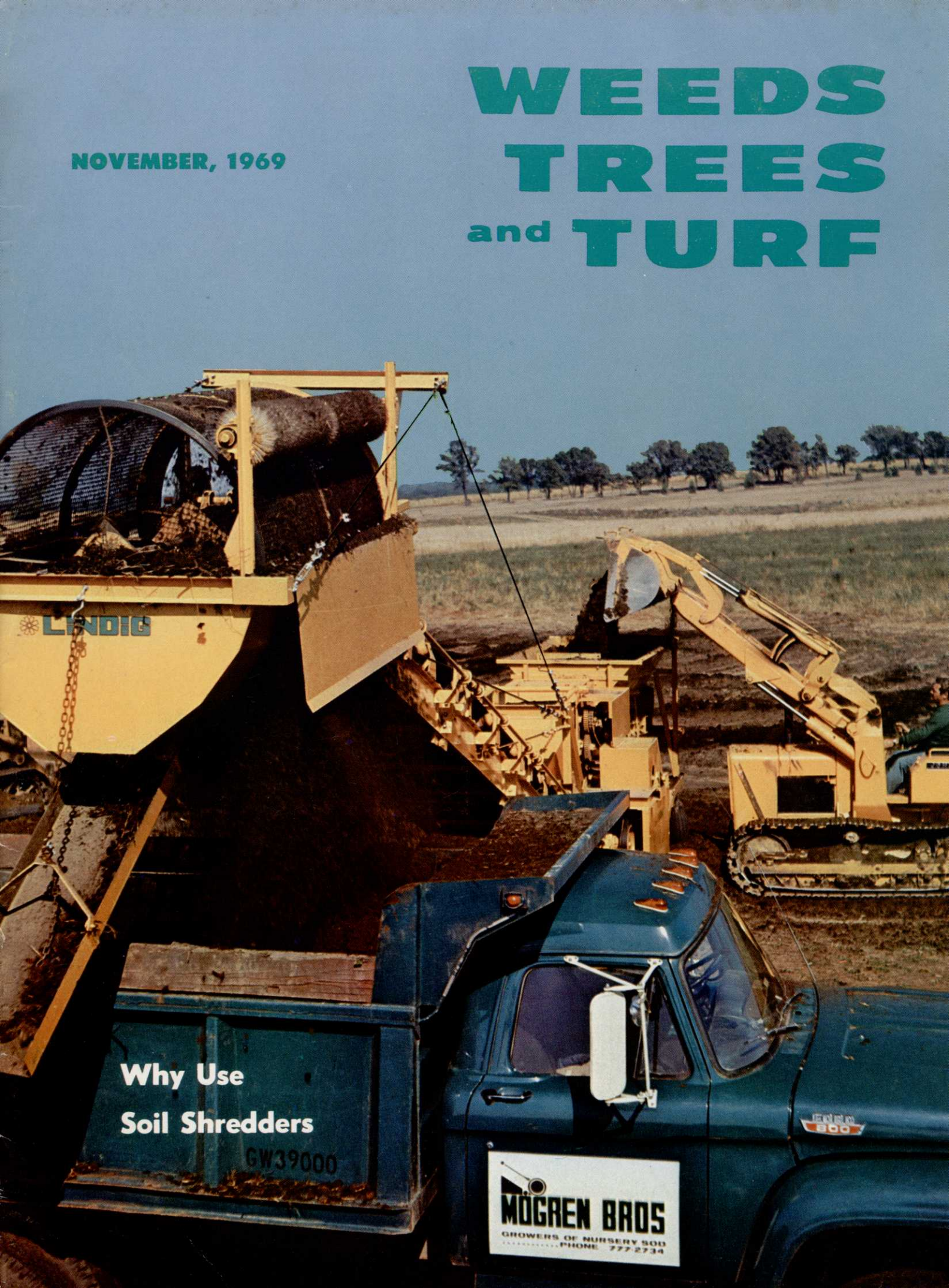
WEEDS TREES and TURF

NOVEMBER, 1969



Why Use Soil Shredders

Keeping a city green with a killer of 20,000 trees on the loose

"This year, Dutch Elm disease killed 500 of our trees. We'll lose over 20,000 before it's done. Keeping Sioux City green is no small job."

"Planting 8,500 trees in our city nursery in one month was the easy part of what faced us because of Dutch Elm disease," Paul Naland, Sioux City, Iowa, forester recalls. Taking care of them was something else. That involved plowing irrigation furrows for each row of trees, and working the ground in between to keep them free of weeds. "Naturally, the equipment required was critical; we took several bids and tested many tractors before buying." The Wheel Horse GT-14 got the nod because "it matched our specs to a 'T' and bested competitive prices." Paul Naland's job consists of raising 10 acres of Oak, Ash, Honey Locust, Maple, Russian Olive, Crab Apple and Purple Leaf Plum saplings to replace dying Elms and increase the variety of the city's tree population. The ground in Paul's area breaks up easily and gets slick when it rains. For the extra traction needed, ballast-filled cleat tires are used on the GT-14. "The automatic transmission is its best overall feature — you can't beat it for matching power output to load." To Paul Naland city streets are like windows, and trees are "window dressing." He compliments Wheel Horse for playing a key role in "keeping Sioux City's windows green."

Wheel Horse®

Tractors/Mowers/Snow Throwers/Snowmobiles

If you have much ground to cover quickly, and keep looking nice, try Wheel Horse, the pick of the pros. Write: Professional Services, Wheel-Horse Products Inc., 515 West Ireland, Road, South Bend, Ind. 46614.

"We have to have dependable equipment to fight a killer like this. We'll grow 40,000 replacement trees in the next few years."

"There are 135 rows—each 350 feet long—to plow and cultivate in our nursery. The GT-14 works each row 4 times without strain."

"We plant 2,000 trees around our streets, parks and public grounds every year. That means restocking the same quantity in our nursery yearly too."

ANOTHER WHEEL HORSE PROFESSIONAL

For More Details Circle (101) on Reply Card

FOR MORE FACTS USE THE POSTAGE FREE CARD

You are invited to use the Reader Service card provided to obtain further information on equipment, materials or supplies appearing in this issue. This card is preaddressed and postage paid.

Your inquiry will be forwarded to the manufacturers in whose products you are interested.

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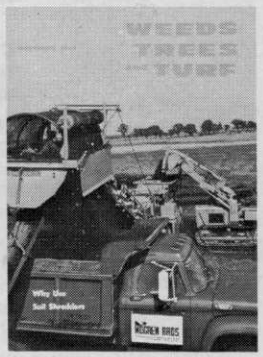
Your inquiry will be forwarded to the manufacturers in whose products you are interested.

Special for This Issue

Regular Features

The Cover

Mogren Bros. of St. Paul are building an 18-hole championship golf course that will require about 6,000 cubic yards of specially mixed soil for greens. The brothers, also sod producers, are using a Lindig CL-75 shredder with screener. The unit processes 75 cubic yards per hour. Lindig makes models with capacities of up to 200 cubic yards per hour. Lindig claims it has the only unit that combines in one machine the functions of shredding, mixing, aerating, elevating, screening, and high discharge. Rene Belland, golf course contractor, is on the crawler tractor. Read more about the uses of soil shredders beginning on page 6.



WEEDS TREES AND TURF is published monthly by The Harvest Publishing Company. Executive, editorial: 9800 Detroit Ave., Cleveland, Ohio 44102.

Single Copy Price: 50 cents for current issue; all back issues 75 cents each. Foreign $1.00.

Subscription Rates: WEEDS TREES AND TURF is mailed free, within the U.S. and possessions and Canada, to qualified persons engaged in the vegetation care industry and related fields in controlled circulation categories. Non-qualified subscriptions in the U.S. are $7.00 per year; Canada and other countries, $10.00 per year. Controlled circulation postage paid at Fostoria, Ohio 44830.

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Member Business Publications Audit BPA

WEEDS TREES and TURF®

Volume 8, No. 11 November, 1969

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November Is for Thanking

Above a background of thunderous applause, the Chevrolet people say on television that the response to a new 1970 model is "encouraging."

Likewise, the response you've indicated to this magazine in a recent survey is encouraging.

Because November is painted thanksgiving month, we say thanks to you for your generous attention to WEEDS TREES and TURF. We asked for your readership appraisal this summer. This is what you said:

92.7% of you said you read the magazine regularly. Some 41.7% of you read it at the office, 18.6% at home and 39.7% at both places. An average of four other persons read the magazine, giving it a projected readership of 134,998.

86.56% of you said you keep WTT for future reference. (And we might add that 100% of you will particularly want to keep the December issue. It contains the annual story index and suppliers' guide and equipment directory. Suppliers are listed by product and alphabetically. Addresses are included.)

We also asked you what type articles you prefer. And to the best of our ability, we shall attempt to fulfill your wishes.

Here are your requested preferences: Experiences of other operators, 71%; how-to-do-it, 66%; technical, 63.7%; Business management, 33.8%; ideas for selling new business, 20.6%; and miscellaneous, 7%. Of course, these percentages total more than one hundred because you each requested several preferences.

In coming issues, we shall be reporting some interesting characteristics about your collective businesses — such as services offered, types of equipment, work force, dollar volume, expenditures for certain supplies, and so on.

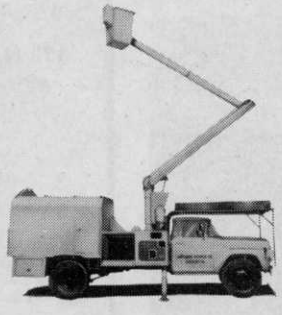
But November seemed the most appropriate time to express our appreciation. It is our pleasure to work with you, and we wish you a surprisingly prosperous coming year.

Efficiency in 9 Dimensions

The now-famous unit combines three operations . . . the 42′ aerial lift, the 12″ chipper, the dump truck body . . . into one, which adds, inherently, the additional dimensions of increased mobility, greater economy and total unit capability.

Some of our customers will no doubt write to complain if we don't mention, also, ease of trimming, rapidity of brush disposal and simplicity of the hydraulic dump body. So we will. That makes efficiency in 9 dimensions, doesn't it?

When you've had our free, no-obligation demonstration, you'll think we've *still* understated our case.



ASPLUNDH CHIPPER COMPANY
HAMILTON STREET
CHALFONT, PENNA. 18914
Manufacturing Division of the Asplundh Tree Expert Co.

THE CHIPPER WITH A TRADEMARK

"CHIPPER"

For More Details Circle (102) on Reply Card

the GREAT one!
Highland Colonial Bent

Just possibly, Highland Colonial Bentgrass is the greatest value in grass seed today!

A highly attractive blue-green, cool-season grass, it is one of the most economical of the fine-bladed varieties and has every attribute required for a truly luxurious turf.

Highland Bent may be seeded alone or in a mixture . . . is adaptable to many soils and climates . . . is durable under heavy foot and light vehicle traffic and thrives on close-cutting to ¼ inch.

With some 8 million seeds per pound, the potential number of plants is great. Highland is also popular for overseeding in Southern regions.

If you would like complete data on cultural practices, seeding rates, fertilization, etc., please write to:

Oregon Highland Colonial Bentgrass Commission
Suite one / Rivergrove Building
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Coming in December!

Suppliers:

The Perfect Place to Advertise Your Weed, Turf, and Tree Market Products

Reserve Space Now in the

1970 Suppliers' Guide

To Appear in the December '69 Issue of WEEDS TREES AND TURF

1. Boldface Listings. Suppliers using advertisements in this issue will be listed in boldface type in the directory under all categories of products the advertiser supplies. Your name stands out when readers refer to this handy directory which applicators use all year round!

2. Reader Reply Card. Bound into every issue will be a Reader Reply Card. All readers have to do to get more information on advertised products is check off the advertiser's name and send the postage-paid card to us. We forward neatly typed lists of inquiries.

3. Repeat Readership. In the 1970 WTT Suppliers' Guide, we have a complete catalog of weed, turf, and tree maintenance chemicals and equipment. Whenever readers are seeking a source of supply, this handy reference book offers them the easiest way to find it.

BONUS

Bonus for Advertisers:

1. Bold Face Listings
2. Reader Reply Card
3. Repeat Readership

LISTED in the 1970 WEEDS TREES AND TURF Suppliers' Guide, readers will find all chemicals and equipment used for weed and brush control, turf management, and tree maintenance. Included are such chemicals as herbicides, insecticides for turf and trees, fungicides, and fertilizers, among others. Equipment listings include such items as power sprayers, vertical mowers, trimming and pruning tools, chippers, and many others. This is the only Suppliers' Guide compiled annually for the entire vegetation maintenance and control industry in America.

CLOSING DATE NOVEMBER 10th

Reserve Space today!

WEEDS TREES and TURF®

Phone 216 + 631-6468

9800 Detroit Ave., Cleveland, Ohio 44102

Golf courses are among the biggest users of specially mixed soils. From the mixing site (on the cover) Mogren Bros. moved green mix by the truckloads. Each green of the 18-hole championship course gets a one-foot layer, which can add up to anywhere from 180 to 300 cubic yards. Tees may also be prepared with the same soil. The standard practice of top-dressing greens creates a continuous need for uniform soil mixtures. Several models of soil shredders are available that have been specially designed for this purpose.

All the Ways You Can Use

Soil Shredders

"WHAT DOES your machine do?" John Lindig has been asked at trade shows. And his answer that it shreds and mixes soil has prompted, on a number of occasions, another question: "Why do you want to do that?"

In this oft-repeated dialogue, there is a story of opportunity for the manufacturers of soil mixers and shredders, believes Lindig, director of marketing and sales for Lindig Mfg., St. Paul.

A great deal of technology has been accumulated in plant genetics, in production and application of plant nutrients, and in the development of chemicals to control weeds, insects and disease. But with the exception of a few, the industries that rely on soil resources are "still in infancy," says Lindig, concerning their realization of the importance of soil preparation, composition, and treatment.

If the goal is vegetation perfection, "underneath it all," claims Lindig, "are soil and soil mixes.

"The proper growth and low-cost maintenance of turf and plants must begin with their foundations—the soil. When soil is compacted, improperly mixed (or not mixed at all), or processed so as to permit particle separation, the result can be poor turf and plant growth. Maintenance costs increase because the plant just doesn't grow right."

There can be more painful results. A new university football field in the Midwest is to be plowed up at the end of the grid season because the playing surface is too hard. Coaches will be playing out the first season there hoping the compacted soil that resulted from improper mixing won't be a mistake measured in terms of broken bones.

And elsewhere the thought of broken bones may cross the minds of golfers who miss critical putts because of a green's poor playing surface.

Use of specially processed soils is widening, and, consequently, brightening the future of at least four manufacturers of extensive lines of soil and mulch shredders and grinders. These companies are the Kemp Shredder Co., 1027 E. 20th St., Erie, Pa. 16512; Lindig Manufacturing Co., 1875 West County Road C, St. Paul, Minn. 55113; Royer Foundry & Machine Co., Kingston, Pa. 18704; and W-W Grinder Corp., 2957 N. Market, Wichita, Kan. 67219.

These companies offer models with capacities of a few cubic feet per hour for the home organic gardener to commercial models of up to 200 cubic yards per hour for construction contractors. Prices ranged from about $150 to $24,000.

Buyers use soil processing equipment for their own soil or mulching projects or to manufacture soil and mulches for sale to others.

Who Uses Soil Shredders

Royer, in business for more than 40 years, has found this variety of users: nurseries, landscapers, florists, golf course superintendents and contractors, top soil producers, mushroom growers, peat producers, cemeteries, educational institutions, composters, excavating contractors, land developers, sewage sludge processors, and groundskeepers.

Lindig also has machines in operation shredding limestone and processing salt cake.

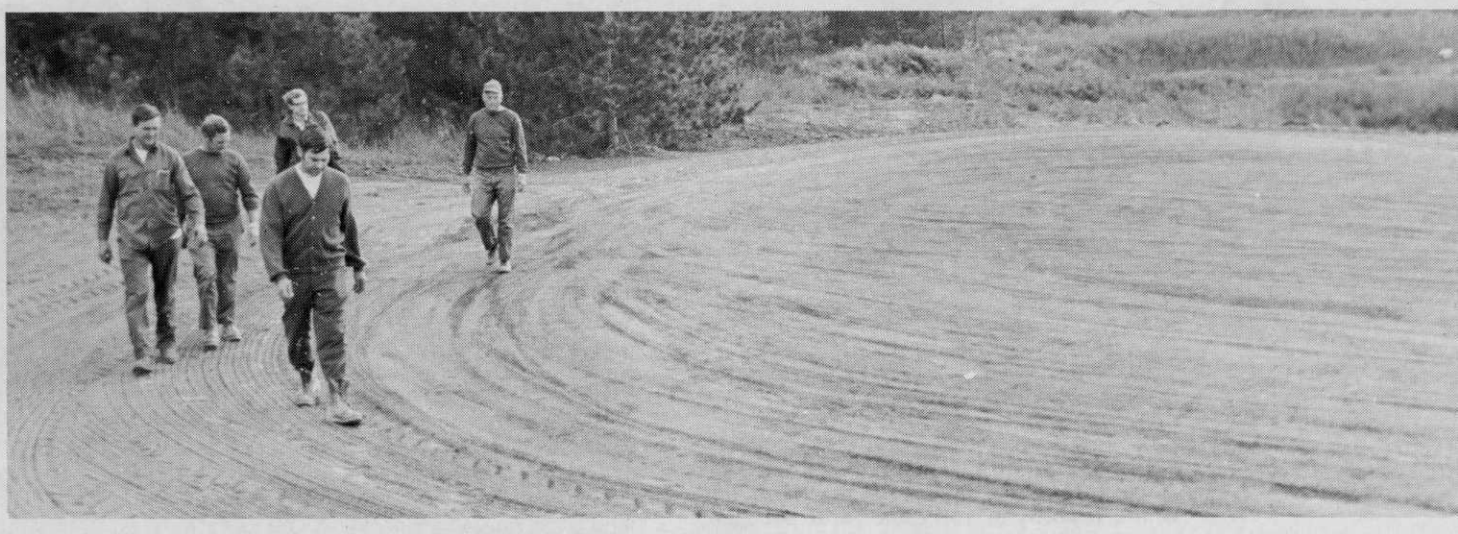
"R. S. Broadstone in Northfield, Ohio, is using one of our models to remove bullets from the soil of a rifle range," reports Lindig.

A shredder isn't a recent innovation. W-W Grinder Corp. has been around since 1910 and Kemp claims the "original compost and soil shredder." Rather, the market is expanding on a widening of uses and on the demand for increasing volumes of processed soil.

Uses Are Varied

The more common uses of shredders and soil processors include: to prepare potting and bench soils, soil mixes for container-grown stock; to shred, remove stones and other trash from mushroom casing soils, top soils, and peat; to prepare top dressings for turf areas; to shred and blend compost; to prepare soil mixes for road beds and wayside rest areas and to construct, maintain, and renovate turf areas, running trucks, and various athletic fields; to shred sewage sludge; and to shred partly decomposed organic materials and mix them with soils to improve nutrient content, increase friability and percolation of water through growth materials.

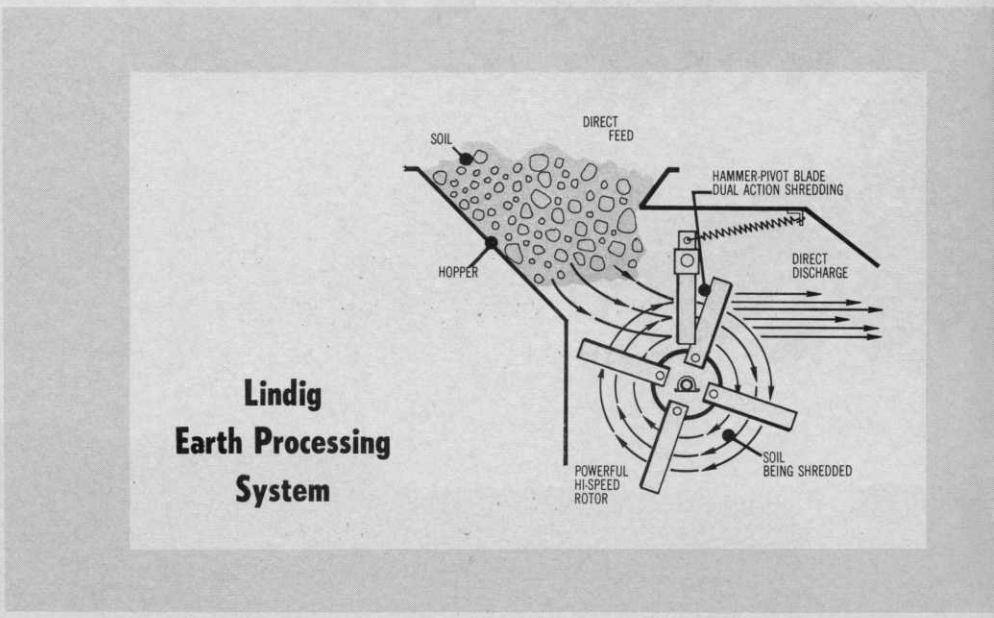
Essentially, explains Lindig, a soil shredder (1) mixes and blends varying types of materials to obtain a soil most beneficial for plant growth



Touring the green after the soil mix has been leveled to the desired grade are Don Herfort (leading) golf course architect; and from the left behind him, Bob Mogren, landscape contractor; Rene Belland, golf course construction; John Lindig, director of marketing, Lindig Mfg.; and Jerry Mogren, landscape contractor.

and durability; (2) produces a blend in a homogeneous format that assures no separation during processing or after installation; (3) aerates the mixture by injecting large quantities of air into the soil and trapping it in the mixture (this reduces the chance of compaction, adds to a friable and workable material, and enhances water percolation necessary to distribute the vital plant nutrients); and achieves a uniform mixture minus clods, stones, twigs, roots, and so forth.

Golf courses are perhaps the largest single user of processed soil. Lindig estimates that construction of an average golf course of 18 holes takes 6,000 cubic yards of green mix.



Examples of Operation Cost

Mogren Bros. of St. Paul is presently engaged in constructing an 18-hole championship course on 440 acres. The firm, also having extensive sod-production acreage, is using an L-75 model (75 cubic-yard-per-hour capacity) Lindig dual rotor shredder with screener (cover picture).

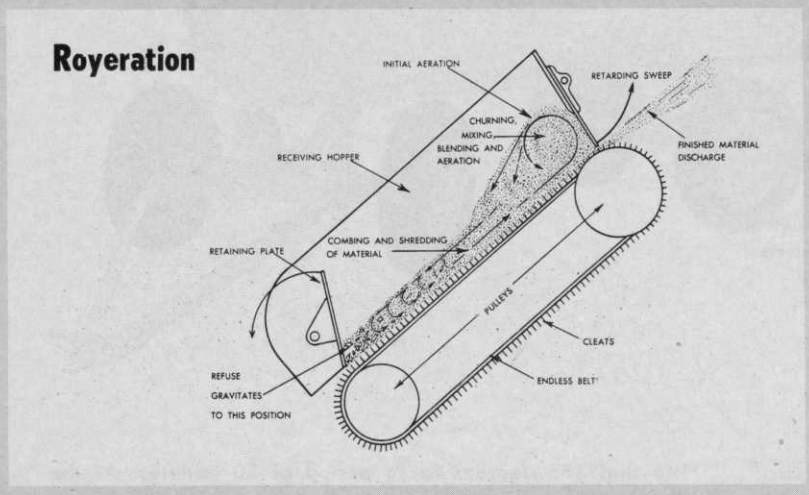
"Approximate cost of preparing the mixes for the course are about 25¢ per cubic yard," reports Lindig. This is exclusive of labor—for which one tractor or front-end loader operator is required.

"This cost is computed using the following data: list price of shredder and screener; a northern U.S. climate with about six months use (normally higher than this — thus lowering cost below 25¢); average servicing costs to unit; fuel; periodic replacement of shredding hammers; and depreciation of unit over a five-year period plus an annual rate of return on investment of 6%.

Royer publishes a pamphlet for golf course superintendents as a guide to using one of its models designed especially for top-dressing

W-W Grinder Corporation offers a shredder that can be powered by a garden tractor with the use of a V-belt pulley. A stabilizer bar is provided which is simply and easily attached to most garden tractors. This Model 5 unit provides up to six yards per hour capacity.

The Royer Paul Bunyan 360T is what its name implies, the biggest of the Royer line with a capacity of 100 cubic yards per hour. Its receiving hopper will handle buckets up to two cubic yards. It can be towed at highway truck speeds.



and renovating greens, and cleaning sand traps.

The Superintendent Shredder (15 cubic yard-per-hour capacity) plus a power screen, states the pamphlet reduces top-dressing costs from $10 per yard manually to less than $4 per yard.

An average-size green probably can be renovated in a single day, the guide says.

One man and Royer's POWER-screen, the guide adds, can keep bunkers free of pine cones, acorns, and other debris—and remove pea gravel to eliminate stony greens caused by trap shots.

Maintenance of a turf nursery is a growing trend at golf courses to provide sod that is readily available. Soil shredders are extremely valuable by enabling preparation of large volumes of soil mixes on site.

Steam Aerator Purifies Soil

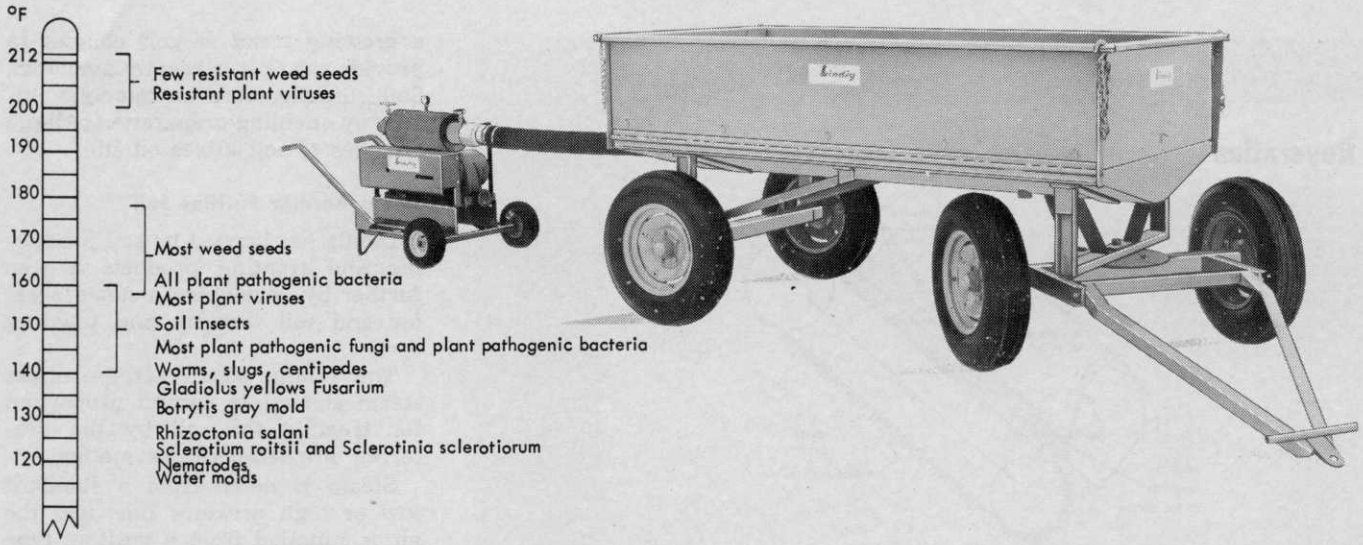
Lindig has carried its soil processing and treating products a step further by developing a steam aerator and soil treating and planting cart.

The Lindig steam aerator mixes steam and air in correct proportion for treating the soil by the preferred low-temperature method.

Steam is taken from a standard low or high pressure line, and the air is supplied from a positive type of blower. Air and steam are forced into the mixing chamber under pressure, where they are blended before being injected from the aerator to the soil treatment cart. The aerator can be used with similar treatment containers, planting bed, bench, and so on.

"When soils are held in a range of 145 to 165 degrees for a period of 30 minutes, most weed seeds, insects, virus, and disease-causing fungi are destroyed," Lindig explains. "Beneficial forms of soil

Kemp Shredder Company offers a variety of smaller mulch and compost shredders ideally suited to the home gardener and for nursery use. Capacities range from three to 12 cubic yards per hour. The units are "created solely to shred, grind or pulverize leaves, weeds, vines, brush trimmings, sticks, stalks, bone, phosphate rock, sludge, sod, soil and manure."



Lindig Mfg. also offers a steam aerator and a soil cart. The aerator provides low-temperature steam sterilization that does not harm beneficial soil pathogens. Steam is injected into the soil cart at a temperature range between 145 and 165 degrees for a period of 30 minutes. As the chart indicates, most plant-damaging micro-organisms, insects, viruses and weeds can be destroyed. The aerator and cart come in two sizes.

pathogens are not destroyed, and soil nitrates are not leached out.

"The aerated steam system provides the user with a positive method of obtaining and controlling the temperatures that are required for treatment of various soil mixes. The soil is well aerated, not toxic, free of added moisture . . . the net result is that recontamination possibilities are lessened, and stronger and better plants are produced in less time and at lower cost."

Lindig, the newest of the four shredder manufacturers, began operations in a dairy barn shortly before the U.S. entered WW II. After the war, expansion of the family business was steady.

When the plant was moved to its present location about 15 years ago, some friends questioned the wisdom of the move "to the country."

"When we asked for telephone service, all that was available was a party line with a construction firm and a nursery," said John. The Lin-

Meeting Dates

Dates for this column need to reach the editor's desk by the 10th of the month preceding the date of publication.

North Dakota Nurserymen's Association, Annual Convention and Trade Show, Fargo, N.D., Nov. 7-8.

National Fertilizer Solutions Association, National Convention and Equipment Exhibition, Cincinnati Convention Center, Cincinnati, Ohio, Nov. 9-13.

Ohio Turfgrass Conference and Show, Sheraton-Cleveland Hotel, Cleveland, Ohio, Dec. 1-3.

Oklahoma Turfgrass Research Foundation, Inc., Conference and Show, Oklahoma State University Student Union, Stillwater, Okla., Dec. 3-5.

National Aerial Applicators Association, Third Annual Conference, Roosevelt Hotel, New Orleans, La., Dec. 7-10.

Louisiana Turfgrass Conference at the Ira Nelson Horticulture Center, University of Southwestern Louisiana, Lafayette, Dec. 9-10.

24th Annual North Central Weed Control Conference, Sioux Falls, S.D., Dec. 9-11.

22nd Annual Helicopter Association of America convention at the Stardust Hotel, Las Vegas, Nev., Jan. 11-14.

4th Annual Park Symposium, New Jersey Recreation and Park Association, Lewis M. Herrmann Labor Education Center, Rutgers University, New Brunswick, N.J. 10 a.m. Jan. 14.

22nd California Weed Conference at the Grand Hotel, Anaheim, Calif., Jan. 19, 20, 21.

Associated Landscape Contractors of America, Statler-Hilton, Orlando, Fla., Jan. 19-23.

Annual Virginia Turfgrass Conference, Sheraton Motor Inn, Fredericksburg, Va., Jan. 27-28.

40th Annual Michigan Turfgrass Conference at the Kellogg Center of Michigan State University, East Lansing, Jan. 27-28.

Weed Science Society of America annual meeting, Queen Elizabeth Hotel, Montreal, Quebec, Canada, Feb. 3-5.

National Arborist Association annual convention, Del Webb's Towne House, Phoenix, Ariz., Feb. 13-19.

This W-W Grinder heavy-duty Model 4-EV features a detachable elevator. It has a 36x52-inch hopper, loads up to truck heights of 7½ feet and has a 20-cubic-yard-per-hour capacity. It is powered by a 9 hp @ 3200 rpm Briggs & Stratton engine.

dig plant, expanded several times, now is in the midst of a huge industrial park.

As the company neared its 30th anniversary, the Lindigs decided to try to find the first machine sold. Records indicated the small shredder went to a nursery in the area.

"I visited the nursery hoping at best to reclaim the rusted remains discarded somewhere on the grounds," Lindig said. Instead, the owner took him out back to where the unit was still on the job.

Lindig Mfg. gave the nursery a new shredder, then renovated the first machine to display it in the lobby of its new office addition.

BOOK REVIEW

THE CARE AND FEEDING OF TREES by Richard C. Murphy and William E. Meyer, $5.95, Crown Publishers, Inc., 419 Park Avenue South, New York, N. Y. 10016.

Smaller tree companies and nurseries that do not have a formal training program will find this book is valuable as a basic text for the new and untrained employee.

The book actually is directed to homeowners, but content is comprehensive enough to carry the reader a long way toward becoming a knowledgeable treeman. Experienced tree specialists will find the 60 pages of charts a good reference. Included are charts on standards for nursery grown trees, tree sizes by maturity, rate of growth, bearing ages of fruit trees, diagnosis and prevention of common insect and disease problems, and others. Some 30 pages are devoted to tree identification, including a four-page, full-color leaf chart for 55 varieties of U. S. trees.

Chapters deal with the value and makeup of trees, landscaping hints, planting, pruning, cabling, cavity repair, soil characteristics, fertilization, and pest and disease control.

Most chapters end with a "do and don't" review and a list of safety tips.

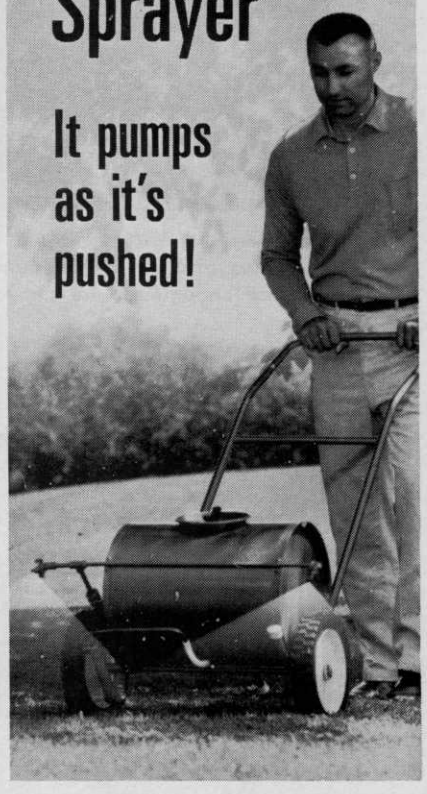
Richard Murphy is a tree-care specialist, having begun his experience as a boy working in the nursery his father managed. He studied at the F. A. Bartlett School of Tree Surgery and gained practical experience as a tree surgeon, landscaper and operator of his own tree-care business.

William Meyer, a journalist and currently director of public relations for the Communitype Corporation, has helped to present the book in language that laymen can understand. Meyer met Murphy 12 years ago as a homeowner with "tree problems" who had sought the advice of an expert.

UNIVERSAL

Improved Wheel Pump Sprayer

It pumps as it's pushed!



For Turf Care!

One of the handiest sprayers a professional can own. Ideal for jobs too small or too irregular for power equipment. Sprays either a 48" wide or 24" wide swath. Unique rubber wheel-pump "milks" out solution as you push the sprayer. Improved model reduces pulsations for smoother spray pattern. Lays down a heavy residual spray. For killing weeds. Fungus control. Insect control. Turf grubs. For fertilizers, too. Safe. Sure.

Write for new catalog

New low cost kit adapts late model wheel pump sprayers for towing behind small tractor.

UNIVERSAL METAL PRODUCTS

Division Leigh Products, Inc., Saranac, Mich. 48881

For More Details Circle (103) on Reply Card

"Gee, I'm sure I parked my truck in here somewhere!" Well, the weed problem in Levelland, Tex., wasn't quite that bad. But it was bad enough for the city to initiate a clean-up campaign.

Levelland, Tex., Goes City-Wide Against Weeds

WE DON'T like weeds!" That's the message from Levelland, Tex., this summer — but what's really making news in this west Texas community is that officials are doing something about it.

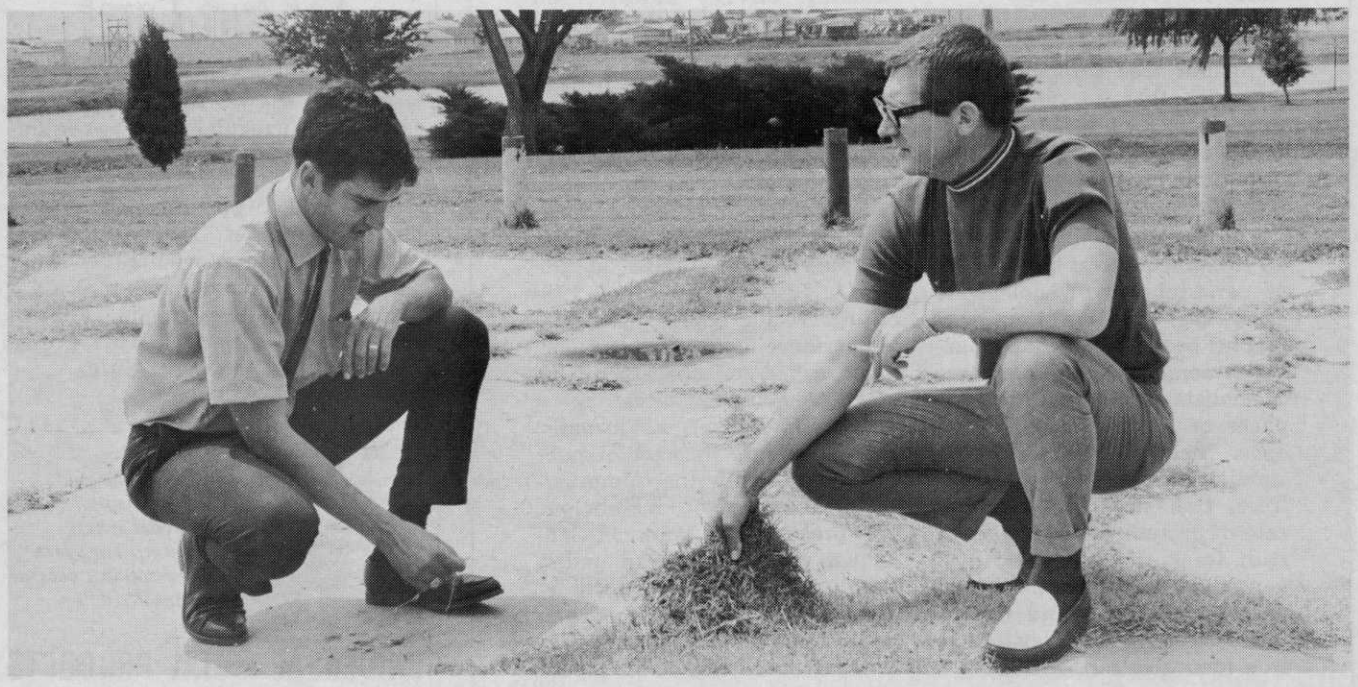
When it comes to making their town look more attractive, the people of Levelland show a pretty keen eye. They've launched a campaign to "clean-up, fix-up, and paint-up" that in recent months has helped them win awards and growing recognition of their achievements in making the community a better place to live and work. The West Texas Chamber of Commerce, for example, has named Levelland a "Blue Ribbon City" this year. And the town is in competition for several national awards.

After this year's high rainfall, weeds started coming up a lot higher and heavier than usual. When they started popping through sidewalks and streets, around traffic lights, street signs, and fire hydrants, local leaders decided it was time to sound an alarm.

June Was "The" Month

A weed clean-up campaign was spearheaded by Levelland's Mayor, Bob Vaughn, who declared the month of June "TLC" month. "This meant 'Think, Look and Compare'," explained Mayor Vaughn. "Our focus is thinking, looking, and comparing toward improving the appearance of the community and weed control is an important part of this idea."

The Chamber of Commerce has



City Manager Bob Sokoll (left) and Chamber of Commerce Manager Jake Street examine weed growth on the municipal court.

been particularly successful in encouraging local support and participation in the clean-up program. Through its meetings and broad distribution of special literature, newsletters, and bulletins, the Chamber has reminded the community of the need for a concentrated effort to control weeds.

Chamber members emphasized that weeds not only detract from beautification, but also they attract insects and rodents or can become serious safety or fire hazards if not properly checked. The Chamber also initiated a number of special awards programs to reward outstanding local efforts in civic beautification and clean-up.

The cooperation of a local businessman was especially helpful when it came to handling the unusually widespread weed infestations. Agricultural dealer Lon Ward of Farmer Fertilizers helped by putting together special information material on herbicides telling where, how, and when to use them. This was sent to all Levelland businessmen and community leaders.

As Ward put it, "We saw no reason why our town people shouldn't benefit from using modern chemicals for weed control, too — just like our farmers do. The benefits work both ways: saves time, labor, and expense, and gets the job done."

To help this idea along, Ward gave away dozens of sample packages of the herbicide Pramitol. Each package contained one pound of Pramitol — enough to cover a 100 square foot area. "A single application is usually sufficient to knock down most existing weeds and then prevents them from coming back for some time," Ward says.

According to Jake Street, manager of Levelland's Chamber of Commerce, Ward's example is typical of the kind of support and help he's been getting from business leaders. "This is the real reason our clean-up and beautification program has been so successful to date," Street reports.

Bob Sokoll, city manager, backs this up. "Support has been first rate in many areas and we've seen considerable improvement in a relatively short time," Sokoll says. "More than 30 old buildings have been torn down or replaced and 10 more are on the way down. Other businesses have remodeled or modernized their exteriors and improved their surrounding property.

"At last count more than 100 vacant lots had weeds shredded, grass cut, and debris removed," Sokoll reports. "City-owned rights-of-way and alleys were spruced up, along with more than 100 acres around our municipal airport. And we've removed more than 100 junk car bodies from residential areas."

Santa Fe Railroad and Phillips Petroleum — both with sizable real estate in Levelland — are tieing in their own beautification and clean-up activities with the community efforts.

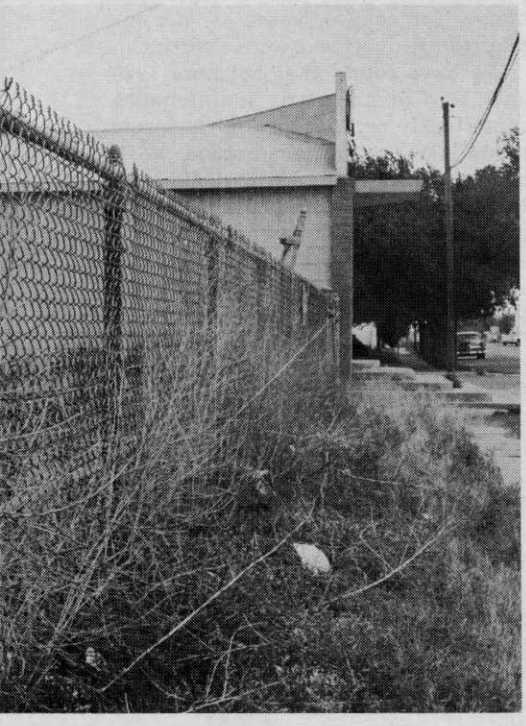
Weed Control Will Increase

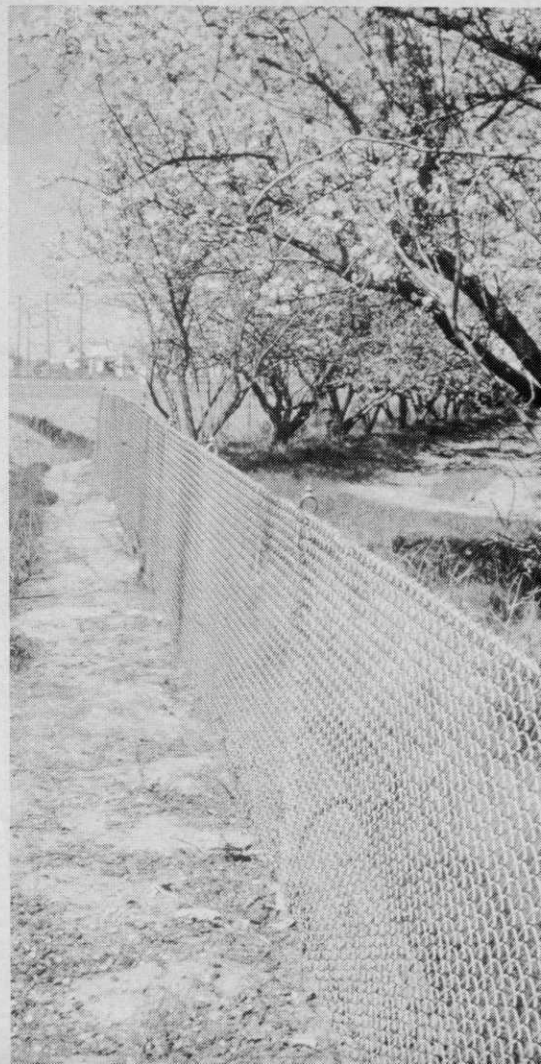
Both Street and Sokoll agree that weed control as such has been neglected in previous maintenance programs and both see an increased effort to exterminate them in key trouble spots.

Streets and other paved areas where weeds have penetrated in downtown Levelland, for example, will be treated regularly with herbicides like Pramitol. Application is also planned around fences and guard railings and various installations at Levelland's new municipal airport.

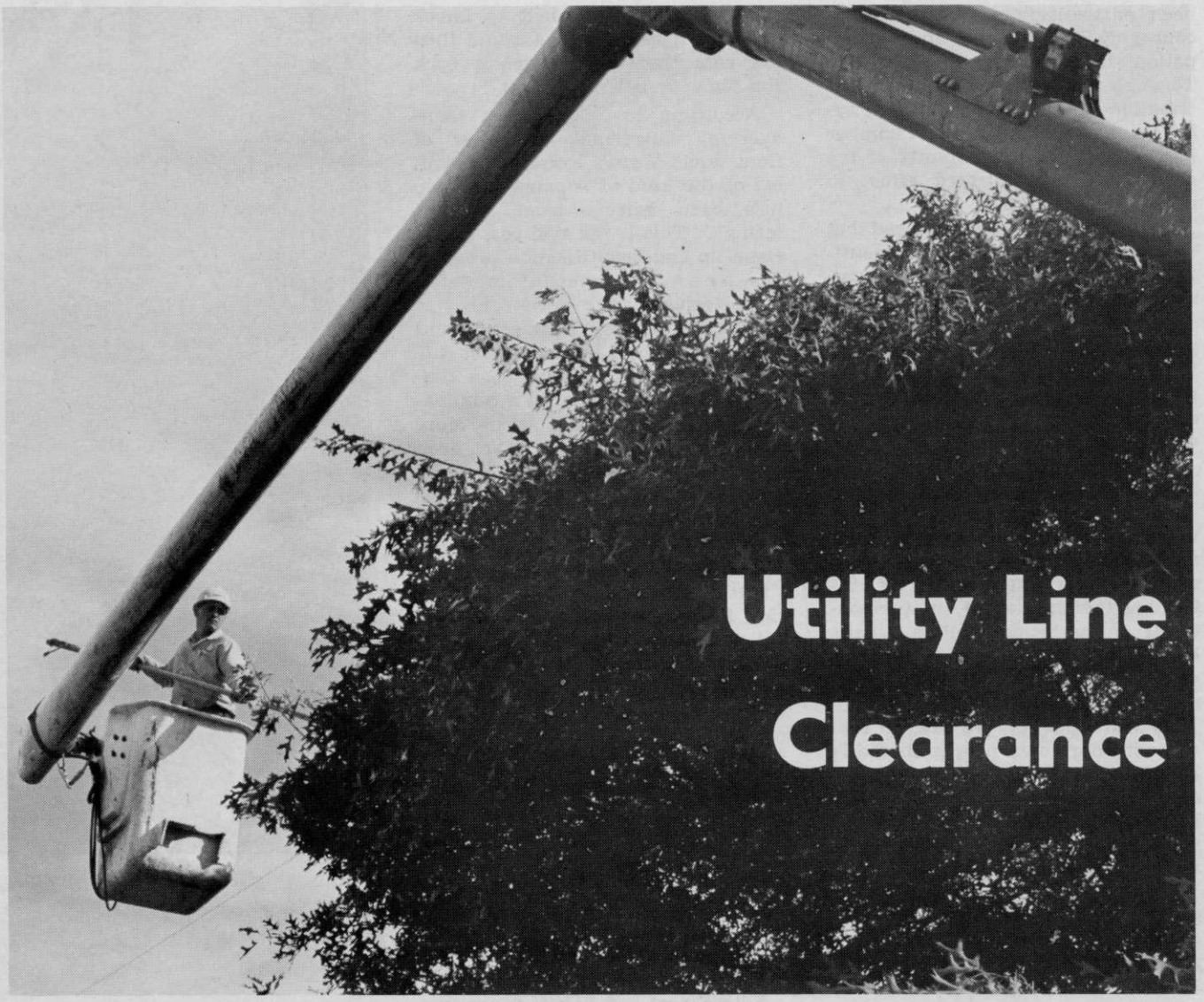
"We also recommend herbicides to control weeds around cotton gins, elevators, storage buildings, lumber yards, parking and drive-in movie lots, and along exposed pipelines," Street adds.

"All in all, beautification is a noticeable fact in Levelland — and everyone likes the improvement!"





Fence rows that once looked like the one on the left were cleaned up with Geigy's Pramitol to look like those on the right.



Utility Line Clearance

By BERNARD E. SWISHER, Forester
Columbus and Southern Ohio
Electric Company

MOST TREE problems are a nuisance to those persons who do not normally work with them. Our line clearance program, therefore, is a kind of service function.

If a person has a tree problem and doesn't know whom to call, he may tell the operator, who will connect the caller with someone qualified to help. But there are misunderstandings.

We work on about 2,000 trees per week. About once a month, we get into some sort of trouble. About one tree in 8,000 gives us trouble.

A contributing factor is semantics — words mean different things to different people. Pretty much the same is true with determining the cost of line clearance.

This problem of costs — how we measure what we are doing; or how do we estimate what we need in money for coming years — is common to all overhead wire utilities.

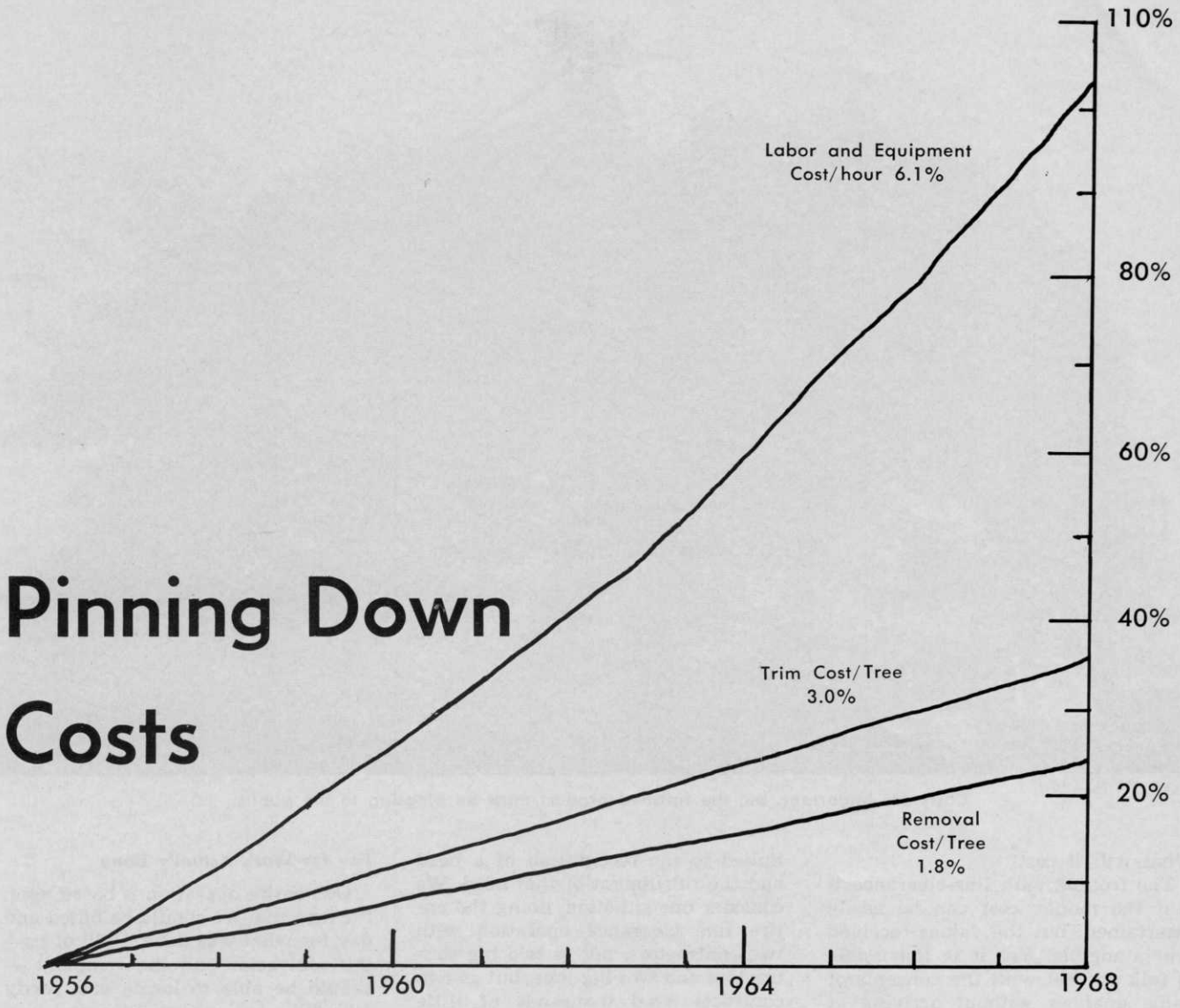
We have found that between 1960 and 1968 distribution maintenance consistently represents 78% in terms of dollars used. Transmission work has increased from 9% to 11%; subtransmission maintenance has remained at 3%; and new construction work has dropped from 10% to 8%.

Concerning use of dollars by types of work, trimming accounts for 63% — up from 46% in 1960. Brush spraying has increased from 6% to 7%; brush cutting from 4% to 5%; and removal has decreased from 44% to 25%.

How to Evaluate a Program

Line clearance is a functional type of enterprise where success is solely dependent upon performance. All of us who work with trees know there is a lot more involved in tree costs than just the price of trimming. Before we can deal with the

Pinning Down Costs



problems of cost, we must understand them.

Frank Wagner of West Penn Power Company offers these points for evaluating a program:

1. Keep work methods attuned with administrative concepts and objectives.
2. Develop guidelines that can increase the effectiveness of expenditures.
3. Improve procedures, such as tailoring a crew to fit the job, converting to natural trimming, using chemical brush control vs. cutting.
4. Appraise results.
5. Be aware that success is dependent upon the workability or practicality of instructions and management support.
6. Results should demonstrate discretion, intelligent thought, sound economics, and a finished product pleasing to the eye.
7. Compliance with specifications should be in the vicinity of 90%.

Jack Stenberg of Consumers Power in Michigan says that good records help analyze the continuing, repetitive, and increasingly expensive work of maintaining adequate line clearance. Positive measurement of the annual work load helps provide an accurate guide for a well-defined budget, he says.

Jack is using initial surveys by area in conjunction with inspection and computerized records.

Inspect and Record

We should not sell ourselves short on good records and on-the-job inspection. Attitude, skill and knowledge is important. On the job, talking face to face, you can observe, hear and evaluate feedback. You get first-hand knowledge, which, in conjunction with good records, is a combination that's hard to beat.

There are many specific areas of cost that are dependent on things other than the actual trimming job: pre-planning, better maps and prints, job routing, travel time, new techniques, crew size, disposal, wages paid, daily weather, season of the year.

Cost, or value analysis, and these are not exactly the same, consists of providing and using guide lines so that each area of expense is known and contributes its share to the solution of the problems.

Two of our recent efforts have been: To convert a truck and trailer-type chipper unit to a truck-mounted chipper, enabling a crew to work easier in congested alleys; and shifting from two- to five-man crews working from the same site to permit compensation for absenteeism. With two-man crews, if one was late or didn't show up, the crew was lost for the day.

Measurable Goal Needed

Regardless of what we foresters want, management also has a goal. Management wants to be able to measure that goal. What is being done? What else will do the job?

Costs are important, but the finished product must be pleasing to the public.

What will it cost?

The trouble with line-clearance is that the money cost can be easily ascertained; but the values received are intangible. Yet it is impossible to talk or deal with the concepts of value analysis without arriving at some standardization.

With some industries, a saving of 4% in costs is equivalent to a 20% increase in sales. Cost is important, but we also need quality.

As long as the contractor is making a satisfactory profit, his goal is the same as ours, continuous adequate service.

Our program is in three parts:

Achieving adequate clearance . . . at a cost we can afford . . . in a way that's pleasing to the customer.

Dispersed Management

No one can personally oversee 2,000 trees per week. So what do you do? You put good people in key spots and trust them to do the work. This is management by dispersion, or some management textbooks call this sort of thing "indirect control."

But different people do things in different ways. So in addition to trusting people, you must check once in a while to be sure they are doing things in an approved manner.

Success in any endeavor is closely linked to the recognition of a need and the fulfillment of that need. We consider our situation, doing the entire line clearance operation with two contractors, not as two big contractors and two big jobs, but as two contracts and thousands of little jobs.

"Brace yourself, Joe. You did everything humanly possible to save that tree."

Pay for Work Actually Done

Our entire operation is based upon the idea that we should be billed and pay for what was done. Both of us—the contractor and the company — should be able to locate and verify who did what, where, why, and how much it cost.

Every invoice has all of this information on a cost-plus basis, plus three other items:

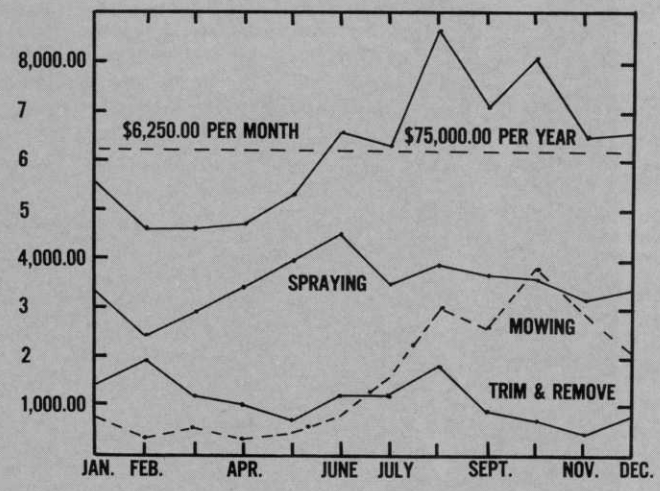
1. Total cost is proportioned as to the amount spent on each kind of work — trim or remove trees; spray or cut brush.
2. Each item of cost is shown in a specific way.
3. Each invoice can be calculated quickly to compare the cost-plus billing with a piece-rate system.

This matter of invoicing is probably our only area of difference from any other well-planned utility line-clearance program. Our invoicing system is just the application of industrial piece-rate technique. Perhaps the greatest significance is the continued usefulness of this system throughout 20 years of different line-clearance applications.

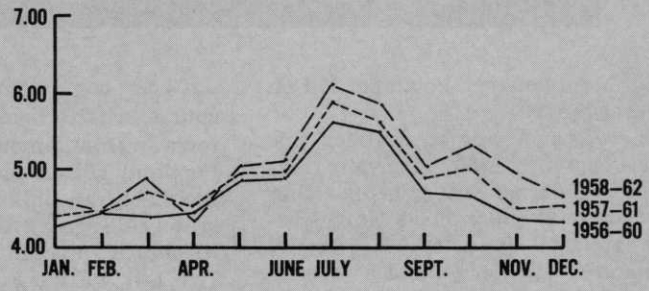
It's effective when estimating a job, when inspecting a job in progress, and when analyzing a completed job.

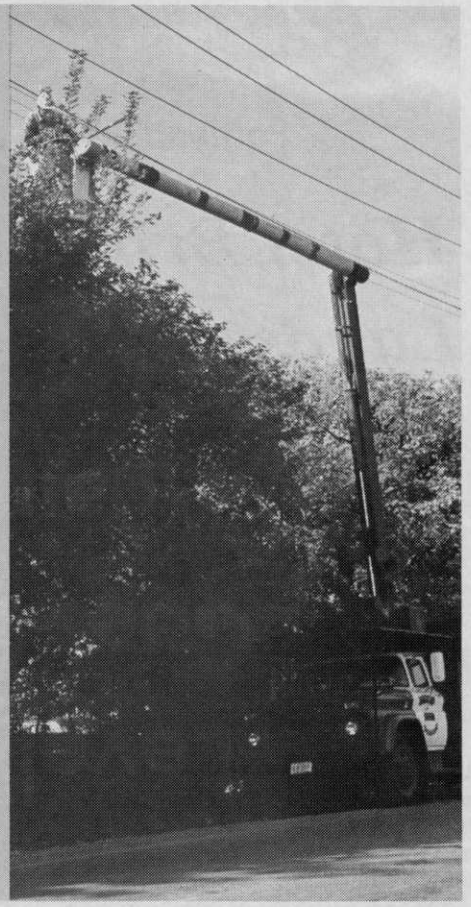
Both of our contractors consider

TOTAL DOLLAR ACTIVITY MONTHLY



AVERAGE DOLLAR COST PER TREE TRIM MONTHLY





the system to be fair to everyone. Both have been using it on the present job for more than 15 years. Karl Kuemmerling and Associates, Inc., has been on this same job for more than 25 years. Asplundh Tree Expert Company has been with us for 18 years.

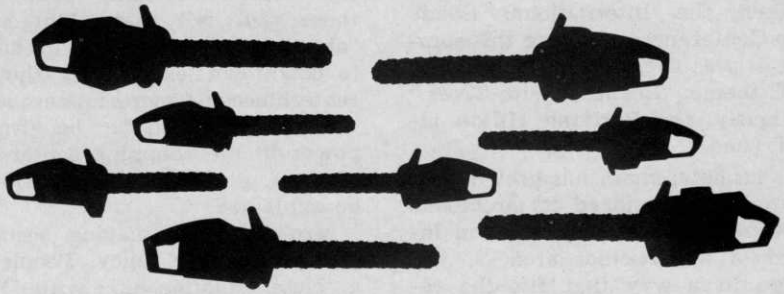
Criterias Enable Cost Comparisons

The usual criteria for tree costs are to determine the average cost per tree to trim or remove. We also watch the amount of work produced per dollar. By using this third yardstick, we can compare the per-hour costs to what a job would cost on a piece-rate system.

With these three financial yardsticks, we can make almost any kind of comparative cost:

1. Compare one crew with another;
2. Compare one crew against itself when moved to another area; or
3. Compare the same crew in different months of the year.

Good management is hard work. There are no machines or canned management programs that can manage your business. The biggest mistake you can make is to borrow without change the objectives, goals, policies, job descriptions, or control systems from another company. Every business has characteristics that are distinctly its own.



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Portland Hilton

Hotel Brings Landscaping Downtown

PORTLAND, Ore., has a park in the heart of the city that's in a rather unusual place.

The park has 70 trees, more than 100 shrubs, a dozen different ground covers, several thousand flower bulbs, a number of ferns and vines, a swimming pool, and the usual tables and chairs.

The park is on the second story of the Portland Hilton Hotel.

When the International Shade Tree Conference met there this summer, it was superfluous to post the ISTC theme, "Beautify With Trees." Obviously, the Portland Hilton already had.

As its hotel chain has grown, Hilton has commissioned its architects to "capture the atmosphere and interest of a particular area . . . to design in a way that fits the region's historical background," said Ford Montgomery, Portland Hilton general manager.

Therefore, it was natural for this hotel, begun in 1960, to have a tree-oriented decor, considering that Portland is the hub of the Northwest U.S. nursery industry. A "Trees" restaurant and lounge and a "Woodchoppers' Bar" carry the theme inside.

"There was a r c h concern when this hotel was being planned — there still is," said Montgomery, "about what was going to happen to downtown, as outlying shopping centers became more numerous."

There appeared to be drawing power in the shopping centers' use of trees, grass, shrubs and flowers, he explained.

"L o t s of landscaping seems to capture people's fancy. People feel a close relationship with living things."

T h e competitive reaction, of course, was to bring the idea downtown. Montgomery believes the Portland Hilton pioneered this new architectural philosophy. By deliberately designing the building to incorporate maximum landscaping, "we felt we were contributing to a solution rather than to the problem."

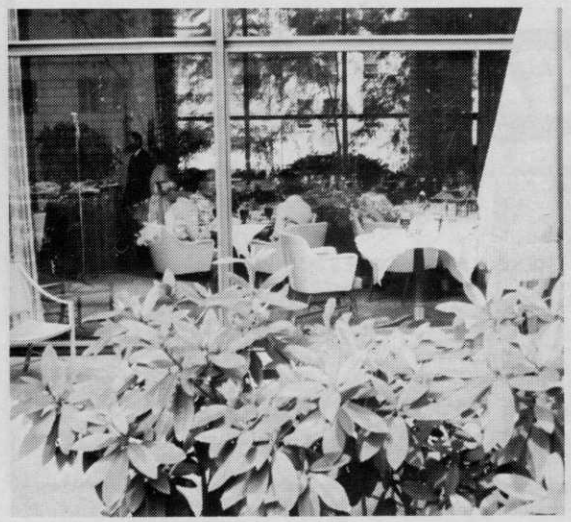
"We didn't want to fill the block with a huge hunk of cement."

Other new commercial buildings have followed Hilton's lead, Montgomery said.

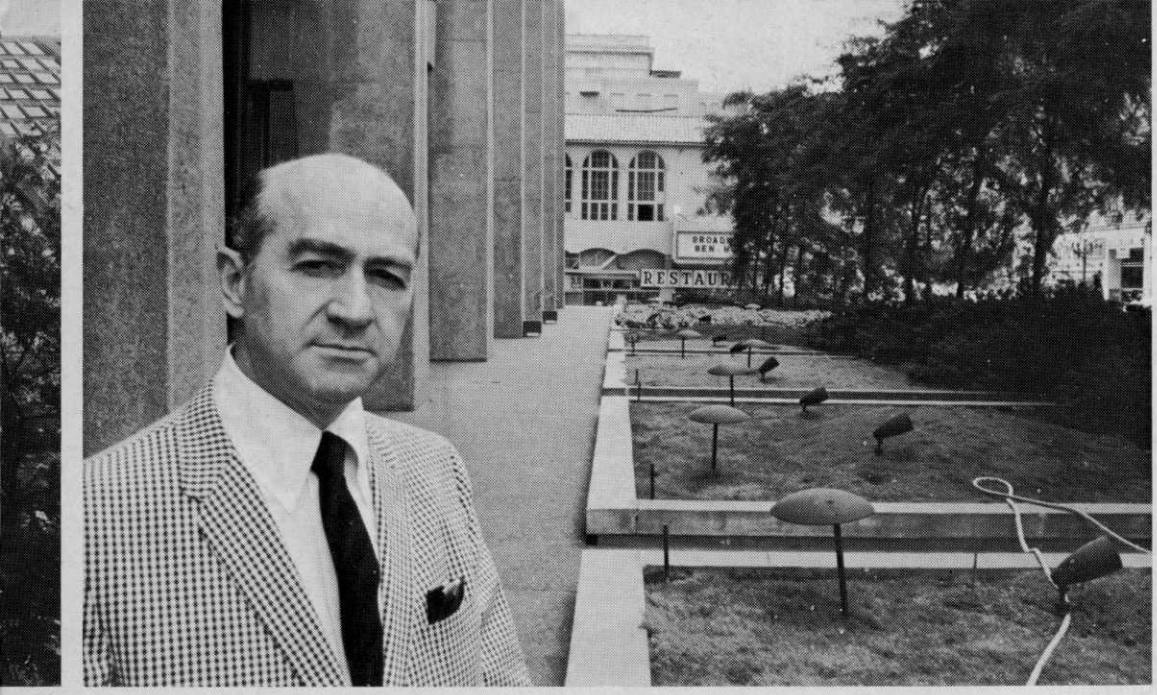
Landscaping conceived by architect William G. Teufel of Seattle had utilitarian as well as esthetic value.

Plantings screened out other buildings on adjoining blocks, enhancing the view outward and restricting the view inward. M o r e privacy was achieved for ballroom

Diners have a garden view that undergoes colorful changes almost year around. Honeylocusts and a variety of other trees help screen out the sun.



Frank Lockyear, landscape
which is complete with swim



Trees break up and soften the fortress-like tower of the Hilton Hotel in Portland, Ore. Ford Montgomery, general manager, believes landscaping has drawing power that businesses can hardly afford to be without.

guests who could wander onto the garden park and for others who wished to enjoy the pool. The view from an exclusive dining room is of trees, shrubs, and bright flowers rather than brick, glass, cement and automobiles.

Trees and shrubs are used as windbreaks, sun screens, and noise absorbers. About a dozen honeylocusts planted for the latter two purposes are now about 30 feet high.

"Use of evergreen planting materials, shrubs, groundcovers, and trees, provide a contrast to deciduous material," Teufel explained in the landscaping plan. "Deciduous material offers an ever-changing scene. By interrelating this varied plant material, there will prevail an atmosphere of constant change and interest. Most plant material is of the blooming variety to contrast with the prevailing green."

Frank H. Lockyear and Sons, landscape contractors, installed and maintain the second-story park. Lockyear used a mixture of manure, peat moss, sand and virgin soil. Depths ranged from nine inches for ground covers and from 28 inches to four feet for tree wells.

"Floodlighting at night gave us a moth problem, but we were able to handle it by spraying," Lockyear said.

Most of the plantings are native to the area, but Lockyear pointed out a few surprises, such as two southern magnolias he had positioned in a sheltered place.

Lockyear has discovered a few surprises himself. "Nature has added species of her own," he said. "I've found an American holly, a wild pear, and a European birch. I didn't plant them. They just came up wild."

Montgomery's prize tree is one he purchased and added himself. He spotted a Japanese laceleaf maple on an estate that was being subdivided for housing. The knarled but delicate beauty is reportedly more than 70 years old. Montgomery had it potted and placed at the end of the reflecting pool in front of the first-floor entrance.

"That's the most photographed tree in the state," he said. "I've been offered $1,200 for it, but it's just not for sale."

The Portland Hilton sacrificed income-producing rooms to make space for the landscaping that ultimately cost $50,000 to install. But, observed Montgomery, "we cannot afford not to have it now." The atmosphere that landscaping creates, he added, is where people will go.

contractor, installed and maintains the hotel's mini-park, ming pool.

Guests in the Trees Restaurant can enjoy a 70-year-old laceleaf maple that graces a pool at the front entrance.

Now You See It . . .

Alligator Weed Vanishing Act
Tulare County, Calif.

SINCE Alligatorweed, *Alternanthera Philoxeroides,* was first found in Tulare County in December, 1965, many agencies and persons have contributed considerable knowledge and time to its control. This native of South America, which has given weed control specialists in the United States headaches for nearly 80 years, is now under intensive eradication in Tulare County.

Potential losses from Alligatorweed were disclosed locally from L. W. Weldon's paper (1960) on investigations of this pest in southern states. Extensive correspondence also was collected and researched by Murray Pryor (California Department of Agriculture), and many other interested agencies who were familiar with this extremely hard to control member of the Amaranth family.

With the two newly completed large flood control and recreation lakes only a few miles from both infestations (Porterville and Visalia), game and pan fish could be endangered. Infestations could reduce oxygen supplies enough to kill many of these and raise predatory fish populations.

Also, decaying mats of Alligatorweed produce hydrogen sulfide, which is highly toxic to fish and other organisms. Recreation in other ways could be hampered. The diversity of agriculture in the San Joaquin Valley, which is dependent upon receiving water through various channels, could be impaired with the great restrictions to water flow caused by uncontrolled Alligatorweed.

One grower on the end of an infested ditch says his delivery of water had been reduced by 80% since the weed invaded this channel. This is no longer a problem with the control now obtained on the same ditch. Mosquitoes thrive in Alligatorweed infested waterways and their control is difficult.

The capabilities of plant growth are staggering. One measured plant produced 56 feet of lateral foliage growth in one season. Nearly four tons of root growth per acre can accumulate in the top four inches of soil. The fleshy roots can penetrate three or more feet into the soil.

The very botanical nature of this perennial pest can cause apprehensions. Its hollow, crisp stems are very buoyant, break off readily and float downstream to create new infestations. Nodes occur every two to eight inches and quickly produce roots or foliar growth. The thickened deeper roots can propagate new plants from very small portions.

Porterville, Calif., ditch before and after treatment . . .

Visalia ditch before and after . . .

. . . Now You Don't

By WILLIAM R. CLARK
Deputy Agricultural Commissioner
Weed and Vertebrate Pest Control
Visalia, Calif.

. . . with oil and Vapam or paraquat and Vapam.

. . . the same story.

Fortunately, Alligatorweed's small, white, sepaled flowers produce no viable seeds in the United States. Several hundred thousand acres have been taken over in the southern states with millions of dollars spent on research and controls.

Joint Eradication Effort

When the urgency of needed action was determined in 1966, the California Department of Agriculture (Weed and Vertebrate Pest Control), and the Tulare County Agricultural Commissioner's Office launched a concentrated effort to eradicate Alligatorweed within its new boundaries.

Surveys of more than 300 miles of waterways disclosed 72.6 acres (29 miles) of infested channels and a small amount creeping into irrigated cropland. In 1966 the first Eradication Agreement was formulated to conduct field trials and find a solution. Cooperation was very good from the beginning. Vince Schweers, Tulare County Farm Adviser, who first discovered the weed in Tulare County, and Bob Dunbar, Tulare County Agricultural Commissioner's Office, conducted trials with materials known to show promise in the southern states.

W. B. McHenry, University of California at Davis, started greenhouse evaluations with many herbicides. Murray Pryor and Les Haworth, California Department of Agriculture, and many other competent weed specialists also began eager test plotting.

The ditch companies, a water conservation district, ranchers, irrigation districts, and the cities of Visalia and Porterville built access roads, shifted water schedules and anything else needed to further enhance testing. Technical and field assistance was given by various chemical company representatives. T. C. Fuller, California Department of Agriculture staff botanist, contributed his time and knowledge.

Large-Scale Field Testing

More than 350 field test plots with various chemicals and combinations thereof have been applied. The soil sterilants were all investigated with sodium-chlorate at 1,200 pounds per acre showing the best results. Diuron at more than 100 pounds per acre resulted in yellowing of Alligatorweed. Most translocative materials were tried, amitrole, and dicamba looking fair.

Tarping with black polyethelene for 92 days reaching temperatures of 160 degrees only gave chlorotic whitening with recovery after re-

Crews spray a pond on the Miller and Mueller ranch near Visalia. Areas were staked in 200 sq. ft. plots to help assure rate application. Result: clean pond.

moval of the plastic. Growth regulators and fertilizers were looked into. Fumigants were encouraging. Methyl bromide under tarps worked well where there was no water in the root zones. Carbon bisulfide injections proved too hazardous because of flammability, and, like methyl bromide, proved too time consuming and ineffective on large scale operations.

Many adjuvants were tried in combinations and singly.

Successful Combination Found

The need for materials that would be safe to use in and on the waterways was always foremost in mind. Finally, Vapam or VPM and paraquat were used in combination as a foliar drench. Spray rates were one quart vapam, one pint paraquat, and eight ounces surfactant in 25 gallons of water per 100 square feet. This combination showed excellent results within a very short period of time, the Vapam affecting root zones and paraquat the foliar portion. All agencies involved decided to begin eradication operations with this combination of materials, yet keep up investigations to improve the project. A deviation from label authorization was obtained for the use of the formulation.

In November 1967, county, state, and irrigation district spray crews began treatment in the three Porterville area waterways and three Visalia systems along with a pond on the Miller and Mueller Ranch in the Visalia area.

Commercial pest control operators were contracted to treat (under project supervision) the Miller and Mueller Ranch. This consisted of a 500-gallon nurse rig and two 500-gallon spray rigs with seven men. Areas were staked off into 100 square foot plots and rigs calibrated to spend five minutes per plot.

In heavily infested areas a mat of foliage nearly two feet deep was encountered, peneration was slow and difficult. This prevented, in some cases, incomplete contact with all foliar portions of the plant and new plants formed from the nodes. Burning the top growth a few days after treatment reduced regrowth tremendously by destroying the nodes previously not harmed. Overall results were unbelievably successful.

Frost damages all foliar portions of Alligatorweed except the nodes. Tests conducted at the Bureau of Plant Pathology greenhouse at Ivanhoe showed new plant growth in four days from apparently frost-killed nodes. Paraquat and Vapam were applied at temperatures ranging from 30 degrees to 90 degrees effectively, although volatility and loss of gas was increased at higher temperatures. Optimum results are achieved from 65-75 degrees.

In 1968 the use of high emulsion-type weed oil was perfected as a substitute for paraquat. This resulted in even greater penetration of foliage and a substantial reduction in cost. The rate of materials was now one gallon weed oil, one quart Vapam, two ounces surfactant in 25 gallons water applied on 100 square feet.

Quarantine Regulation Obtained

The hazard of new infestations was reduced by obtaining from the Bureau of Plant Quarantine an "Alligatorweed Eradication Area" regulation. (Section 3960, Title 3, California Administrative Code). This regulation proclaimed the entire County of Tulare an area of eradication, making it possible to regulate movement of soil or other articles which may be exposed to or infested with Alligatorweed; also to conduct visual inspections and make repeated treatments on properties, water channels, and other places or things for Alligatorweed.

The vapam-oil spray plus burning gives control nearing 95%. The remaining regrowth is being retreated by spraying and in areas where penetration is difficult (steep banks and soil types), "pot holing" is employed. This is done by digging a basin, or loosening the soil around individual plants and filling with spray mixture. In some areas five pounds per acre diuron is added to the mix to control annual weeds, making it easier to find any regrowth.

The biggest problem at present is waiting for dry channels, as all treating has to be done when ditches are dried up.

Gypsy Moth Tree Damage Trebled Over Past Year

Gypsy moth defoliation of trees in northeastern woodlands totaled 260,000 acres this year, more than triple last year's defoliated acreage, reports the U. S. Department of Agriculture.

Officials of USDA's Agricultural Research Service are openly pessimistic about the possibility of keeping gypsy moths restricted to the presently infested areas in the northeast. Plant pest control officials explain that heavy gypsy moth populations are building up, and that the moths are spreading much more rapidly as a result. If allowed to spread into the commercial hardwood forests of the Allegheny, Appalachian, and Ozark Mountain regions, the moths could cause tremendous economic damage, officials warn.

Gypsy moth damage this year is concentrated in southeastern New York, including especially hard-hit Long Island, northern New Jersey, southeastern Connecticut, and some scattered areas in Pennsylvania, according to plant pest officials.

In their caterpillar form, gypsy moths strip the leaves from forest, shade, and fruit trees, as well as ornamental shrubs. By defoliating forests, they increase fire and erosion hazards, adversely affect stream flow, reduce land and recreational values, and destroy wildlife habitats. Officials point out that a single defoliation has been known to kill white pine, spruce, and hemlock; two defoliations have been known to kill hardwoods.

Gypsy moths were imported into the United States in 1869 by a Medford, Mass., naturalist. Some escaped and eventually spread throughout New York, New Jersey, and Pennsylvania. Recently, male moths have been found deep into Delaware. Gypsy moth defoliation of trees has fluctuated over the years, but reached a high of almost 1½ million acres in 1953.

D. R. Shepherd, director of the ARS Plant Pest Control Division, said that the problem of gypsy moth spread is compounded by persons unknowingly giving these pests a ride into new areas. He pointed out that gypsy moths can be spread long distances rapidly by the movement of timber and timber products, quarry products, nursery products, and by trailers and camping equipment.

The problem of campers giving gypsy moths a free ride was highlighted recently when a plant pest control inspector discovered gypsy moth egg masses at a number of camp sites in Connecticut. A traceback of trailers that had left the camp sites after the start of the moths' egg laying season revealed that some of the trailers had carried gypsy moth egg masses as far away as Minnesota, Wisconsin, Virginia, Texas, and Florida. Plant pest inspectors destroyed the egg masses.

Shepherd said that this problem and others can be lessened if campers or visitors of gypsy moth infested areas check with a county agent or plant pest inspector to make sure they have complied with quarantine regulations designed to prevent the long distance spread of gypsy moths.

Industry People On the Move

The Davey Tree Expert Company, Kent, Ohio, has created and filled two new posts. T. A. Baer has been named general sales manager of tree care services, and T. L. Booth has been appointed general sales manager of utility services.

Baer will head all territorial sales activities in residential, institutional and government tree care service. Booth has charge of line clearance, chemical brush control, right-of-way maintenance and other utility services.

Baer, who joined the company in 1940, was appointed foreman in 1946 and general foreman of the St. Louis-Southern Illinois territory in 1951. In 1957 he became sales representative in the Louisville area, and transferred to company headquarters as assistant sales manager in 1966.

Booth joined the company in 1941, and was appointed foreman soon after attending the Davey Institute of Tree Service in 1948. In 1965, he was promoted to special assistant in the sales department of the home office.

* * *

Amchem Products, Inc., Ambler, Pa., has named Rodney M. Reeser sales representative, according to M. B. Turner, vice-president and general manager. Reeser, a member of the American Hereford Association, formerly was a branch manager trainee for Monsanto Company. He studied agriculture at Southern Illinois University.

Greenlife Products Company, West Point, Va., maker of pine bark base mulches, soil conditioners and fertilizers, has elected Edward F. Kelley president.

Kelley, an Amherst College graduate, holds a master's degree in business administration from Harvard. He joined Chesapeake Corp., Greenlife's parent company, as marketing research manager in 1960. When Greenlife started production in 1962, he was named its general manager, and has recently served as its vice-president.

* * *

Turf-Vac, Long Beach, Calif., announces the appointments of W. H. "Bill" Nolt as eastern district manager, and Henry White as manager of manufacturing.

Nolt will have charge of distributor development in Turf-Vac's eastern district, and will operate from the company's Worthington, Ohio, offices. Prior to joining Turf-Vac, he was associated with Rickel, Inc., of Kansas City, Mo., in the sale of agricultural equipment.

In his new position, White will direct manufacturing operations from the company's Long Beach headquarters. Before coming to Turf-Vac, White served as manager of production control with the American Pipe and Construction Company.

* * *

Morton Chemical Company, a subsidiary of Morton International, Inc., announces the addition of James C. Vlazny as research chemist at the company's Woodstock, Ill., laboratories.

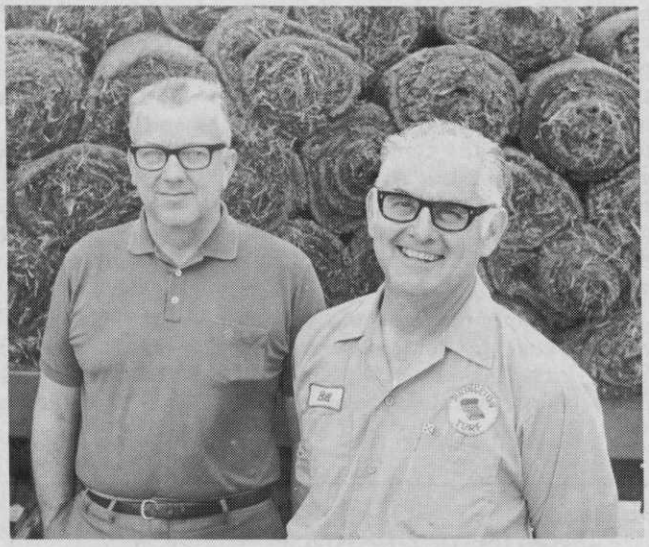
Vlazny, who holds a doctorate degree from the University of Wisconsin, will specialize in research on organic chemicals with particular emphasis on compounds with pesticidal activity.

Before joining Morton Chemical, Vlazny was an assistant professor of chemistry at Virginia Military Institute.

Princeton Turf of KC

How Do You Run A Sod Farm In the City?

Like a Business



Dean Scholes and William Latta

SOD PRODUCERS who know him well have good-naturedly accused William M. Latta of trying to run a sod farm at 90 miles an hour. They know his background as a charter pilot and crop duster and know also that his partner, Dean Scholes, is a pilot.

Customers and visitors might be easily convinced as well, upon noting that practically every piece of machinery rolls on airplane tires.

Perhaps the only relevance to sod farming of the 90 mph anecdote is that it is expressive of how fast Latta-Scholes, Inc., updates its operating techniques. Certainly it is indicative of how quick Bill Latta learned the business of growing cultivated turf.

Just a little more than five years ago, one of Latta's charter passengers had mentioned ownership of a sod farm. Latta's reply had been: "What's a sod farm?"

Among the factors that make Latta-Scholes, Inc., unique is the fact that both owners were successful businessmen before they were sod growers. Therefore, at the very beginning, they approached the growing of sod as a business as opposed to "traditional farming" in which the product was different.

Location helps relate it to city business rather than country farming. Princeton Turf of Kansas City, as the business is more commonly known, is a sod farm that's within a city within cities.

That description is not a duplication error. Princeton Turf is situated along the banks of the Missouri River within the city limits of Riverside, Mo., which is surrounded by Kansas City, Mo., Kansas City, Kan., and Parkville, Mo. As the crow flies, it is fewer than three miles to the heart of this U. S. megalopolis of more than 1.2 million people.

In addition to the whole range of daily reminders that it is urban located, in a few years an interstate highway will slice off about 90 acres of the 600-acre farm.

Strict Business Principles

Dean Scholes pays particular attention to the business side of the operation. Cost-accounting is carried to a refined degree and reacted to religiously.

"We prepare a net worth and operating statement every 30 days," said Scholes. "We analyze acres sold to acres cut, projecting our cost per acre when we sell 100% of it, 75%, or 50%."

Precise cost-accounting enables Princeton Turf to establish a uniform and consistent pricing policy. Customers in effect can set their unit price by their volume of purchases.

A cent per square yard discount is allowed as purchases reach a certain volume. The first penny comes at 3,000 square yards. Additional penny discounts come at 12,000, 25,000, 50,000, 75,000, 100,000 and 200,000.

"A customer's purchases in square yards during one year then determine his base price for the coming year," said Scholes.

"What we're trying to do is set up the farm and run it on sound business principles."

A Decade Earlier

Latta and Scholes probably would have listened with disbelief if they had been told a decade ago that in 1969 they would be selling Kentucky blue, Merion, Fylking, Windsor blue-

Almost all 600 acres of Princeton Turf of Kansas City is visible above. It's Missouri River bottomland within the city limits of Riverside, a KC suburb.

grass and fescue mix, K-31 tall fescue, Penncross bent, Cohansey C-7, Meyer zoysia, Midway and Tifgreen bermudagrass.

Kansan Scholes would have been involved in feed milling machinery business, after the alfalfa dehydrating business, after serving as a pilot in the Air Transport Command during World War II.

In a couple of years, he would go to work for Princeton Turf, Cranbury, N. J., direct the first seeding of a farm at Centerville, Md., and in March of 1964 do the same in Kansas City. He and Bill Latta then purchased on Jan. 1, 1968, the Kansas City farm and one at Eagle Pass, Tex. The purchase agreement included retaining the Princeton Turf brand name.

Nebraskan Latta, a decade ago, was wrapped up in a highly successful charter flying service, Cessna dealership and equipment repair, and a crop dusting service. Operations were at Hastings and Grand Island. At one time he owned 13 airplanes.

He had learned to fly while attending college at Hastings. His aircraft business evolved out of a flying school he operated after World War II. As far as he knows, he's the only individual the Air Force contracted with to teach ground school. All other contracts were with educational institutions.

Asking about a sod farm initiated the abrupt change in his career. What facilitated the change was being lucky, he said, of finding buyers "at the right price" of his various flying enterprises. He sold part in 1964 and the rest by 1968. In addition to his partnership in Latta-Scholes, he has an interest in Grassland Farms, Inc., at Hastings and a nursery at Scottsdale, Ariz.

Competition to Increase

Latta seems to have the knack of recognizing the birth of a new industry and of measuring its eventual growth. He was the second resident crop duster in Nebraska. He believes the turf industry "is about where aviation was when I got into it."

"Few people realize how large and important an industry it is," he said. "They don't realize, either, how much can be invested in growing sod. All they see is grass growing by itself."

Latta believes a "shake out" in the industry will come eventually as the business of growing sod becomes more professional. The capital required to continue to mechanize and automate will be a strong factor.

It is easy to invest from $600 to $800 per acre in equipment, he said. Irrigation costs alone can run as high as $400. In addition, there's premium land to pay for and expensive labor to hire. Princeton Turf of KC has a work force of 30.

Latta and Scholes figure to avoid being shaken out of the industry by strictly adhering to business principles and by learning to raise cultivated turf as scientifically as possible.

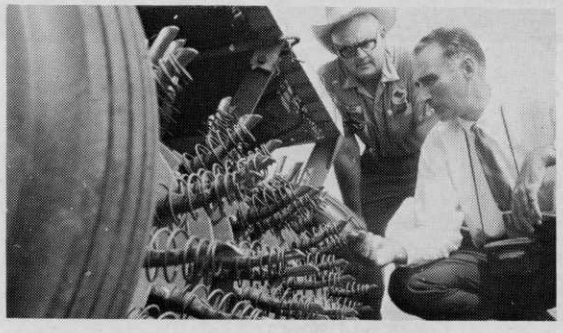
Farm Fertilizer-Mapped

"Our fertilizer program begins with a soil analysis," said Latta.

The total farm has been mapped and subdivided into four-acre increments. Seven soil samples were taken from each grid and a com-

Wade Stith of West Point Products Corp., and Latta inspect a field of Fylking bluegrass.

Princeton Turf of KC harvests sod with Ryan cutting and rolling equipment. An elevator loads bigger trucks.



Latta and Stith check the growth difference of grass planted conventionally (small clumps in rows) and grass planted with the use of the West Point Aerifier (pointing with left hand). His right hand rests on a strip left from the previous harvest. The close-up picture shows the growth advantage that the grass achieved in growing out of the holes created by the Aerifier's spoon-like blades.

posite determined as the basis for fertilization.

"All scientific data had indicated we didn't need potash and phosphorus. Then we asked the grass."

The asking comes in the form of plot experimentation with different rates and combinations of plant nutrients. "And we always accidentally on purpose miss a spot with our fertilizer to serve as a check."

"We're beginning to take plant tissue samples, hoping to learn quicker why one grass section looks better than another."

As standard procedure, nitrogen is applied three times in the fall and twice in the spring; herbiciding is done once in the fall and once in spring.

Final quality control is achieved with daily "grass patrols," said Latta, in which we "play doctor, operating with a curative philosophy. A total preventive program would be too expensive."

Five-Year Field History

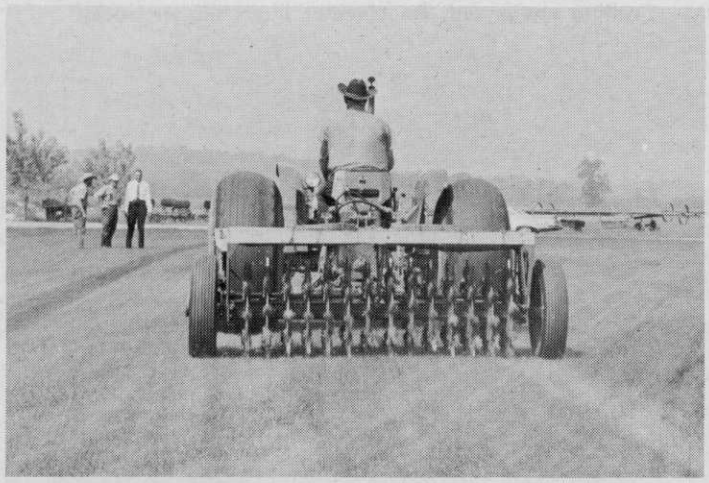
This laboratory-precise technique of fertilizing is just a small, though important, example of the overall Latta-Scholes scientific approach.

A complete history of the 13 primary fields has been compiled since 1964. Everything that is done to the land is recorded. A clipboard for each field hangs in the office with date notations for such things as mowing, rainfall, crustbusting, fertilizing, seeding, disking, tool-barring, harrowing, leveling, rolling, irrigating, spraying, and so on.

"If we happen to do something right, we can look back and tell what it was," explained Latta.

A deep-well irrigation system provides 1,600 gal./min. at 60 psi. Valves are installed every 180 feet. Sprinkler diameter is 80 feet, including a 10-ft. overlap.

The answer to how Latta arrived at the equipment cost per acre becomes apparent as he lists major items of equipment: seven tractors, the largest of which is a Minneapolis-Moline G-1000, an Everson land leveler, Ryan sod-cutting and sod rolling equipment, a deep chisel,



To minimize compaction, Latta and Scholes have mounted field equipment on airplane tires . . .

field cultivator, spring-tooth harrow, two 11-gang and one 7-gang Jacobsen pull type mowers, one 7-gang Jacobsen self-propelled mower, one 7-gang Roseman pull-type mower, a Rogers sweeper and disk seeder, and a Viking seeder.

Trying Different Feeding Approach

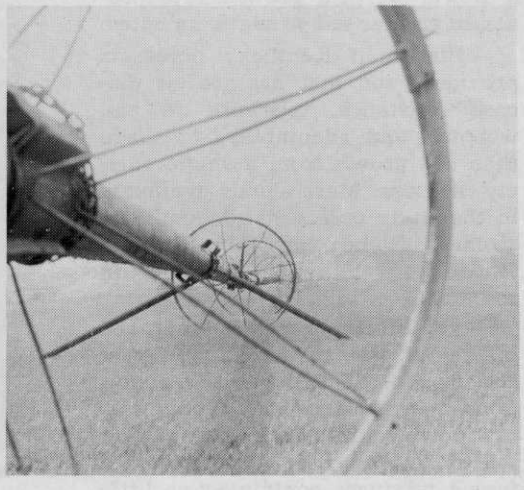
Latta and Scholes have experimented with a minimum-tillage approach to seeding using a West Point Aerifier. As soon as sod is removed, the Aerifier is pulled across the field a number of times creating hook-shaped holes. The field is then seeded. In six months' time grass planted by this method is well ahead of fields planted in the compacted rows by conventional seeders.

"It looks like this method may save time and trips over the field between harvests," Latta observed.

The Aerifier also has been used over turf just before harvesting. The puncturing seems to increase the sod's water holding capacity and quickens water absorption.

Latta has found that new techniques for growing sod can come about in unusual ways. A few years ago, he hired some school boys to plant zoysia plugs. Left unsupervised for a time, they decided to throw the plugs at each other rather than plant them.

Latta's disgust at their performance melted away as he noted that nearly every plug landed right side up for growing on the ground. His next step was to replace the boys with a manure spreader as the method for throwing the plugs. But their mischievous act led to a successful method of establishing a zoysia nursery. Latta has since changed and improved his method for establishing zoysia sod, and experiences in this endeavor will be the subject of an article in a coming issue.



. . . with a few exceptions.

Dr. Joseph M. Duich, left, Pennsylvania State University, receives the certificate that indicates he is now an honorary member of the Merion Bluegrass Association. The presenters are Dr. Fred Grau, only other living person so honored, and Margaret Herbst, director of information for the Merion Bluegrass Association.

Dr. Duich, who wrote his doctorate on Merion, has been active in breeder nursery research since his graduate student days. He helped develop Pennpar Creeping Bent and Pennstar Kentucky Bluegrass. At Penn State, he is in charge of the largest student teaching program in turfgrass, which has trained 250 golf superintendents.

Dr. Duich received the recognition at the Beltsville Field Day, an appropriate site because the original B-27 bluegrass was brought to Beltsville for trial.

NW Turfgrass Association Announces 1970 Officers

Tom Keel was elected president of the Northwest Turfgrass Association at its recent 23rd annual conference. He is director of Douglas County Park Dept., Roseburg, Ore.

Other new officers elected at the conference, held in Hayden Lake, Idaho, are: Vice-president, Doug Weddle of Tumwater Valley Golf Course, Olympia, Wash.; treasurer, Dick Haskell of Jackson Park Municipal Golf Course, Seattle, Wash.; and executive secretary, Dr. Roy L. Goss of the Puyallup, Wash., Research Center.

The Association's new board of directors includes John Harrison of Idaho; Dick Malpass and Al Blair of Oregon; Art Elliott, Glenn Proctor, Dick Schmidt, Weddle and Haskell of Washington, and Dick Mitchell of British Columbia.

Membership in the Association is composed of some 400 park and recreation administrators, golf course, industry, and school personnel from Washington, Oregon, Idaho, Montana, and British Columbia. The Association sponsors research centers at Washington State University, Puyallup, and Oregon State University, Corvallis.

The 24th annual conference will be held at Salishan Lodge, Ore.

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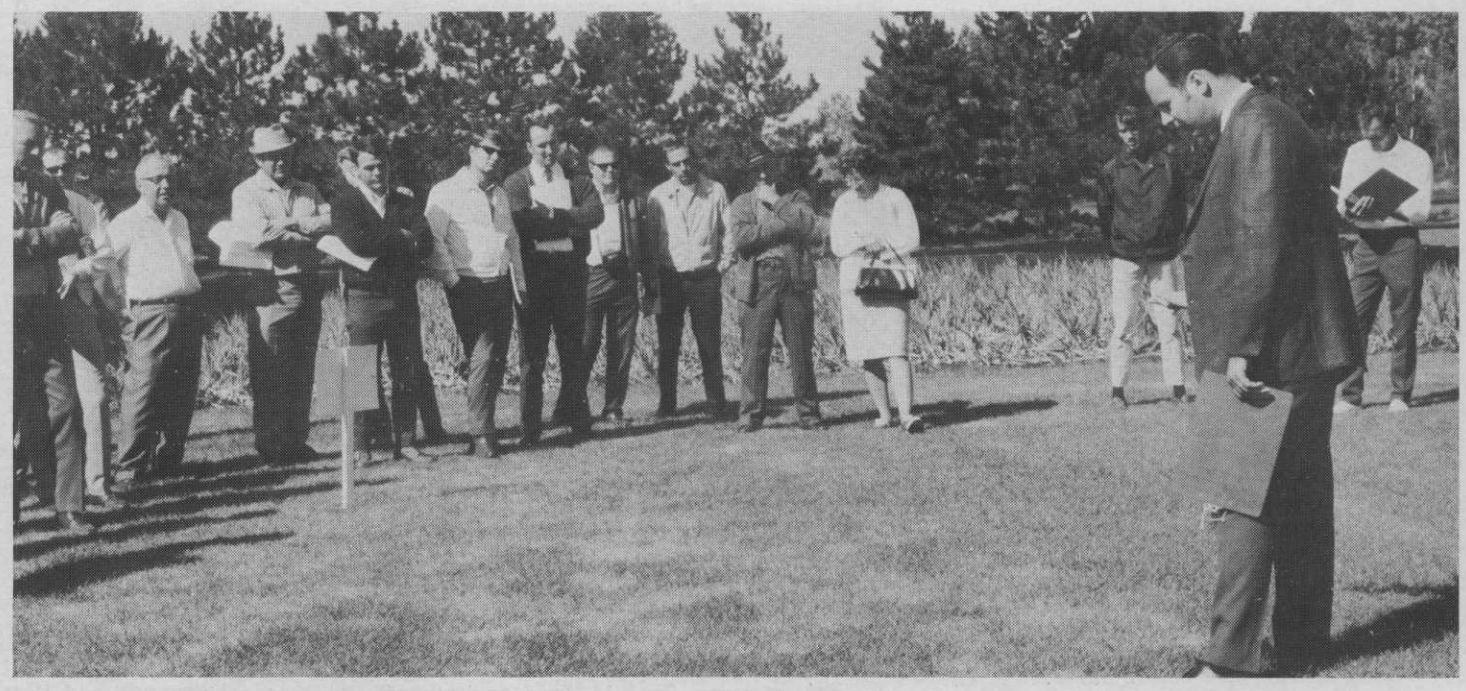


Fusarium blight, a serious disease of turfgrasses, plagued Michigan lawns this year. Joseph Vargus, MSU turf pathologist, comments on the condition of a plot at MSU's first sod producers' field day.

Michigan State Reports On First Sod Field Day

Michigan State University's first Sod Production Research Field Day attracted producers from five states and Canada to the MSU Muck Experimental Farm near Laingsburg, Sept. 10.

Scientists reported on recent research conducted on all phases of cultural practices involved in commercial sod production. These were some of the findings reported:

— Merion Kentucky bluegrass cut each week at a height of 2.5 inches had greater sod strength than the same grass cut closer or more frequently.

Sod strength was determined by the amount of force needed to tear the sod. A special experimental apparatus has been developed by Michigan State University scientists to measure this force.

John Kaufmann and Robert Shearman, MSU turfgrass researchers, reported that an average of 161 pounds was needed to tear sod that had been cut at a height of 2.5 inches once a week.

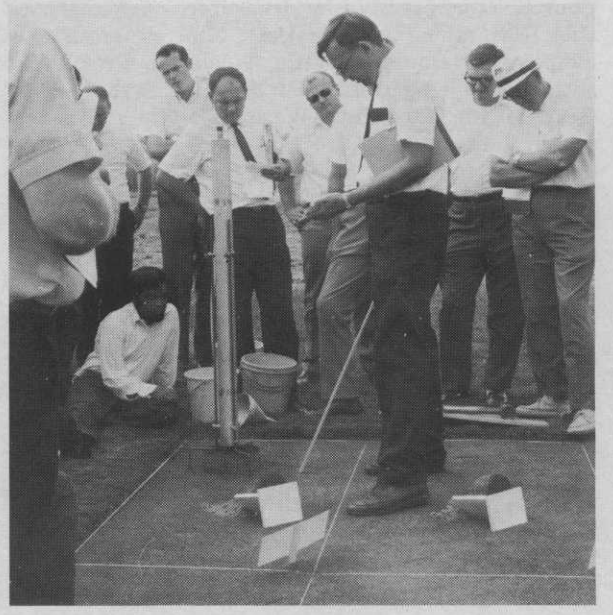
— The turfgrass varieties with the greatest sod strength in MSU tests were Nuggett, Pennstar, Fylking and Merion — all Kentucky bluegrasses. Jamestown and Pennlawn were the strongest red fescues.

Dr. James Beard, MSU turfgrass researcher, found significant differences in sod strengths among the 22 bluegrass varieties and three red fescue varieties he compared. Varieties having a low growth habit and a slower vertical growth rate possessed greater sod strength, he noted.

— Blends of Kentucky bluegrass provide a sod that has greater disease resistance, tolerance to bad weather, and adaptability to shade than sod grown from a single variety of grass. Most blends evaluated in the study possessed adequate sod strength. Blends containing Fylking tended to rank slightly higher in sod strength, said Dr. Beard.

David Martin reported that red fescue is the preferred turfgrass species for use under shady conditions, but the Kentucky bluegrasses produced a stronger, higher quality sod more easily. He found that red fescue mixtures containing as little as 10% Merion Kentucky bluegrass

Soil mixtures and water infiltration rates on putting greens were explained by Ray Kunzee, MSU soil scientist.



A sod strength-testing device, developed at MSU, is examined by Dr. James Beard, MSU turfgrass researcher.

had adequate sod strength but were of poorer quality. Red fescue mixtures containing 20% to 30% Merion gave good sod strength for handling and had acceptable quality.

— Merion bluegrass sod growth on organic soil under Michigan conditions should receive about 30 pounds of nitrogen per acre or less in the summer and no more than 60 pounds at any other time of the year to maintain sod strength.

MSU soil scientist Paul Rieke recommended applying 90 to 100 pounds per acre per year of nitrogen on organic soils growing Merion, 60 to 100 pounds for common Kentucky bluegrasses and 40 to 75 pounds for fescues. The wide range allows for variations in the age and condition of the grass, and the soil, drainage and irrigation conditions.

— *Fusarium blight* is becoming a widespread problem on Michigan lawns, and no chemical is yet available to correct the problem.

Dr. Joseph Vargas, of MSU's Department of Botany and Plant Pathology, said ever since the disease first appeared in Michigan about six years ago, the number of home lawns affected and the severity of the disease has steadily increased. The disease occurs during hot, dry weather when the lawn is under stress from drought. The disease can cause widespread losses in sod fields, and Vargas is looking for ways to correct this potentially serious problem.

— Sod heating, which can cause severe damage to sod during shipment, can be reduced by cutting close and removing the clippings.

MSU turfgrass specialist John King said close cutting prior to harvest reduced the temperature build-up and respiration rate of the sod.

He also showed that high nitrogen rates applied five days before harvest were detrimental to the sod. The respiration rate and death of the grass were significantly increased.

— Harvesting sod takes some topsoil from the land, but not as much as some producers might think.

Dr. Robert Lucas, MSU soil specialist, said only about one-half inch of topsoil was removed when each sod crop was harvested from the Muck Experimental Farm. Topsoil depth at the farm ranges from 3 to 25 feet.

A typical organic sod piece is 1 square yard, weighs 33 pounds, contains 22 pounds of water, 6.6 pounds of soil, 3.8 pounds of roots and rhizomes and 0.4 pounds of dry grass.

King Ranch Grants $5,000 For Lawngrass Research

Texas A&M research on a lawngrass killer known as St. Augustine Decline has received a $5,000 boost from King Ranch, Inc. of Kingsville, Texas.

King Ranch, Inc., provided the grant for fundamental and applied research on St. Augustine Decline and for developing adaptable resistant varieties, which will ultimately be distributed to growers of St. Augustine grass.

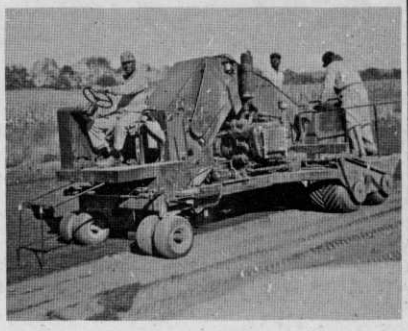
Dr. R. W. Toler, associate plant science professor at Texas A&M, is project leader for SAD research, as well as for all cereal and grass virus studies. Norman L. McCoy, Extention plant pathologist, is working with Toler and will complete his Ph.D. dissertation from SAD investigations.

Homeowners from Orange to Brownsville and as far north as Ft. Worth will benefit from this research since St. Augustine Decline has been found throughout that area. About 96% of lawns in the Coastal Bend area of Texas are seeded to St. Augustine grass, Toler reported.

Since discovery of St. Augustine Decline, Texas A&M has named the disease, identified it as a virus, and worked toward development of plant resistance. Possible resistant varieties are now being tested, Toler added.

Revolutionary!

A major breakthrough in labor-saving mechanization for the sod industry——



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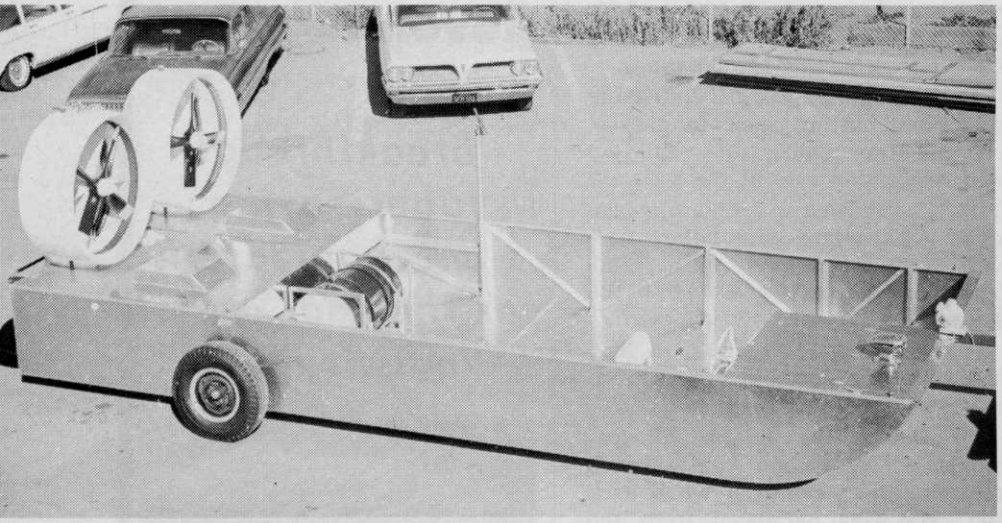
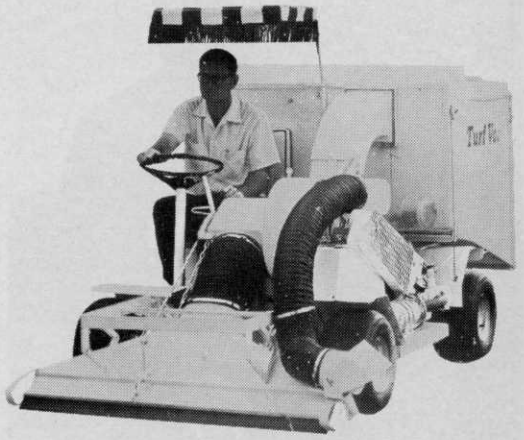
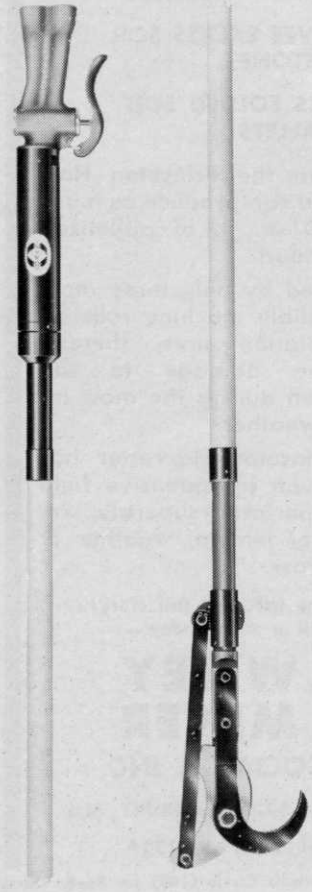


Aquanautics, Inc., Sunnyvale, Calif., announces its Swamp Cat, claimed to be the first twin-engined air boat built for commercial use with both forward and reverse rotation propellers and retractable wheels for trailering over land. The vehicle can carry a payload of nearly two tons at speeds in excess of 20 knots, even in water less than 6 inches deep, manufacturer maintains. Its overall length is 25 feet with a 9-ft. beam. Made of aluminum, the Swamp Cat is powered by two Ford 289 engines which are cooled by special radiators built into the jet-air ducts. Price is $13,000. For more details, circle (701) on reply card.

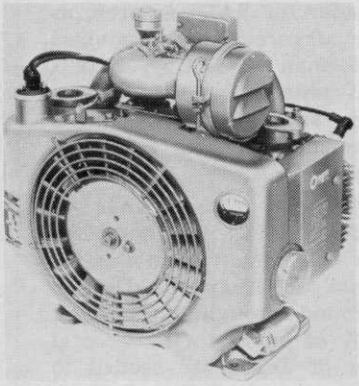


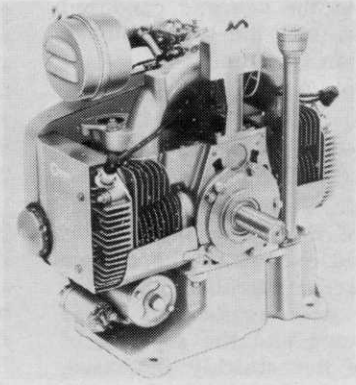
Turf-Vac Corporation, Long Beach, Calif., has designed a new model self-propelled sweeper. Called the Model 70, the unit features a sweeper-width of 54", and front loading (wheels behind scoop). Manufacturer claims it has excellent side-hill stability due to the low profile and four-wheel suspension, and fast unloading without leaving the driver's seat. An 18-hp. engine provides a vacuum system which operates entirely without mechanical pick-up devices. It can be used on both turf and paved surfaces, under both wet and dry conditions. Available with a blower unit for curb cleaning, windrowing, and hand-held intake hose for debris removal from hard-to-reach areas, the unit comes in five models — 4, 4½, 5 and 8-ft. widths, tractor-drawn (including P.T.O.), and self-propelled. Accessories include 12-volt electric starting and battery, engine hour meter, oversize muffler, hydraulic filter condition gauge, and locking gas-cap. For more details, circle (702) on reply card.

New Products



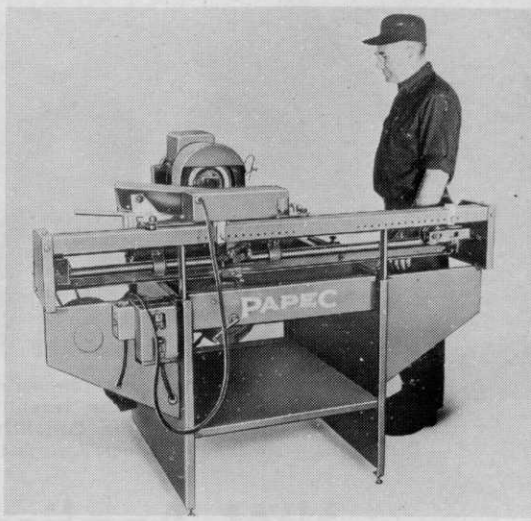
Ackley Manufacturing Company, Clackamas, Ore., introduces a hydraulically powered industrial tree pruner. With a cutting capacity of 2" plus, the unit provides full hydraulic power for both the cutting and retracting strokes in both open or closed center. The unit is available with aluminum or epoxy-resin handle, the latter having an insulation rating of 125,000 volts per foot. The power unit is compatible to all existing hydraulic systems, and will operate from 4 to 10 gpm, or from 1000 to 2000 psi. For more details, circle (705) on reply card.



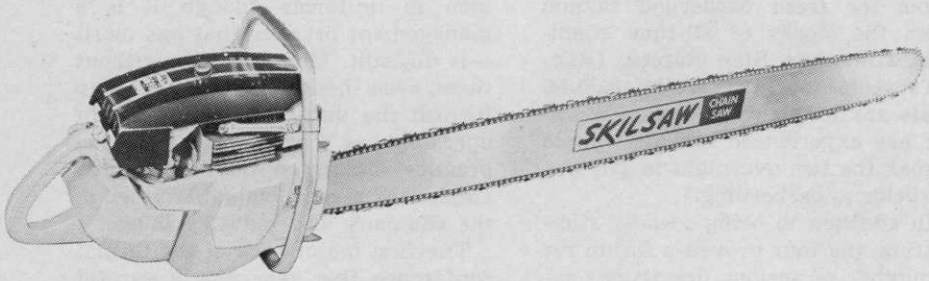


Onan Division of Studebaker Corporation, Minneapolis, Minn., adds a lightweight cast iron and aluminum engine, the Model "NH," to its product line. The 25 hp., 3600 rpm-rated unit is designed to operate any equipment requiring maximum output. The heavy-duty, air-cooled gasoline engine is a two-cylinder-opposed, 60-cu. in., 4-stroke "L" head model. It features a flat torque curve in the lower rpm range; the highest torque occurring at 2200 rpm. The standard, manual-start model, complete with cooling system and air-cleaner, weighs 120 lbs. It is 20¼" wide, 14¾" long and 18-13/16" high. With optional electric starter and alternator, the weight becomes 135 lbs. and the height 20⅝". For more details, circle (706) on reply card.

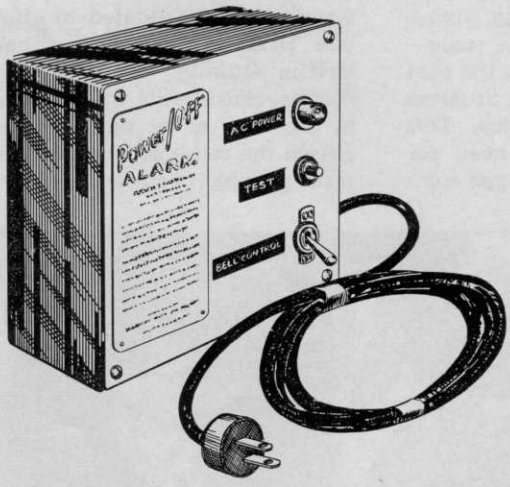
International Harvester Company, Chicago, has added four new pieces of equipment to broaden the application of its 15 hp. International Cub 154 Lo-Boy. The company has added the 3142 42-in. (left) and the 3160 60-in. rotary cutters to cut tall grasses where debris may be encountered. The other attachments are a rototiller with a 42" cut and a snow thrower with 24" auger and 180° swivel discharge chute to clean up to a 54" swath. For more details, circle (703) on reply card.



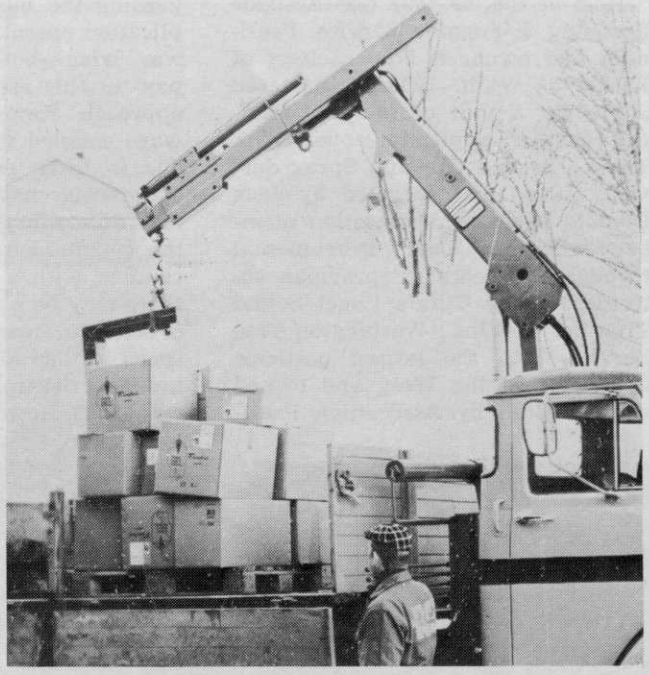
Papec Machine Company, Shortsville, N. Y., announces an automatic knife grinder to grind straight or spiral knives up to 38" long, including knives for wood chippers. Knife holders for all makes of straight or spiral knives are available. Length of carriage travel is adjustable from 8" to 38". The 10" cupped grinding stone is shaft-mounted on a 3 hp. totally enclosed, air-cooled motor, and turns at 1800 rpm., automatically advancing against knife at end of each pass. A mist generator continually sprays coolant on knife near point of contact with stone. The Model 25 Papec Knife Grinder occupies 5½' x 3½' of floor space, stands 4' high and weighs 585 lbs. For more details, circle (704) on reply card.



Skil Corporation, Chicago, claims "the world's most powerful" gasoline-powered chain saw. Model 1690 is an 8.5 cu. in. displacement unit with a 24-lb. dry weight, a 3-pint fuel capacity, and a conveniently located manual fuel primer. Bars and chains from 16- to 60-in. lengths are available. The 2-cycle, piston-ported engine has a 2-11/16 by 1½-in. bore and stroke, an automatic recoil starter, a waterproof, high tension magneto, and a fully enclosed carburetor. For more details, circle (707) on reply card.



Leeser Electrical Supply Co., Inc., Vineland, N. J., is producing a new portable alarm system which automatically warns of power failures by a battery-operated, loud bell sounding the alarm and continuing to ring until shut off. Known as "Power-Off," the system is encased in steel and has an "A.C. Power" bulb which lights up when unit is in operation. A test button and bell control lever complete the mechanism, which can be set on table, floor, or suspended by wire or rope. For more details, circle (708) on reply card.



HIAB Hydraulics, Inc., Wilmington, Del., introduces a lightweight, all-purpose loader having many features found in larger, heavier models. Called HIAB 2451, the 1,380-lb. unit has a 1½-ton lift capacity, and is designed for general freight handling, road and street work, oil refineries, agricultural and concrete plants. With a low parked height of 5' 3" above base level, the unit, when operating, reaches over 17' above the truck frame. It is fitted with a double acting outer-boom cylinder, ready-prepared mounting points, and can be fitted with various types of grapples and lifting tackle. For details, circle (709) on reply card.

Thickening agents and invert emulsions for custom applicators were discussed at the recent Northwest Pesticide Applicators meeting in Seattle. Panelists were, from the left, Dick Bailey, Amchem Products Co.; Jack Fisher, Wilbur Ellis Co.; Bob Rhodes, Rhodes Chemical Co.; Jack Warren, Dow Chemical Co.; and Bill Pierson, Diamond Shamrock Chemical Co.

NW Applicators Gird for Pesticide Battle

Custom applicators of the Northwest U. S. proved again this year that group action can make things happen. Their association—Pacific Northwest Pesticide Applicators, Inc. —held its annual Spray-O-Rama with fringes added.

This year, a new wrinkle and highlight was a day-long tour of nearby operators preceding the formal sessions. Interest among association members making the tour was such that another is tentatively set for the '70 session in the Portland, Ore., area.

Host of the '69 tour was Eastside Spraying & Fogging Service. President and owner is John Beheyt of Kirkland, Wash. Beheyt chartered a bus for a tour of four outstanding custom applicator operations. These included Greenup Spray Service, owned and operated by Jack Daniels, a charter association member who has been instrumental through the years in sprayman activities; Harry Cline's Puget Sound Tree Service, Inc.; Washington Tree Service, Inc., the largest pesticide applicator in the West, and owned and operated by Association President Stan Raplee; and a final stop at Beheyt's own operation just outside Seattle.

Beheyt welcomed the group to his home for fresh barbecued salmon from the stocks of all-time champion fisherman Stan Raplee. (Raplee's recipe for barbecuing salmon beats anything this midwestern editor has experienced and it's simple —soak the fish overnight in salt water prior to barbecuing.)

In addition to being socially stimulating, the tour proved a forum for a number of serious discussions regarding the business of custom application operation. A prime subject was labor—both management and pay. In this area, the most popular approach seems to be an hourly wage coupled with a commission of one to three percent. Commissions apparently have both advantages and disadvantages. In cases where the commission is relatively high—coupled with a lower wage scale—there may be a tendency on the part of some foremen and crews to stress speed rather than efficiency. This invites criticism and the need for call backs. However, some type commission plan seems mandatory in order to compete with trade groups for workmen.

Operators also find that keeping men in uniforms—though it is a management practice that has merit —is difficult. Men show up without them, even though the company may furnish the uniforms. A number of operators say they have dropped the practice. Others consider uniformed employees a most valuable asset to the company and industry image.

The first major area of the formal conference this year was a careful examination of the battle being waged against pesticide use. Art Edwards, editorial director of WEEDS TREES AND TURF magazine, reviewed current publicity and legislative moves which affect the industry.

He reviewed both pro and con arguments of the summer-long Wisconsin hearings related to efforts to ban DDT in that state. Then Dr. Griffin Quimby, an MD and toxicology consultant with experience in the field of pesticide usage, discussed the reliability of research and testing which attempts to stamp

Visitors toured four custom applicator operations in the area. Owners of three of them are above, left. From the left they are John Beheyt, Eastside Spraying and Fogging Service, Kirkland; Stan Raplee (outgoing president), Washington Tree Service, Seattle; Jack Daniels, Greenup Spray Co., Seattle. They're chatting with Lew Sefton, Lew Sefton

Spray Co., Portland, Ore., and newly elected president. The three men visiting in Raplee's chemical warehouse are, from the left, Charles Seibold, Major Spray Service, Portland; Jerry Green, Green Spray Service, Aumsville, Ore.; and James Pennell, extension entomologist, Washington State University, Puyallup.

pesticides as a real and present danger to man and his environment.

Dr. Quimby, though he did not so state publicly, apparently believes that tests—particularly tests relating to DDT residues—made two to five years ago may prove to be extremely misleading and thus are unreliable as a base for determining the future of pesticide use.

Other features of the two-day formal program included a panel discussion by five industry representatives on the merits and characteristics of thickening agents and invert emulsions, a review of ornamental plant diseases by Dr. Arlen D. Davison of the Western Washington Research and Extension Center at Puyallup, and a small business management seminar by R. Keith Martin, director of the Management Systems Department at the University of Washington. Extension entomologist Dr. James Pennell discussed ornamental insects and their life cycles.

Among suppliers demonstrating chemicals and equipment was veteran nurseryman and distributor A. H. Hembree, Spokane, Wash. He displayed a wooden Hardie spray tank which attracted considerable attention in this day of stainless steel and fiberglass tanks. Hembree discussed tank construction and the fact that for some materials it is superior and eliminates corrosion problems.

New officers for 1970 are: Lew Sefton, Lew Sefton Spray Co., Portland, Ore., president; George Harrison, Tacoma, Wash., vice-president; and Charles Seibold, Major Spray Service, Portland, secretary-treasurer.

A Tree Grows in the Darndest Place

Though a tornado ripped 4,000 trees out of Topeka, Kan., in 1966, it apparently planted a few seeds. One took root in Four Square Church. The building was damaged beyond repair, so the Rev. Bob Fisher took his congregation to another building about six blocks north.

Insect Report

WTT's compilation of insect problems occurring in turfgrasses, trees, and ornamentals throughout the country.

TURF INSECTS

FALL ARMYWORM

(Spodoptera frugiperda)

ALABAMA: Damaged some Coastal Bermudagrass fields in several counties including Bibb, Marengo, Dallas, Conecuh, and Mobile. Some fields destroyed in Mobile County where populations extremely heavy. OKLAHOMA: Heavy; damage severe on Custer County lawns. Moderate to heavy on Washita County grass.

TWO-LINED SPITTLEBUG

(Prosapia bicincta)

ALABAMA: Heavy on centipede grass lawns in areas of Tillman Corner and Cypress Shores Community of Mobile County. Nymphs and adults increased on Bermudagrass and other lawns in Lee and Macon counties.

SOD WEBWORMS

(Crambus spp.)

WEST VIRGINIA: Moderate to heavy damage in many lawns throughout Kanawha Valley in Kanawha, Putnam, and Cabell counties.

INSECTS OF ORNAMENTALS

A PSYLLID

(Psylla uncatoides)

ARIZONA: Collected on acacia at Avondale, Maricopa County. This is a new state record.

A PIT SCALE

(Asterolecanium arabidis)

CALIFORNIA: Heavy on Japanese pittosporum shrubs at Hanford, Kings County.

CALIFORNIA RED SCALE

(Aonidiella aurantii)

CALIFORNIA: Heavy on euonymus at Cutler, Tulare County.

TREE INSECTS

ELM LEAF BEETLE

(Pyrrhalta luteola)

TEXAS: Heavy at Borger, Hutchinson County. NEW MEXICO: Serious on Lea County elms. WYOMING: Damage heavy to elms at Wheatland, Platte County.

A LEAFHOPPER

(Alebra Albostriella)

CALIFORNIA: Adults heavy on American elms at Mt. View Cemetery, Oakland, Alameda County. First record of damage. This is first evidence of pest since specimen collected many years ago in Yosemite National Park, Mariposa County.

NANTUCKET PINE TIP MOTH

(Rhyacionia frustrana)

FLORIDA: Larvae and pupae of this and possibly another species of *Rhyacionia* heavy in 140 acres of 2-year-old loblolly pine near Chiefland, Levy County.

MIMOSA WEBWORM

(Homadaula anisocentra)

PENNSYLVANIA: On mimosa in Bucks County September 1. This is a new county record.

ASIATIC OAK WEEVIL

(Cyrtepistomus castaneus)

MISSOURI: Adults collected in Butler, Wayne, and Reynolds counties for new county records. Some light to moderate leaf feeding in Butler County.

That piece of paper is worth $10,000! It's for turfgrass research at Ohio State University. The grant by the Ohio Turfgrass Foundation was announced this spring. Representing the Foundation and making the presentation to Roy M. Kottman, Dean of the College of Agriculture and Extension Director, are, from the left, Gene Probasco, treasurer; Tom Evans, second vice-president; Richard Craig, first vice-president; and Robert Rieman, president. Ohio turfgrass specialists will conduct their annual turfgrass conference and show, Dec. 1-3, at the Sheraton-Cleveland Hotel, Cleveland. Details are available from Robert Miller, 1827 Neil Ave., Columbus 43210.

20 Speakers Scheduled For Ohio Turfgrass Show

More than a thousand persons are expected for the 1969 Ohio Turfgrass Conference and Show Dec. 1-3. The site is the Sheraton-Cleveland Hotel in Cleveland.

Educational sessions and exhibition of turfgrass equipment and supplies are featured. Seventy-one companies have reserved the available exhibit space.

The educational program consists of half-day sessions on turfgrass diseases, broadleaf weed control, soil and air temperatures and their effect on turfgrass production, grass mixtures and blends, and grounds beautification.

Twenty speakers will discuss 22 subjects. Out-of-state participants include nationally known turfgrass specialists, such as Dr. C. R. Funk, Dr. Clinton Hodges, Lee Record, J. C. Holmes, James Latham, Noel Jackson, and Dr. Roy Blaser.

Last year's program attracted 950 persons from 22 states and Canada.

New Product, Plant for Wade

R. M. Wade and Company, Portland, Ore., manufacturer of sprinkler irrigation equipment, will expand facilities to manufacture a new automatic mobile farm irrigation system.

The company, founded in 1865, has acquired a 20-acre tract in Tualatin, Ore.

LETTERS TO THE EDITOR

Needed: Chart of Turf Diseases

I want to take this opportunity to compliment you on the service your magazine renders to the industry. Many of your articles are helpful in convincing clients of the need for equipment, fungicides, herbicides, etc. One thing we need now is a one-sheet color picture comparing Brown Patch, Dollar Spot, Cottony Blight and Pythium to stop confusion in initial fungus identification. Keep up the good work. — **FERDINAND GARBIN,** Golf Course Architect and president of the American Society of Golf Course Architects, Export, Pa.

EDITOR'S NOTE: One of the best color charts on turf diseases is available by writing Paul Florence, O. M. Scott and Sons Co., Marysville, Ohio 43040.

* * *

WE APPRECIATED your excellent pictorial and written account of the activities of the recent American Sod Producers Summer Field Day. It certainly gave me a better insight as to what had transpired even though I was present.

Your editorial comment also was appropriate and timely. It, together with the coverage of the field day, should be instrumental in generating interest in the organization.—**HENRY W. INDYK,** Executive Secretary, American Sod Producers Association.

Trimmings

A CONGO PERCH is reported to be a voracious eater of *Hydrilla verticillata,* a rapidly spreading weed pest in the southeastern part of the country. Rep. Bill Fulford of Orlando reported to the Florida House Conservation Committee that the fish is perhaps a means of biological control of the water weed.

The fish has performed well in carefully controlled tests, but Game and Fresh Water Fish Commissioner Earle Frye said his department doesn't yet know what would happen if the fish were turned loose in natural waters.

* * *

HERE'S AN ITEM for your "defense of pesticides" file. Paul Voykin, superintendent of the Briarwood Country Club at Deerfield, Ill., comments in his new book, "A Perfect Lawn the Easy Way," that: "Fifty times more deaths are caused by medicines than by pesticides. The misuse of aspirin alone causes more deaths each year than all pesticide cases combined."

And we doubt if there is one person in the country who is calling for a total ban on the use of aspirin.

* * *

IS PPM HARD TO EXPLAIN to your customers? The Cooperative Extension Service offers these helpful illustrations:

One part-per-million is equivalent to one drop in a 160-gallon tank, one pound in 500 tons; an ounce of sand in three and one-fourth tons of cement; one minute in 1.9 years; one cent in $10,000; or one inch in 1.6 miles.

* * *

THE "OFFICIAL" VALUE of a shade tree has gone up. The International Shade Tree Conference and the National Arborist Association has approved a 50% increase. The formula for evaluating a shade tree is now $9 (rather than $6) per square inch of trunk cross-section measured 4.5 feet above the ground.

* * *

HURRICANE CAMILLE damage to research plots of the Southern Forest Experiment Station in the Gulfport, Miss., area may not be fully known for several months. But a flight survey indicates that half of research plantings on 500 acres are down. An annual average of eight scientists has been contributing to the plantings during the past 15 years. If half of the research is destroyed, 60 man years, then the total cost for replacement could reach $3 million, say officials.

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SPRAYERS, chippers, log splitters and other equipment at large savings. Let us know your needs. Equipment Sales Company, 4744 Sunrise Highway, Massapequa Park, N. Y. 11762.

USDA Awards $85,293 For Wilt Disease Research

The University of Rhode Island, Kingston, has been awarded an $85,293 grant by the U. S. Department of Agriculture to conduct studies on wilt diseases.

The four-year grant is sponsored by USDA's Agricultural Research Service.

Under the leadership of Dr. Carl H. Beckman, the University scientists will conduct basic investigation of morphological and histochemical responses to *Fusarium* wilt infection and their function as disease resistance mechanisms in plants.

Results of the research are expected to provide a better understanding of *Fusarium* wilt diseases and of plant resistance to these diseases. This information is vital in the Department's continuing program of developing appropriate measures for controlling wilt diseases, which are among the most serious diseases of food and fiber crops.

Marshall E. Mace, plant pathologist, Beltsville, Md., will represent ARS in the research.

Advertisers

INDEX TO ADVERTISERS

Rutgers Announces Dates For Turfgrass Studies

Turfgrass study at Rutgers University, New Brunswick, N. J., for early 1970 includes a 10-week winter turf course Jan. 5 to Mar. 13, and two turf management conferences.

The three-day conferences are lawn and utility turf, Jan. 19-21, and golf and fine turf, Jan. 21-23.

Additional information may be obtained by writing Roger Locandro, Rutgers University College of Agriculture and Environmental Science, New Brunswick, N.J. 08903.

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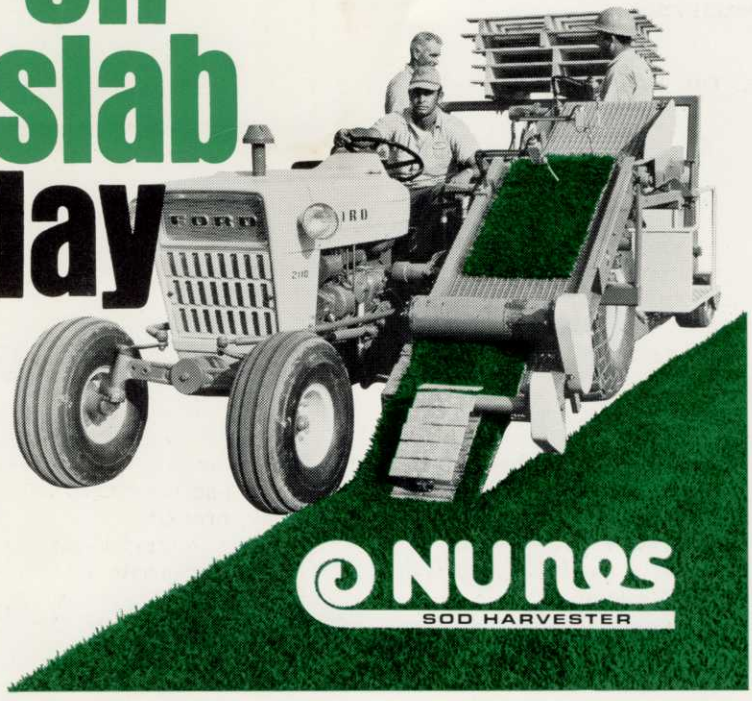

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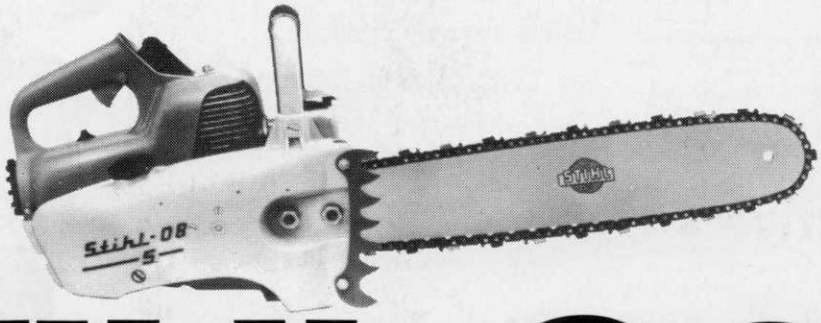

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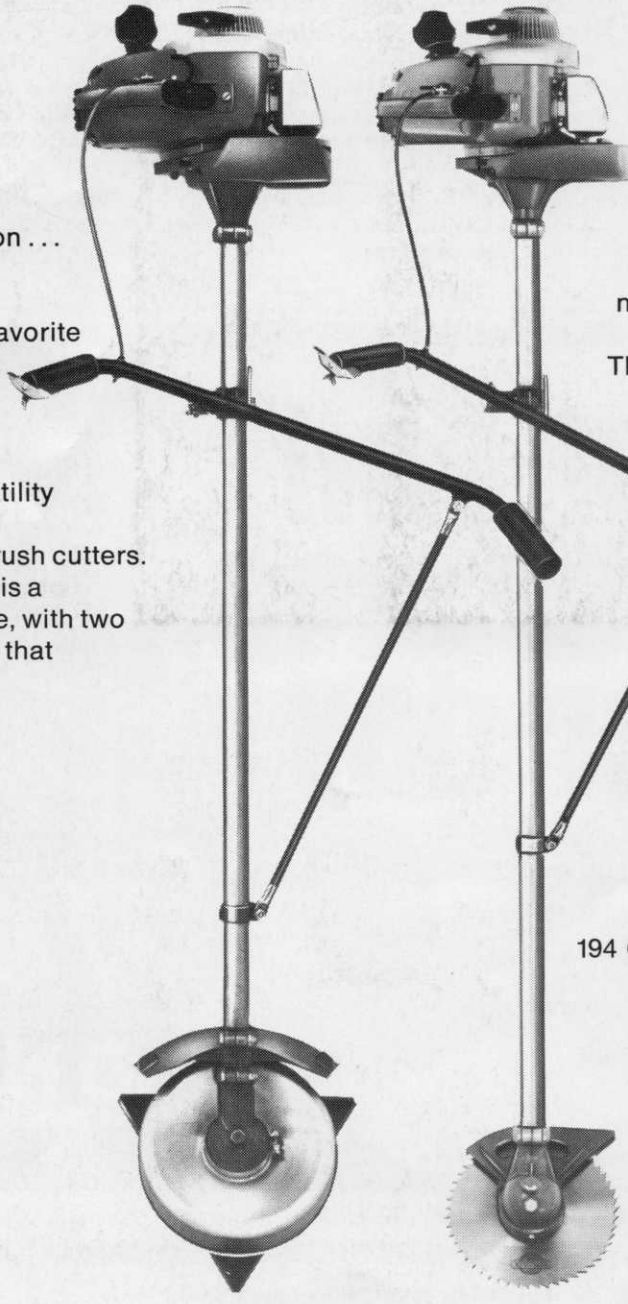

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