pressure method. This can be done by means of just a garden hose and a Ross-Root Feeder type of feeding needle that can be purchased commercially. However, many professionals prefer to use a more sophisticated, higher pressure system which uses a pressure spraying unit. They mix their own soluble fertilizer and inject it into the soil at about 250 psi pressure. The higher pressure is faster than low pressure and forces the liquid into a wider saturation area initially. It also gives the commercial operator an additional use for his power sprayer.

There are other methods of tree fertilization now being used. One is systemic injection (Mauget) via injector cups and feeder tubes in the tree, and the up and coming pressurized injection method. The cup type injection system employs small cups forced into an injector stem which is driven into the tree. The cups are then pushed onto the stem and the chemical concentrate allowed to stay there for several hours or more until liquid has been “taken up” by the tree.

The “plug” type cartridges (Medicaps) are put into small holes drilled into the trunk of the tree. They are used primarily for treating specific ailments and are filled to about 2” from the top to prevent “burning” the grass roots.

Another popular method is the foliar tree spraying enough to force large dosages of nutrients (or whatever is being injected) into the tree rapidly, and the fact that there is no chemical residue left behind.

The pressure injection technique is a method also used primarily to treat specific ailments at the present, but it may become more popular in the future if environmentalists resist the foliar tree spraying enough to force large dosages of nutrients (or whatever is being injected) into the tree rapidly, and the fact that there is no chemical residue left behind.

Foliar fertilization enables the trees’ leaves to utilize the nutrients supplied almost immediately. It is ideal for a tree that needs fast invigoration. Of course, the effects are not nearly as long lasting as those obtained by root feeding or even trunk injections.
NEW TWISTS IN DRAINAGE
(from page 19)

which literally turn into ponds after a heavy rainfall. Corrugated two-inch tubing can be installed in shallow drainage beds to carry water off into a dry well of gravel underground or into existing drainage.

New playgrounds, senior citizen recreational areas, apartment landscaping and a whole range of outdoor athletic facilities all demand attention to proper drainage in order to keep maintenance costs at a minimum.

Flexible two-inch tubing also lends itself well to various irrigation drainage projects. It is now possible to spiral tubing around balled and burlapped tree roots under ground in order to provide the plant with a "built-in" water reservoir during times of heavy rainfall. A constant supply of oxygen (especially important for the propagation of new root growth) is made available to the balled area through the spiralled tubing which opens at or above ground surface level. Nutrients may also be introduced through the tubing's top opening to disperse slowly around the root ball.

The 1970's have brought a completely new picture to drainage and its application. The materials are now modern, easy to handle, lightweight and inexpensive. With today's trenching equipment and lightweight corrugated tubing we can now work on projects where the problems of handling heavyweight materials once made even getting near the job sites impossible.

A properly installed drainage system will work efficiently, inexpensively and dependably for many years. As the one element in a landscaping operation that does not require constant watering, feeding, repairing or replacing, it should reflect your careful planning and consideration. Remember, "Drainage doesn't cost, it pays."

Emergency transplant operations...

always a success with Ryan sod cutters.

Winter kill, fungus and disease can hit the best-kept fine turf areas. Excellent insurance to keep these areas in lush, living grass is a sod nursery for emergency repair. And the best way to perform the transplant operation is with a Ryan Sod Cutter. Ryan has a size and model to suit every need.

Ryan JR Sod Cutters (1) ... turf-world's most popular sod cutters are compact and highly maneuverable. Self-propelled, easy-to-operate JR Sod Cutters are available in three models capable of cutting 9, 15, or 20 sq. yards of sod per minute. They're ideal for average-size sod nurseries.

Attachment blades are available for all models for trenching, edging, tillng, pipe laying and subsurface aerification.

Heavy Duty Sod Cutters (2) ... for large sod nurseries and big transplanting jobs. These extra rugged machines are built to commercial specifications. Five models are available, enabling you to cut up to three acres of sod per day. All models come in a choice of cutting widths from 12" to 24". They operate smoothly and quickly with dependable, 2-speed transmissions.

Write for FREE Ryan Equipment Catalog.
GRANT JURGENSEN joins Jacklin Seed Company Division of The Vaughan-Jacklin Corp. He will be working in foreign and domestic wholesale seed sales.

BERNARD A. NAPIER appointed president of Hypro Division, Lear Siegler, Inc. He succeeds HARRY J. SADLER who retired after serving as president of Hypro throughout its 25 year history.

DR. KENNETH R. TEFERTILLER named vice president for agricultural affairs of the University of Florida by the board of regents.

ROBERT A. MARTIN appointed vice president of sales for the Bunton Company. He was sales manager for both the Bunton and Goodall product lines.

GERALD A. WELCH, named director of agricultural marketing, and Sherwood M. Boudeman, named director of agricultural administrative services for the Upjohn Company.

RONALD BEAN, joined the agricultural division, Ciba-Geigy Corp. as a field sales representative.

TOM DAGNON, appointed technical representative serving southeastern Pennsylvania, Delaware and the eastern shore of Maryland for O. M. Scott & Sons.

BRUCE STIKKERS, joined Thompson-Hayward Chemical Company as an agricultural sales representative.

FRIEDRICH J. "FRED" KATZ and JEFF HOLCOMB, named chief engineer and controller, respectively, for Yard-Man, Inc.

GLENDALE GRIZZLE, named director of manufacturing for the irrigation division of the Toro Company. Other division moves include: ERNIE B. JONES to district manager for Florida, the Carolinas and Georgia; THEODORE D. MATULA to cover the eastern seaboard north from Virginia; JIM H. WICKHAM to concentrate on the southern swing of states from Texas through Alabama.

JOHN D. "JACK" HYLAND becomes an automatic controls sales representative for the Hays Mfg. Div. of Zurn Industries, Inc. He will cover a six state, east central region as well as the District of Columbia.

WILLIAM S. HATTEN, elected group vice president—engines and electric plants and member of the board of directors, for Kohler Co.

JEREMIAH J. SULLIVAN, appointed advertising and sales promotion manager for Ford Motor Company’s Tractor and Implement Operations—North America. He succeeds J. F. FITZSIMMONS who was named marketing manager of Ford Tractor Operations’ industrial equipment operation.

HARRY W. LARSON becomes sales engineer for the turf division of Jacobsen Manufacturing Co.