

# JOHN DEERE MAKES TRACTORS FOR JOBS OF ALL SIZES. BECAUSE YOU CAN MAKE MONEY ON JOBS OF ALL SIZES.



There's no such thing as a tractor that's right for any size job. If it's big enough for golf course maintenance, it's probably too big for most residential work.

That's why John Deere Tractors come in a wide range of sizes. So you can have John Deere performance and dependability going for you on any job.

Take the new John Deere 2040. It has a 40\*-hp diesel engine, 8-speed constant-mesh transmission, and plenty of hydraulic power to handle any attachment you might need. Including a 6-foot, center-mounted rotary mower. The 2040 was designed to do the big jobs faster and easier.

For work that doesn't require a tractor as big as the 2040, there's the hydrostatic-drive John Deere 400. It's powered by a twin-cylinder, 19.9-hp engine. And there's a 5-foot, center-mounted rotary mower that's designed to match the 400.

To do small jobs economically and efficiently, John Deere offers you the 200 Series lawn and garden tractors. You can choose from 8-, 10-, 12-, and 14-hp models, all with variable-speed drive to change ground speed without stopping or shifting gears. Rotary mowers are available in either 38- or 46-inch widths.

With any size John Deere Tractor, you also get the John Deere tradition of expert service, parts availability and flexible financing.

For any job that comes along —big, small or in-between—John Deere has a way to do it. Profitably.

\*Maximum PTO horsepower measured at 2,500 engine rpm (factory observed).



## NOTHING RUNS LIKE A DEERE®



Circle 132 on free information card

# Brush Control Agent Stops Undesirable Woody Plants

A new concept for control of undesirable woody plants is a brush control agent which has been labeled for non-crop application on railroad, pipeline, utility and highway rights-of-way, drainage ditch-banks, in storage areas and on industrial sites.

Instead of a quick, massive kill obtained with familiar industrial brush control compounds, the agent controls bud break, suppresses growth and delays the extension of woody plant terminals. The compound is applied as a foliar spray in late summer or early fall, after the main flush of annual growth has hardened. On most species of deciduous brush, it produces only a slight visible effect on the foliage. Normal leaf drop occurs in the fall, but leaf bud development the following spring is either severely limited with miniature, abnormal leaves showing — or bud development is prevented entirely and the plant subsequently dies.

The mode of action of the agent has not been fully ascertained, but the compound seems to be absorbed by stems and foliage; and this affects bud development. Deciduous woody species appear to continue their normal life processes following application and defoliate at the end of the growing season, so there is a normal delay till the next spring before a full reading can be made of the results of the treatment. Pines, however, show immediate discoloration; most are susceptible.

This new brush control agent is

being recommended for use in areas with susceptible species of woody plants and especially in environmentally sensitive areas where little or no brown-out is desirable. It also looks like a promising compound where volatility or drift of other herbicides can be a problem or where low toxicity and no soil residue are desired. In addition, it offers special interest as a compound for brush control on land adjacent to domestic water reservoirs, streams, lakes and ponds.

There is another interesting concept. Side trimming of woody growth that may be encroaching on a right-of-way has been a feature of this new material that has aroused the interest of many maintenance men. Applications made to encroaching foliage and stems of adjacent trees have usually resulted in only the control of this undesirable growth.

It is active on more than three dozen species of woody plants. The initial label indicated control can be obtained on the following: hawthorn, red oak, white oak, water oak, sweet gum, wild blackberry, alder, ash, cherry, elm, black gum, sassafras, and willow. Development work is continuing on a number of other species, and it is expected that the label will be extended as tests are completed.

A number of species such as balsam poplar, rhododendron, box elder, honeysuckle, mountain laurel, and Kudzu and others are not controlled however. Most herbaceous



City arborist Keith Jones has launched a new brush control program in Portland, Maine.

species are not affected. Hence, undesirable woody plants may be controlled, without eliminating a desirable green cover from a treated area.

The new compound is a water soluble liquid that is nonvolatile and nonflammable. It is readily absorbed by soil particles and is decomposed quickly by soil microorganisms, with a half-life of a few weeks, depending on soil, moisture and other conditions. It has been widely tested prior to EPA registration and in 1975 it was applied commercially in an introductory program.

It has been used in conventional ground and air application equipment at rates of six to 12 pounds per acre (1 1/2 to 3 gallons) in 50 to 300 gallons of water per acre. A surfactant has been used at the rate of one quart per 100 gallons of water. Applicators have been trained to obtain complete coverage of foliage and stems with the spray without run-off.

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Problem brush in a Portland recreation area was treated in September.



Brush treatments were made by a Portland Forestry Division crew, using a spray gun and hose from a truck-mounted tank.



Regrowth problem in a Portland "mini-park" represents an area treated in a 1975 program. In the spring this regrowth will have been stopped.

# Washed-off sprays are dollars "down the drain"

**New SPRAY STAY® sticker prevents costly wash-off...for less than 1/2¢ per gallon of spray**

Now, your spray applications can be weather-proofed to save you time, labor and materials. Just add 1 part of SPRAY STAY to 800 parts spray. Mixes easily and stays mixed.

SPRAY STAY makes your sprays last. It shields from rains, irrigations, winds, snows, ultra-violet radiation and abrasions.

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Federal specifications for use on edible crops. Compatible with all horticultural and agricultural sprays

we have tested. Will not clog nozzles. Is not damaged by freezing.

SPRAY STAY is another quality product from the makers of WILT PRUF®. Add SPRAY STAY next time and every time you spray. . . eliminate the ever-present risks of costly failure!

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# Meeting Dates

**Midwest Turf Conference**, Purdue University, W. Lafayette, Ind., March 1-3.

**Professional Turf and Plant Conference**, Salisbury Club, Eisenhower Park, East Meadow, L.I., N.Y., March 2.

**Northeast Agricultural Aviation Association**, Holiday Inn, Ithaca, N.Y., March 2-4.

**Professional Turf and Landscape Conference**, Ramada Inn, North Haven, Conn., March 3.

**Golf Course Superintendents Association of America** seminar on "Principles of Fertilizer Usage", Austin, Texas, March 3-4.

**Western Canada Turfgrass Association Annual Conference**, Vancouver, March 3-5.

**University of Massachusetts Fine Turf Conference**, Treadway Inn, Chicopee, Mass., March 3-5.

**Ontario Shade Tree Council Annual Conference**, Oshawa, Ontario, March 4-5.

**Wisconsin Landscape Federation** Convention, Scotsland Resort, Oconomowoc, Wis., March 7-8.

**Southern Turfgrass Conference and Show**, Cook Convention Center, Memphis, Tenn., March 7-9.

**Canadian Golf Superintendents Association 27th Annual Turfgrass Show**, Inn-on-the-Park, Toronto, Ontario, March 8-10.

**Iowa Golf Course Superintendents Association Annual Conference**, Iowa State University, Ames, March 8-10.

**Northeastern Forest Pest Council Winter Meeting**, Copley Plaza Hotel, Boston, March 10-11.

**Pennsylvania Parks and Recreation Society 29th Annual Meeting**, Seven Springs Mountain Resort, Champion, Pa., March 14-17.

**Golf Course Superintendents Association of America** seminar on "Leadership, Motivation and Employee Relations", King of Prussia, Pa. March 17-18.

**Rocky Mountain Golf Course Superintendents Association Meeting**, Indian Tree Golf Club, Colorado, March 18.

**American Society of Golf Course Architects 30th Annual Meeting**, Del Monte Lodge, Monterey, Calif., March 21-26.

**Maine Turf Conference**, Red Coach Grill, Portland, March 23-24.

**Golf Course Superintendents Association of America** seminar on "Principles of Landscape", Portland, Oregon, April 6-7.

**Arizona Turfgrass Council Second Annual Turfgrass Materials and Equipment Show**, Veteran's Memorial Coliseum, Phoenix, April 14.

**Rocky Mountain Golf Course Superintendents Association Meeting**, Fox Hills Country Club, Longmont, Colo., April 15.

**Southern California Turf and Landscape Institute**, Royal Inn, Anaheim, Calif., April 28-29.

**Tennessee Golf Course Superintendents Association Meeting**, Rockwood Country Club, May 3.

**Arizona Turfgrass Conference**, Doubletree Inn, Tucson, Ariz., May 5-6.

**Georgia Golf Course Superintendents Association Educational Program and Business Meeting**, Atlanta Athletic Club, Duluth, May 11-12.

**Rocky Mountain Golf Course Superintendents Association**, Inverness Golf Course, Englewood, Colo., May 20.

**International Shade Tree Conference Western Chapter Meeting**, Hyatt Regency Hotel, San Jose, Calif., May 23-26.

**Golf Course Builders Association Meeting**, Fresno, Calif., June 25.

**Aquatic Plant Management Society**, Annual Meeting, Pier 66, Fort Lauderdale, Fla., July 11-14.

**Tennessee Golf Course Superintendents Association Meeting**, Crockett Springs National Golf Course, Brentwood, August 2.

**International Society of Arboriculture Annual Meeting**, Stauffer's Riverfront Towers, St. Louis, Mo., August 8-12.

**Georgia Golf Course Superintendents Association Educational Program and Business Meeting**, Northwood Golf and Country Club, Lawrenceville, August 9-10.

**Symposium on Reclamation of Drastically Disturbed Lands**, Ohio Agricultural Research and Development Center, Wooster, Ohio, August 9-12.

**Plant Growth Regulator Working Group**, Baton Rouge, La., August 11-14.

**International Symposium on Biological Control of Weeds**, University of Florida, Gainesville, August 30-Sept. 2.

**Fourth Arkansas Turfgrass Field Day and Conference**, Country Club of Little Rock, Sept. 14-15.

**Northern California Turfgrass Council Turf and Landscape Irrigation Seminar**, Asilomar Conference Grounds, Pacific Grove, Calif., Oct. 1-3.

**Southern California Turfgrass Council 16th Annual Turfgrass Equipment and Materials Educational Exposition**, Orange County Fairgrounds, Costa Mesa, Calif., Oct. 20-21.

**Rocky Mountain Golf Course Superintendents Association Meeting**, Willis Case Golf Course, Colorado, Oct. 21.

**Central Plains Turfgrass Conference**, K-State Union, Manhattan, Kansas, Oct. 21-22.

**Weed Science Society Annual Meeting**, Stouffer's Riverfront Towers, St. Louis, Mo., Feb. 8-10, 1977.

# How to make your board see the value of new turf equipment.



Convincing your Board of Directors that new turf equipment is a necessary and sound investment can be one of your most difficult tasks. They don't always see the benefits behind such a purchase.

And as good businessmen, they won't commit the money until they're sold on the expenditure. So when it comes time to face them, here are some of the things you should point out.

## Point #1: The Duffer Demands More.

Today's golfer is more sophisticated than ever before. He has seen, and many times played, some of the finest courses in the world. He recognizes the value of a good course. And if yours is sub-par, he'll go elsewhere.



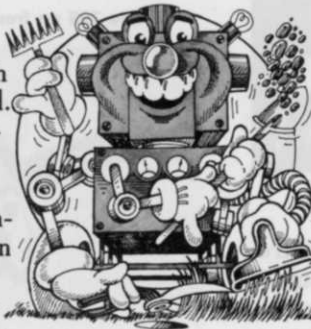
With this more sophisticated golfer comes the need for more sophisticated golf course maintenance. Heavy player traffic has increased the work required to keep the turf in top condition. So jobs that were once optional are now

mandatory. Where spiking a green used to be sufficient, today it also needs deep aeration.

All this dictates the use of specialized equipment that wasn't available ten or even five years ago. Equipment that will enable you to build and maintain a top flight course, and help avoid special turf problems that could prove extremely costly.

## Point #2: Machines Do More.

In the past decade, the price of labor has tripled. The same number of men must do more work in less time to give you the same value for each labor dollar invested. Mechanized equipment allows you to trim hundreds of unnecessary man-hours. One man can now cut more sod in an hour than six men used to cut in six hours. Or that same man can aerate 18 greens in a few hours instead of a few days.



New engineering concepts coupled with precision machinery means he'll do a consistently good job. You get better results and fewer occasions when a job must be redone.

And your turf equipment is depreciable; something your labor is not. You get an accounting break over a period of years. At the end, it's like owning a piece of free machinery. One that will continue to save you money long after you've paid for it.

Which brings us to the third point.

## Point #3: Longevity Makes Them Worth More.



Equipment life should be a prime consideration when you select a manufacturer. The longer a machine works, the more it does,

and the less maintenance it requires, the better your investment. And here's where we'd like to put in a little plug for Cushman and Ryan turf equipment.

Both lines of machinery are built to last... and last. It's not unusual to see a piece of Cushman or Ryan equipment still doing its daily chores after ten or fifteen years of use. We believe the idea of "planned obsolescence" should be obsolete.

But performance is just as important as longevity. A Cushman Turf-Truckster and its accessories give you the capabilities to transport, spray, spike, dump, aerate, and top dress... all from one power source.

Ryan offers a machine for almost every turf task. Equipment that does a better job, in less time, and with a minimum of maintenance. For over 30 years, all Ryan equipment has been built with three goals in mind: quality, performance, and innovation.

If "A Day With the Board" is in your future, we'd like the opportunity to tell you more about the full line of Cushman and Ryan Turf equipment. Write to us and we'll send you our catalogs, full of detailed product information. Information that may help you open a few eyes to the value of new turf equipment.

**CUSHMAN\***

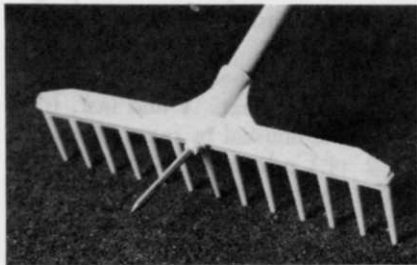
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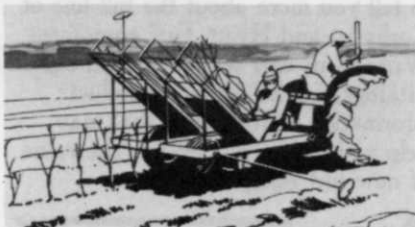
# New Products

**New yellow sand trap rake** from Lesco Products combines visibility and safety. Stands out for the convenience of the golfer. Can also be ordered in black. Made of poly material for flex in tines and utilizes aircraft-type triangular ribbing for strength and lack of flex in rake head. Spike is molded into rake head rather than into handle. Solid handles with no hole in base resist wicking action of water which leads to rotting. Rake is standard 14 inches with 2 3/4 inch tines.



Circle 701 on free information card.

**Princeton Manufacturing Co.** introduces the E-2 transplanter, designed to operate in tilled soil, greatly reduce labor of transplanting trees and smaller plants and provide controlled spacing and straighter rows for easy cultivation. Using any two-plow tractor with a three-point hitch, the unit can transplant 600-800 six- to eight-foot trees or 1,400 three- to four-foot trees an hour with a driver and one planter, and up to 1,500 two- to three-foot trees or smaller plants an hour with a driver and two planters, the manufacturer said.



Circle 702 on free information card.

**Toro Company's** Irrigation Division reports its 1976 product catalog is ready for distribution. The 54-page book with four-color cover gives complete information on features, specifications and performance of the company's full line of irrigation

equipment for either hydraulic or electric systems. The line includes 43 models of automatic controllers, 18 different automatic valves and sprinklers ranging in size from bubblers and shrubs sprays to a 60 series rotary sprinkler capable of discharging 82 gallons of water a minute over a 225-foot-diameter circle. Other product categories covered are: impact sprinklers and quick-coupling equipment, back-flow preventers and installation tools and accessories. Details of the company's limited one-year warranty and seven-year extended parts coverage are also included.

Circle 703 on free information card.



**A chain saw** designed to appeal to all professional woodcutters and industrial users, the Super Pro 70, has been introduced by McCulloch Corp. The unit offers a chain brake which reduces hazard from kick-back. It is powered by a 4.3 cubic engine, weighs 15 3/4 pounds (power unit only) and the operator is insulated from vibration by McCulloch's patented system.

Circle 704 on free information card.

**A cap cutter** for opening chemical cans is available from Brandt Enterprises. It is designed to open a five-gallon drum of chemical as it cuts a circular opening in the plastic spout. The manufacturer said it saves prying, slicing, jabbing, spillage and loss of time. There is a money-back guarantee.

Circle 705 on free information card.

**A technical bulletin** describing Imidan insecticide and its uses on deciduous shade and ornamental trees is available from Stauffer Chemical Co. The bulletin details product information on chemical

structure, physical properties, toxicology and soil stability. Also explained are studies on the insecticide's environmental safety dealing with fish and wildlife, residues and reproduction.

Circle 706 on free information card.



**A four-wheel drive trencher** designed to fill the gap between small two-wheel trenchers and the larger sophisticated rubber-tired trenchers, the Fleetline 14-4, has been introduced by Davis Manufacturing, Division of J I Case. The 14 horsepower trencher is equipped with a Kohler air-cooled electric start engine. It trenches from four inches wide, 45 inches deep to 12 inches wide, 26 inches deep at infinitely variable digging speeds to match varying soil conditions. It has a transport speed of 2.1 miles per hour.

Circle 707 on free information card.



**A chain saw** powered by a 12-volt battery in a vehicle or carried by the user is being manufactured and marketed by Tensen Co., Inc. Known as the Minibrute, the 10 1/4 pound saw is equipped with a 10-inch Oregon chain and bar. Its 1.2 horsepower motor turns the chains 2,500 feet per minute. Its overall dimensions are 22 inches x 12 inches x six inches. The chain is oiled automatically every time the saw is turned on; it also has a manual pump for pre-cutting lubrication. The oil chamber holds six ounces and has a clear, plastic sighting tube.

Circle 708 on free information card.

# Let's talk about bad service.

Let's say you've gone to all the trouble of carefully selecting the turf care equipment you've been looking for.

You've worked hard to find it, and get it at the best price you can, and delivered as quickly as possible.

Only to start using it and then discover you can't get good service on it. It's like you went to all that trouble for nothing.

We know you don't like bad service. And we don't either. That's why every Jacobsen distributor goes out of his way to be second to nobody in service.

The reason is really simple. We're independent businessmen whose success or failure depends upon our reputation. So we jealously guard it.

We do this by offering you the finest and most complete line of turf care equipment we can find. It's made by Jacobsen. Whatever

you need, we probably have it.

Then we back it up with service matched by none. We have parts in stock. Our mechanics are Jacobsen-trained to know the equipment inside and out. And we can help you train your people in equipment maintenance through Jacobsen's school, or field training program.

Besides that, we can probably help you arrange a financing or leasing program to suit your needs.

And we can probably help you do a cost analysis of your turf care chores to determine which equipment will do the fastest job at least cost.

So the next time you need turf care equipment, talk to your Jacobsen distributor. He has the right product. If you want good service, he has that, too.

And that's not bad.

Not bad at all.

## **Your Jacobsen Distributors**

Great products deserve great service.

For the name of the distributor near you write: Jacobsen Turf Distributor Directory, 1721 Packard Avenue, Racine, Wisconsin 53403



# Chippit

**OUR TWO-MOUTHED GOAT CAN CHEW UP JUST ABOUT ANYTHING ... EVEN A 3" TREE LIMB.**

Solve all your yard-debris problems with one 8 h.p. machine. Limbs and brush fed into its rear hopper are sliced into chips and neatly bagged. Leaves and vines placed in the other hopper are shredded into useful mulch or compost material.



For Further Information Contact  
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 City \_\_\_\_\_  
 State \_\_\_\_\_ Zip \_\_\_\_\_

For More Details Circle (106) on Reply Card 48

A parts washer from Weil Service Products Corp. is a completely self-contained parts cleaners and degreaser. Parts to be cleaned are placed on a recessed screen on top of the unit, where they are pressure-washed by a variable blast of clean solvent. The dirty solvent then drains into the pedestal of the unit, where it is micron-filtered to a user-selected fineness of five to 100 microns until it is clean. Expensive solvent is continuously recycled, renewed and conserved to be used again. The unit operates effectively with from six to 15 gallons of solvent.



Circle 709 on free information card.

A pressure washer for small jobs in introduced by White Outdoor Products. It delivers 1.8 gallons of water per minute at 500 pounds per square inch nozzle pressure. The unit automatically mixes detergent or other cleaning chemicals with outside water supply for cleaning.

Circle 710 on free information card.

Protective footwear, injection-molded of PVC and polyurethane for traction, abrasion-resistance and protection against acids, chemicals and oils, has been introduced by Goodall Rubber Co. The "Poly-Sole" boot is available in sizes 6 to 13 with a steel safety toe that meets ANSI specifications. The molding process eliminates seams as a source of leaks. The upper is light, has low-temperature flexibility for maximum mobility and comfort and resists chemicals. A pants-gripper at the top of the boot holds trousers snugly inside.



Circle 711 on free information card.

National Drain Supplies, Inc., has broadened its 1976 line of pipe, fittings and drainage/sprinkler system specialties to include six new items.



Circle 712 on free information card.

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W.I.N. with Nitroform® nitrogen . . . and save! In lower cost per pound of W.I.N.



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STH76-22

Circle 144 on free information card

**WEEDS TREES and TURF**



# THE UNDERCOVER WEED KILLER.

Weeds and roots under asphalt paving can cause tremendous damage. But you won't know they're doing it until it's already done. That's why you need CASORON, the Undercover Weed Killer.

CASORON is approved for use under asphalt, whether it's a recreational court, a golf path, or a parking lot. Applied over the subgrade, CASORON soon begins to emit a weed-killing vapor. This gas is trapped under the asphalt, forming a long-lasting protective blanket against weed breakthrough. Straying roots from ornamental plants bordering asphalt surfaces can't damage the surface because CASORON is a "root-inhibitor." The tips of the ornamental roots stop growing when they come in contact with the CASORON-treated soil, and no harm is done to the ornamental.

CASORON is also perfect for weed control around all kinds of ornamentals and trees. Use it in parks, beside buildings, along highways, in cemeteries, or almost anywhere to eliminate the need for costly, time-consuming close trimming and mixing. It effectively kills more than 65 perennial and annual weeds without harming ornamentals or sterilizing an area for future planting.



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## Midwest State Officials Search for Amur

Recent findings of amur (grass carp) in Minnesota and Wisconsin have officials of those states nervously searching ponds and lakes and streams, trying to keep the species from proliferating.

Officials of those two states say they have found that while amurs feast on vegetation in weed-choked lakes, weed beds are only controlled with dense populations of the

fish. Officials also said the amurs preferably feed on insects.

The destruction of rooted vegetation by amurs, Minnesota biologists say, will result in prolific algae blooms because the inefficient digestive systems of the amur passes partly digested plant matter into the water, thereby enhancing algae growth. And when algae takes over a pond, its demand for oxygen

results in summer and winter kills of fish, Jim Dudas reported in the *Cleveland Press*.

"Arkansas has experimented with the amur extensively," according to Tom Wasson, fisheries biologist of the Ohio Wildlife Division. "But we don't know how they will react to this climate and until there has been extensive research by the U.S. Fish and Wildlife Service we feel they could be a problem." He said the maximum penalty in Ohio for possessing or importing amur is \$200 per fish.

## Control Program Developed For Highway Landscape Pests

An integrated control program for highway landscape pests is under development in California. Among the pests in the landscape system are stem-feeding aphids. Formerly, the shrubs were treated with organophosphate insecticides to control early outbreaks of these aphids.

This treatment, while effective in temporarily suppressing the aphid populations, kills parasitoids and predators of both the aphid species and the red-humped caterpillar, another important pest in the highway landscape. Soap sprays have been a traditional means of aphid suppression for over 100 years and are considerably less toxic to insects than organophosphate insecticides. This it seemed possible a dilute soap spray could provide the required suppression of the aphids and probably cause less mortality among the parasitoids and predators than would the newer insecticides, thus permitting more effective long-term biological control.

A specially formulated soap spray was effective for removal of the aphids on highway plantings in California. Water alone produced a removal rate of close to 50 percent, and a general pattern of increased removal rate with higher concentrations of the soap solution was noted. The maximum soap concentration tested, 0.1 percent, produced removal rates of up to 79 percent. The work was reported in the *Journal of Economic Entomology* and excerpted in the *Journal of Arboriculture*. The work was done by Dudley Pinnock, Richard Brand, James Milstead and Nancy Coe.



New officers of the Pennsylvania Turfgrass Council recently elected are (seated) Dr. Fred V. Grau; (standing, from left), C. William Black, superintendent at Fountain Head Country Club, Hagerstown, Md., vice president; Arthur D. Wick, Lakeshore Equipment & Supply, Sewickley, Pa., president; and David M. Boyd Jr., D. M. Boyd Co., New Wilmington, Pa., treasurer.