

of-way damage and reduce the number of complaints and damage claims. The following items are considered essential for safe and effective aerial spraying:

1. Reconnaissance of right-of-way — A proper aerial reconnaissance of the right-of-way before spraying will give the pilot advance knowledge of the presence of homes, gardens, valuable crops, trees, or other areas that should not be sprayed. Known restrictions should be marked on right-of-way maps.

2. Observation of wind and other climatological factors, wind speed and direction — Since wind drift of chemical is the major cause of off right-of-way damage, it is very important that the wind speed and direction be known at all times. Wind limits should be set for the chemical being used, application equipment, height of drop, and proximity and species of crops or plants next to right-of-way.

Herbicidal foliage sprays to woody vegetation by aircraft on rights-of-way when the wind velocity exceeds five miles per hour at eye level should be curtailed. In case of deep valleys requiring the chemical to be dropped long distances, it may be necessary to wait for periods when the wind is almost calm. There is also a temperature gradient between hills and valleys which may cause some air movement.

Normally the wind is of lower velocity early in the morning (dawn) and early evening, therefore, most of the production is accomplished during these periods.

3. Continuous observation — The pilot should be constantly observing the spray pattern to see that it does not exceed the edge of the right-of-way and turn on and turn off points are well within limits of the situation. He should be searching for any signs of the presence of valuable property or crops that may have escaped his vision on the advance reconnaissance and be ready to halt spraying at any point.

4. Sensitive crops and other areas — Certain crops such as tobacco, grapes, vegetable gardens should not have the spray applied closer than 100 ft. even under ideal conditions. Never spray toward sensitive crops. These areas should be picked up in reconnaissance or be

marked on a map prior to actual spraying.

Homes, parks, recreation areas and the like should be given several hundred feet clearance unless specific instructions to the contrary are given.

Avoid lakes, streams, ponds and other water sites when applying most brush control chemicals. Drainage areas that go into irrigation water should be avoided by at least 500 ft.

Precautions in Aerial Spraying

Regardless of the amount of judgment and caution applied in aerial application, occasional damage claims or complaints may result, legitimate or otherwise.

There is no substitute for quick, personal response to these complaints. A rapid investigation of damage complaints can save many dollars in unwarranted claims, and can create good public relations for the rapid settlement of justifiable complaints.

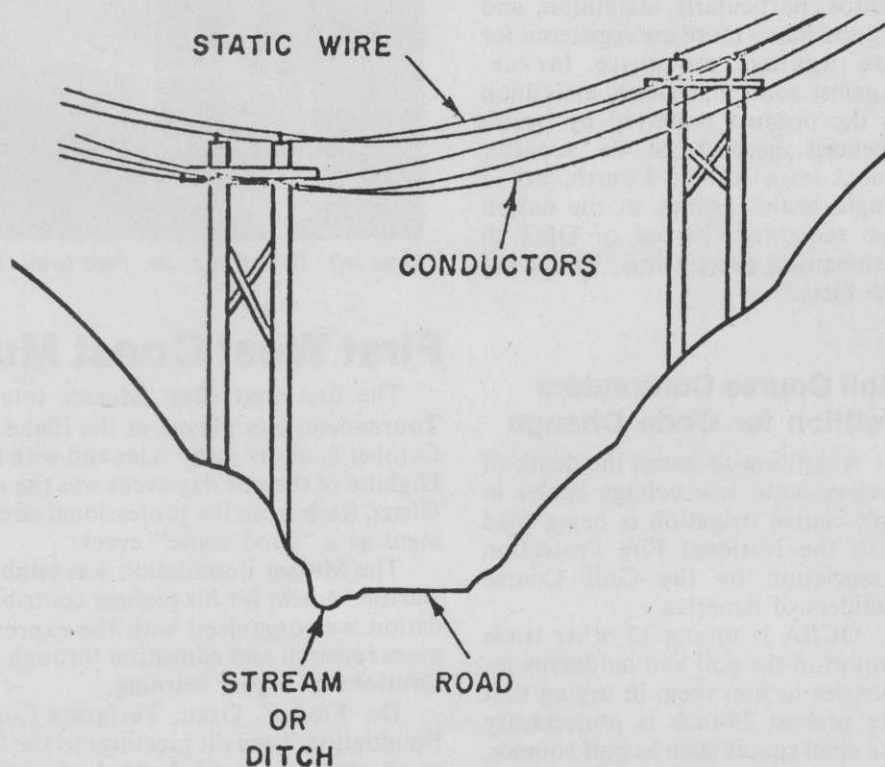
The individual who suffers actual damage deserves fair treatment for his loss. The individual who believes he has been damaged deserves the consideration of a

quick response to his complaint and an explanation of the facts.

Even though chemicals and application systems have been continuously improved to make aerial brush control of rights-of-way a practical method of control, with reduced possibility of off right-of-way damage due to wind drift, the equipment is only as good as the pilot that uses it. The pilot is the key to successful application. He must maintain the proper attitude towards aerial applications. He must be constantly aware of the serious problems that could result from improper techniques employed. He must be constantly alert for changes in weather or equipment that could affect the safe application of chemical to the right-of-way limits. Most of all, he must have a sincere desire to do the best possible job.

Due to inaccessible terrain and other factors, aerial application may often be a more practical method of controlling vegetation. However, aerial treatment has no place in urban and suburban areas, and it is very difficult to do aerial appli-

(continued on page 34)



This is a profile of aerial application on a rights-of-way above 40 feet.

Train Asks for Support on Pesticides Issue

Environmental Protection Agency Administrator Russell E. Train called upon environmentalists to "rally together to fight" against current effort in the House of Representatives to weaken EPA authority in the field of pesticide regulation.

In a wide-ranging speech to the American Forestry Congress meeting in Washington on the 100th Anniversary of the American Forestry Association, Train called for a greater delegation of environmental responsibilities to State and local governments and for streamlining Federal Administrative machinery.

Train also attacked as "baseless" recent allegations in Congress and in the press and elsewhere that EPA's 1972 ban on DDT has any responsibility for the current outbreak of encephalitis.

"I have recently read several newspaper editorials which directly suggest that EPA and its 1972 ban on DDT bear major responsibility for the current outbreak of encephalitis—that we environmentalists are somehow to blame for the tragic deaths from this disease. One of these papers, the "Dallas Times Herald" is due credit for its honesty in subsequently stating: 'The editorial condemning the EPA for banning DDT was based on information which later proved incorrect. We regret the error.' The facts have not, however, deterred some members of Congress from making the same baseless charge on the floor of the House of Representatives or, indeed, the Secretary of Agriculture himself from repeating the same story on several occasions. What are the facts of the matter? First, DDT had largely been abandoned for mosquito control in the U.S. before the 1972 ban on DDT because mosquitos had become DDT-resistant. Second, EPA's 1972 DDT ban specifically excluded public health uses from the ban. Indeed, EPA has in recent months given permission for such use on several occasions (for example, on rabid bats) where requested by responsible health officials. We can act rapidly in such case. Third, at least ten products are registered and available for use against adult mosquitos, particularly malathion, and a good many more are registered for use against mosquito larvae. Against adult mosquitos, malathion is the product preferred by health agencies because of its superior knockdown power. Fourth, not a single health agency in the nation has requested the use of DDT in combatting encephalitis. Those are the facts."



From left: Dave Glenz, Dr. Fred Grau, Pat Fitzsimons and Bill Rose.

Golf Course Contractors Petition for Code Change

A petition to lessen the depth of underground low voltage cables in golf course irrigation is being filed with the National Fire Protection Association by the Golf Course Builders of America.

GCBA is urging 13 other trade groups in the golf and landscape industries to join them in urging that the present 24-inch is unnecessary for open spaces such as golf courses, parks, and recreation areas. Until

(continued on next page)

First West Coast Musser Tournament

The first west coast Musser International Turfgrass Foundation Golf Tournament was played at the Illahe Hills Country Club in Salem, Oregon, October 8, under rainy skies and with a turnout of 24 golfers and near golfers. Highlite of the one day event was the appearance of Pat Fitzsimons and Dave Glenz, fresh from the professional circuit, who lent their names to the tournament as a "good cause" event.

The Musser Foundation was established in honor of the late Professor H. Burton Musser for his pioneer contributions to the turfgrass field. The Foundation was organized with the express purpose of further developing turfgrass research and education through the establishment of Fellowships at institutions of higher learning.

Dr. Fred V. Grau, Turfgrass Consultant and President of the Musser Foundation, brought greetings to the field of golfers at a noon luncheon prior to an auction for the decided advantage of having either Pat Fitzsimons or Dave Glenz on six teams for six holes per team of the 18 hole tournament.

recently, underground control wires were buried 12 inches. The wiring activates valves and starts irrigation pumps.

Nick A. Siemens of Fresno, Calif., a golf course contractor and GCBA president-elect, is directing GCBA's action to change the national electrical code requirements. He has pointed out that golf course construction costs would increase because of the tremendous irrigation footage involved in the automatic irrigation system which requires from 10 to 40 miles of wire.

In addition to higher costs, Mr. Siemens says construction and maintenance hazards would result.

Formally, GCBA will ask the National Electrical Code Committee when it meets in December, to amend Exception 3 of Section 300-5 of the National Electrical Code to add golf courses to the exception now provided for residential branch circuits of 300 volts or less.

Harry J. Lambeth, executive director of GCBA's Washington office, urges other golf associations to join the effort.

Beard Plans Expansion For Texas Turf Industry

Increasing demands by both industry and the public sector on the care and maintenance of turfgrass as well as for the development of new turfgrasses has led to an expansion of the turfgrass research program at Texas A&M University.

Heading this expansion effort is Dr. James B. Beard who has joined the staff of the Texas Agricultural Experiment Station, the state's agricultural research agency. He will give leadership to the environmental physiology, ecology and culture of turfgrasses.

"Increased leisure time, emphasis on beautification and demands for environmental protection have caused a boom in the turf industry of this state," said Dr. Jarvis E. Miller, Experiment Station director, in announcing the appointment of Beard. "The annual cost of maintaining turfgrass facilities (lawns, parks, golf courses, highway right-of-way) in Texas is estimated at \$350 million.

"We must strive to develop better turf varieties and improved

management practices, and this means more research involving turfgrass nutrition, shade tolerance, insect and disease resistance, and organic residue decomposition," noted Miller.

Ohio Turfgrass Show Slated for Dec. 2-4

The keynote address at the Ohio Turfgrass Conference and Show on Tuesday, December 2 will be given by Melvin J. Rebholz, Deputy Director of Resource Management in the Ohio Department of Natural Resources. Mr. Rebholz will address the Conference on the Recreational Industry in Ohio, with particular emphasis on areas relating to the turfgrass industry.

A number of outstanding programs have been planned for the Ohio Turfgrass Conference, December 2-4, at the Cincinnati Convention-Exposition Center. They include an entire session on *Poa annua* for golf course superintendents, a session on the latest from EPA and FIFRA regulations, and a personnel management session. Speakers from outside Ohio include Lee Record from the USGA Green Section, William Knoop from the Golf Course Superintendent's Association of America, Dr. Fred Ledebauer of Loft's Pedigreed Seeds, and Dr. James Watson from The Toro Company.

The equipment and product show will again prove to be the greatest available outside of a National Show. Over 50 exhibitors and 100 booth spaces have already been committed. Plan now for the Ohio Turfgrass Conference and Show. Don't miss it.

If you are involved in turfgrass management in any way, you cannot afford to miss this event. Headquarters hotel is Stouffer's Cincinnati Inn, 150 West 5th Street, Cincinnati, Ohio 45202, (513) 721-8600. Registration is \$10 for OTF members and \$20 for non-members. More details are available from Dr. David P. Martin, Ohio Turfgrass Foundation, 1827 Neil Ave., Columbus, Ohio 43210, (614) 422-2591.

Hawaii Turfgrass Assoc. Meets, Elects Officers

August 28th and 29th, 126 men and women gathered at the Ala Moana Hotel to exchange ideas for making Hawaii landscapes and golf courses more colorful and less expensive, during the 11th annual conference of the Hawaii Turfgrass Association.

In addition to electing a new slate of officers for the coming year, HTA members heard speeches from a variety of experts on subjects related to plant care and landscape maintenance. The convention also features six booths displaying the latest in turf grass products and irrigation equipment offered by Brewer Chemical, Occidental Chemical, Kuluwai Irrigation, Hodges Industries, the Inter-Island Equipment Company and the Thompson Products Company.

The new HTA board is: Walter Nagorski, president, Army Golf Association superintendent; Lindy Loo, vice president State Department of Accounting and General Services; William Hurter, secretary, B. Hayman Co., Inc. marketing representative; Robert Wood, treasurer, Hawaii Loa College chief maintenance engineer; Jim Barr, executive secretary, Occidental Chemical marketing representative.



Walter Nagorski, president.

Meeting Dates

Grounds Maintenance Conference, Callaway Gardens, Georgia, Nov. 18-19.

New Jersey Turfgrass Expo '75, educational conference and trade show, Sheraton Poste Inn, Cherry Hill, N.J., Dec. 1-4.

Ohio Turfgrass Conference and Show, Cincinnati Convention-Exposition Center, Cincinnati, Ohio, Dec. 2-4.

International Society of Arboriculture, New England Chapter, Sheraton-Hartford Hotel, Hartford, Conn., Dec. 3-4.

National Agricultural Aviation Association, 9th annual conference, Las Vegas Hilton and Las Vegas Convention Center, Las Vegas, Nevada, Dec. 7-11.

Illinois Turfgrass Foundation, 16th annual conference, Ramada Inn, Champaign, Ill., Dec. 10-12.

Fourth National Legislative Conference, Fairmont Hotel, New Orleans, Louisiana, Dec. 16-17.

Western Association of Nurserymen, 86th annual meeting and trade show, Plaza Inn, Kansas City, Mo., Jan. 4-6.

Tennessee Turfgrass Association, annual conference, Rodeway Inn, Nashville, Tennessee, Jan. 5-6.

Mid-Atlantic Association of Golf Course Superintendents, annual conference, Holiday Inn Belmont, Chevy Chase, Md., Jan. 5-6.

Indiana Chapter, International Society of Arboriculture, Stauffer's Indianapolis Inn, Indianapolis, Ind., Jan. 6-8.

Pennsylvania-Delaware Chapter, International Society of Arboriculture, Marriott Hotel, Philadelphia, Pa., Jan. 7-9.

Kentucky Chapter, International Society of Arboriculture, Stauffer's Inn, Louisville, Ky., Jan. 20.

Michigan State University Turfgrass Conference, Kellogg Center, East Lansing, Michigan, Jan. 21-22.

Ohio Chapter, International Society of Arboriculture, Sheraton Columbus Hotel, Columbus, Ohio, Jan. 25-29.

Virginia Turfgrass Conference, Sheraton Motor Inn, Fredericksburg, Virginia, Jan. 28-29.

Southern Weed Science Society, 29th annual meeting, Statler Hilton, Dallas, Texas, Jan. 26-29.

One Week Winter Short Course, Turfgrass Management, West Tennessee Experiment Station, Jackson, Tenn., Jan. 26-30.

Turf and Landscape Conference, annual meeting, Tappan Zee Inn, Nyack, N.Y., Feb. 4.

American Sod Producers Association, mid-winter conference, Sheraton Sand Key, Clearwater, Fla., Feb. 5-6.

Golf Course Superintendent's Association of America, 47th international conference and show, Auditorium and Convention Hall, Minneapolis, Minn., Feb. 8-13.

Midwestern Chapter, International Society of Arboriculture, Sheraton-O'Hare Motor Hotel, Rosemont-Chicago, Ill., Feb. 10-12.

Canada Chapter, International Society of Arboriculture, Chateau Frontenac Hotel, Quebec City, Quebec, Feb. 12-14.

Wisconsin Arborist Association, annual convention, Midway Motor Lodge, LaCrosse, Wisconsin, Feb. 18-19.

Southern Chapter, International Society of Arboriculture, Myrtle Beach Hilton, Myrtle Beach, S. Carolina, Feb. 22-25.

Shade Tree Short Course, 19th annual, Scheman Continuing Education Center, Iowa State University, Ames, Iowa, Feb. 25-27.

Western Society of Weed Science, annual meeting, Sheraton-Portland Hotel, Portland, Oregon, Mar. 16-18.



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Top 100 Products Award Goes to Dow's N-Serve

N-Serve nitrogen stabilizer has been selected among the 100 most significant new technical products of the year in the annual "I-R 100" competition sponsored by "Industrial Research" magazine.

An award was presented to Dow Chemical U.S.A. at a formal awards banquet at the Museum of Science and Industry in Chicago, September 18, as the event launched a month-long exhibit of "I-R 100" award winners to the public.

N-Serve nitrogen stabilizer provides a new concept in fertilizer management and conservation.

Faced with fuel and fertilizer shortages, everyone is concerned about saving trips over the grounds and making certain that every pound of fertilizer placed in the ground is fully utilized.

The recovery of fertilizer nitrogen by plants in the year of application amounts to about 50 percent. Biological transformations, losses by leaching and losses as nitrogen gas to the atmosphere are primary causes of this low rate of utilization.

N-Serve inhibits the action of the soil bacteria that rapidly converts ammonium nitrogen to nitrate ions preventing leaching from the soil and loss to the atmosphere.

Ohio Turfgrass Field Day Features Research Data

Ohio State University's 1975 Turfgrass Field Day offered a refreshing approach to the typical classroom-type turfgrass sessions.

On Wednesday, October 1, an estimated 100 turfgrass growers, managers, and golf course superintendents got a first hand look at work conducted by Ohio's top turfgrass researchers. The program was hosted by Ohio State's Department of Agronomy and Cooperative Extension Service, Ohio Agriculture Research and Development Center and the Ohio Turfgrass Foundation.

The field day consisted of a ten-stop program. Each stop highlighted current research in the areas of turf disease, thatch, localized dry spots on sand greens, turfgrass cultivar evaluations, insect control,

glyphosate and bluegrass cultivars under low fertility.

Dr. Dave Martin recommended, from his research data, a variety of cultivation practices for the control and elimination of thatch problems. His tests also involved several organic materials currently on the market for the control of thatch.

Most superintendents agree that Phythium blight was their largest turf disease problem this year. And

doctorate research by J. L. Saladini indicated that Phythium may be more of an unknown problem than superintendents realize. He stated that the fungus may be active in the turf root zone long before any typical symptoms are present. "Preliminary activity by this fungal disease causes considerable root loss thereby reducing the recuperative potential of the surviving turfgrass," Saladini said.

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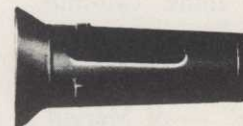
*If You're an Applicator Here's an Idea of What You can do with this Offer!

You can treat:	
25 3" DBH trees @ \$17.50 ea.	\$437.50
16 7" DBH trees @ \$23.00 ea.	368.00
7 14" DBH trees @ \$34.00 ea.	238.00
Total Income	\$1,043.50
Cost of Goods (at retail) ..	135.90
Profit	\$ 907.60

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Commercial Sod Industry

Huber Ranch Sod Nursery

"Instant Lawns for Home and Industry"

By TOM STUNDZA, "The Post-Tribune," Gary, Indiana

A FOG BANK has rolled off the nearby Kankakee River so the gray dawn reveals a heavy, wet cloud hovering atop the flat, green acreage of the Huber Ranch. Yet, at 6 a.m., men and machines already are well into the harvesting of the ranch's only crop — sod.

"The timing of the harvesting is important," explains Bill Huber, the owner. "We start harvesting the sod at 3 a.m. so that, in the coolness of the morning, we can insure freshness in our rolled product."

Under fertilization, irrigation, rolling and constant mowing to a uniform height, the sod is harvested in strips — 18 inches wide by six feet long.

At the Huber Ranch Sod Nursery, Inc., one of the largest in Indiana, 1.5-to-2.5 acres of what Huber calls "instant lawns for home and industry" are harvested every day in a season that runs from March 1 to Dec. 1.

Five hundred and thirty-five of the ranch's 820 acres are set aside for sod production. Half the sod acreage is harvested every year, while the other half is allowed to grow wild for gathering the succeeding season.

Located along U.S. 41, about a dozen miles southwest of Crown Point, the Huber Ranch has been used for sod production since 1967. Annual sales now approach \$1 million.

"The land has a lot going for it that makes it ideal for sod," says Huber. "First, the soil is an organic, black, mineral soil with a high water table. Second, the ranch, itself, is perfectly flat; there's only a six-inch slope across the entire two-mile width of the ranch."

The sod grown at the Huber Ranch is a special blend — called an "executive mixture" — of Merion, Delta, Fylking and Sodco seeds, developed by Huber and consultants at Purdue University.

"The big difference between our sod and that of our largest competitor (Shamrock Turf Nurseries, Inc., a 721-acre sod farm in LaPorte County) is that our sod is grown in fertile river bottom while their's is grown in peat," explains Huber.

He contends that his product — due to the soil, seed blend, and fertilization-irrigation processes used at Huber Ranch — "will give the busy executive or anybody else an almost carefree, yet luxurious, lawn." He adds that, as the sod industry is a relatively new professional farming industry, "it is an extremely competitive business" so consumer costs are kept low "to foster growth within the industry."

"What we are selling is the green of our fields," Huber says. "And, personally, I want to become well known in the sod business for doing just that — selling the green of our sod all over the Midwest."

Huber Ranch now has 15 dealers in Indiana and Illinois selling its product and 18 employees involved in the cultivation, harvesting, and semi-trailer delivery of the sod.

The ranch also is branching into the wholesaling of allied nursery products — seeds and fertilizers, specifically. And, for the past five years, has had a large "hog finishing" operation.

Huber sells 3,000 hogs a year he has bought at two months, weighing 40 pounds, and "feeds them out" to market weight, 225 pounds, at six months of age.

Huber also harvests the three-foot-high wild grass from sod acreage to be harvested the next year, and sells the hay to cattle farmers and contractors who use hay in the winter to "cure" concrete.

"But, it is the sod where we spend most of our time and money," says Huber. "We really try to 'sell' the public because high volume of sales cuts down the per unit over-

head. Yet, it really is a good deal for the public because sod provides a thick, guaranteed lawn with almost 18 months worth of fertilizer, top soil and growing grass."

Huber, a graduate of Notre Dame University with a bachelor's in business administration, is using his sod operation to once again make Huber Farms of Schneider a well-known operation.

The ranch was founded in 1947 by his father, the late William C. Huber, then owner of the nationwide Huber & Huber Motor Express Co. of Louisville, Ky.

In the 1950s and 1960s, under the elder Huber and his son, Harold L., the Huber Ranch gained recognition for its vast herds of prize-winning Polled Hereford beef cattle.

In the middle-1960s, the Huber family sold its 2,000-truck, 5,000-employee transport company to Smith Truck Lines of Staunton, Va., and sold the cattle. Harold moved to Shelbyville, Ky., where he went into the farm implement business.

"So, there I was in 1967, with 820 acres and the knowledge that I didn't want to sell the property and I didn't want to become a corn farmer," says Bill Huber.

"The people at Purdue suggested sod and we've done real well, and are going to do better, in that area," he adds.

Besides the content of the soil, the Huber Ranch's location makes it easily accessible for truck and rail transport. Split by "new" U.S. 41, the ranch's eastern border is "old" U.S. 41. And, Penn Central railroad tracks — both east-west and north-south — converge at the northeast corner of the Huber property.

In fact, the Industrial Development Department of the Penn Central Transportation Co. has suggested the use of some of the Huber Ranch's property as a 250-acre industrial park. □



Builders Champ

Golf Course Builder John C. Floyd Jr., of Nashville, (right) receives the 1975 Moore Golf trophy from David Canavan, president of Moore Golf, Culpeper, Va., for his victory on the Grand Hotel's course at Point Clear, Ala., during the summer meeting of the Golf Course Builders of America. Floyd, who directs golf construction for Site Preparation Inc., defeated other contractor golfers and will hold the trophy until the 1976 GCBA tournament in Monterey, Calif. Canavan was the president of the Golf Course Builders of America.

Toro's Windom Employees Ratify 3-Year Contract

The Toro Company today announced that agreement has been reached with the employees of its manufacturing plant at Windom, Minn., on a new three-year labor contract extending through Sept. 30, 1978.

A Toro spokesman said that "a large majority" of the 475 employees concerned ratified the terms of the new contract yesterday before the expiration of the previous agreement. They are members of Local 1956 of the International Association of Machinists and Aerospace Workers. Local president, Emil Horkey, headed the union negotiating team.

In addition to a wage increase, the new agreement provides for improvements in holiday and vacation schedules and in insurance protection.

USDA Plant Permit Office Relocated to Hyattsville

Travelers or importers wishing to bring foreign plants, soil, or plant products (fruit or vegetables) into the United States now must send their applications for federal permits to a new address.

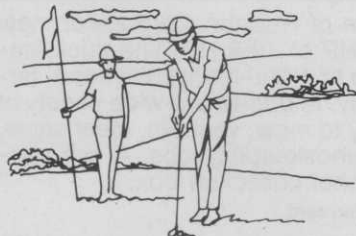
After 30 years in Hoboken, N.J., the five-person permit-issuing office of the U.S. Department of Agriculture (USDA) has moved to Hyattsville, Md. The move consolidates manpower and record-keeping at Hyattsville.

James O. Lee, deputy administrator of USDA's Animal and Plant Health Inspection Service, explained that permits are required under federal regulations designed to protect America's plant life from destructive foreign plant insects and diseases.

Horticultural Perlite...

The multi-purpose soil conditioner for turf, containers and propagation.

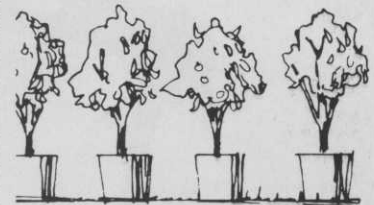
Professional landscapers and grounds maintenance men have long made Horticultural Perlite one of their main 'tricks of the trade'. It's an ideal soil conditioner that



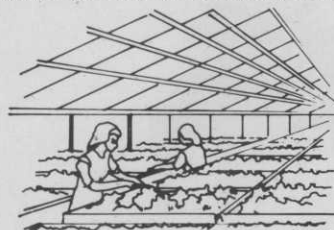
helps promote "a sea of green velvet". You see, by preventing compaction, it keeps the soil loose enabling more oxygen to reach and help nourish the root system. And because Horticultural Perlite also retains three to four times its weight in moisture, it keeps the root network moist long after watering. The result is a beautiful blanket of green growing on a thick healthy, robust root-system that not only keeps grass beautiful, but prevents **golf courses, institutional and campus**

lawns and residential lawns from getting soggy, mushy or soft underfoot.

Nurserymen find Horticultural Perlite practically indispensable for **container grown plants and shrubs** because of its ability to retain moisture, and to keep the mixture around the root environment loose. It is also a great "starting mixture" for transplanted stock as it helps reduce the incidences of transplant shock. And because Horticultural Perlite is sterile and non-toxic, it won't rot, decompose, disintegrate or break down. Nor will it help promote insect life. Being light in weight, Horticultural Perlite makes container moving light work and shipping costs a lighter expense. It's not only ideal for your plants — Horticultural Perlite is ideal for your business.



For **plant propagation**, Horticultural Perlite soil mix is almost as important as sunlight. Because of its water-retention characteristics, this mixture maintains an even distribution of moisture to stimulate fast root development in cuttings and to speed seed germination. Most important, by keeping the starting mixture loose, Horticultural Perlite permits a freer flow of oxygen to help nurture the new growth. This also makes transplanting easy; without root damage; and without undo shock. Horticultural Perlite is inert matter that can last indefinitely in your seed beds. It is sterile, odor-free and can't promote insects or bugs. It is a great asset for the new beginnings of plant life.

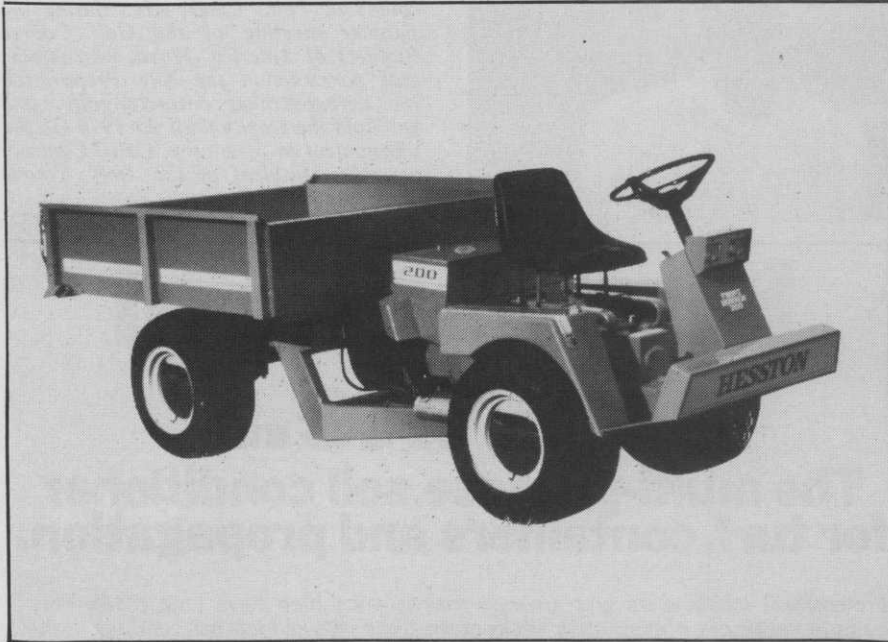


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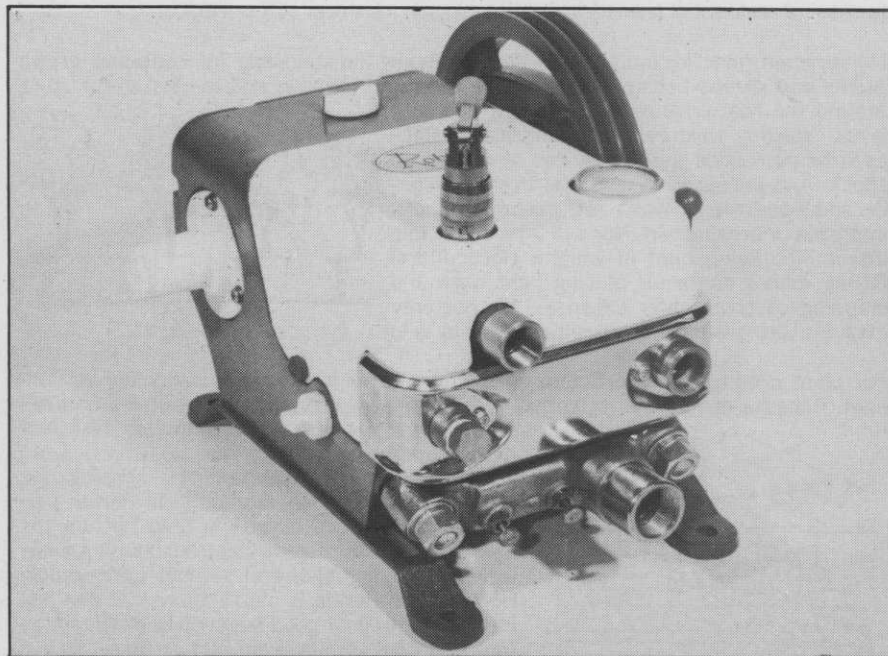
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New Products



TURF TRUCK: The Lawn Equipment Division of Hesston Corporation new Front Runner Truck is available in either 16 HP or 19.8 HP. The truck features a $\frac{3}{4}$ cubic-yard bed for hauling loads up to 1,000 lbs. of dirt, sand, fertilizer, or equipment, according to the company. In addition, a wide variety of attachments give the unit all-season versatility to mow, vacuum, clear snow, move dirt and handle a variety of other groundskeeping jobs. A self-contained vacuum attachment features a 50-bushel collection box.

Circle 701 on free information card.

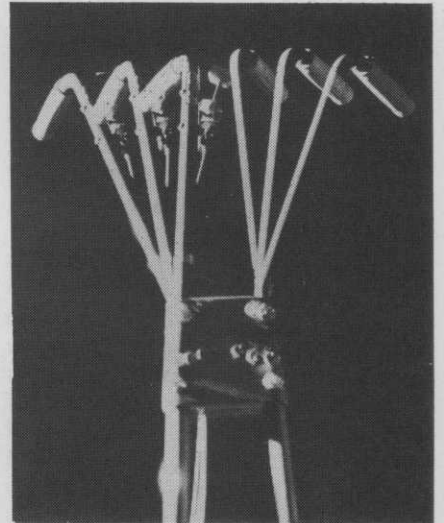


PCO PUMP: This unit is available in five models from 2 to 30 GPM at 500 psi. Robco, Inc., says this unit's big feature is its long life with minimum maintenance. The manufacturer says by removing four bolts, slipping out and replacing the packing, the unit has been serviced.

Circle 702 on free information card.

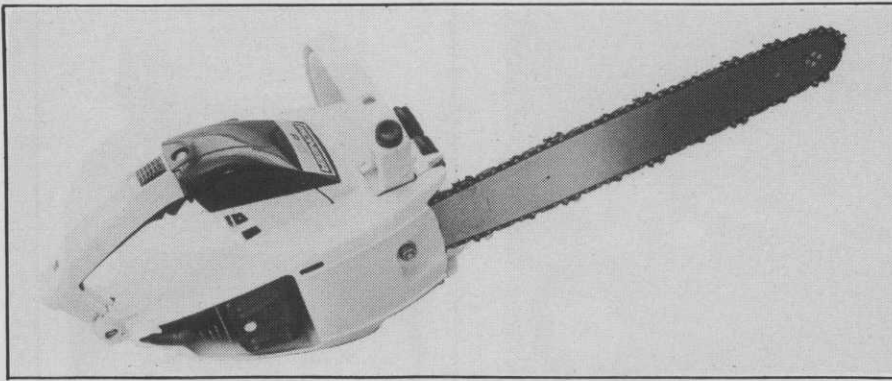
ADJUSTABLE: Goodall's edger-trimmers are equipped with handles which will adjust to nine different positions to protect hands and knuckles and provide easier maneuvering when trimming against walls, fences, etc., according to the manufacturer. Adjustable handles are available on 8, 10, 12, and 18 in. edger-trimmers.

Circle 703 on free information card.



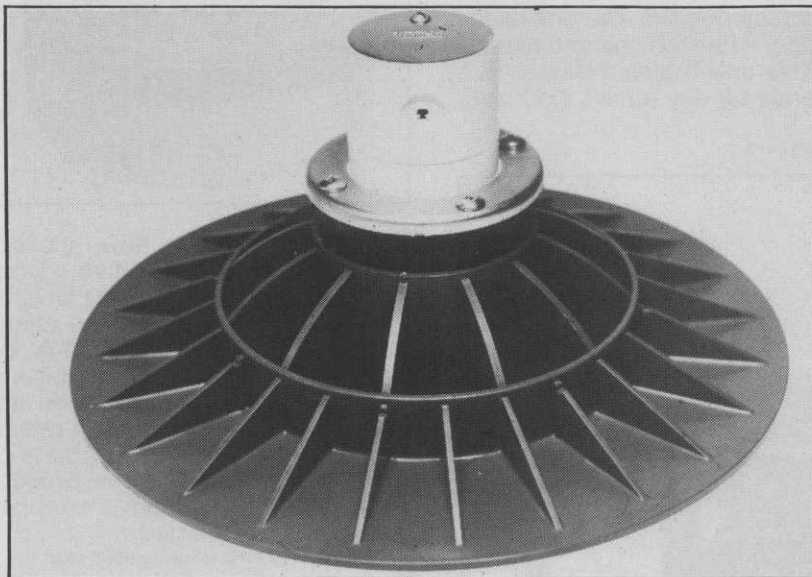
VICES: Four styles of vises in a variety of models and sizes for almost any workshop application are now available from Allis-Chalmers Corp. The vises include a utility clamp vise, bar vises, channel vises and a special heavy duty vise for machinists. High tensile grey cast iron provides needed strength, while the bar, channel and machinists vises have replaceable cold rolled steel jaws for added life.

Circle 704 on free information card.



MINI: A new lightweight chain saw introduced by Pioneer weighs about 6.6 lbs. without attachments and has a 2.2-cubic-inch engine. The manufacturer says other features include die-cast magnesium construction, a self-cleaning automatic oiler with manual override, a Tillotson carburetor, and a standard 12-in. sprocket nose bar.

Circle 705 on free information card.

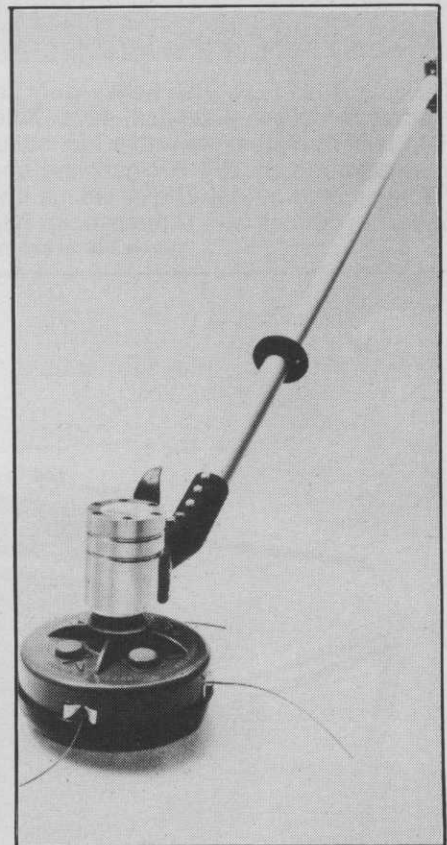


SUPPORT: A stabilizing support flange for irrigation sprinkler heads, is engineered and designed to be completely under the turf surface, says Sage-T-Lawn, Inc. The flanges protect heads from tilting or being pushed into the ground by heavy maintenance equipment. Drain holes in flanges prevent puddling around sprinkler heads.

Circle 707 on free information card.

HYDRAULIC: A new grounds maintenance tool, called a Weed Eater, uses a special head that spins four heavy duty strands of monofilament line at more than 4,000 rpm, says Stanley Hydraulic Tools. The manufacturer claims that the tool is especially useful in leveling vegetation around trees, fences, guard rails, highway signs, etc. The unit can cut over glass bottles, tin cans, rocks, electrical cable and other unseen obstacles without the dangerous flying debris caused by solid cutting blades.

Circle 706 on free information card.

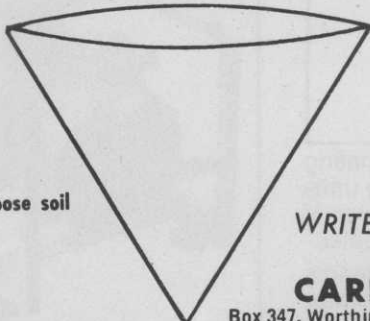


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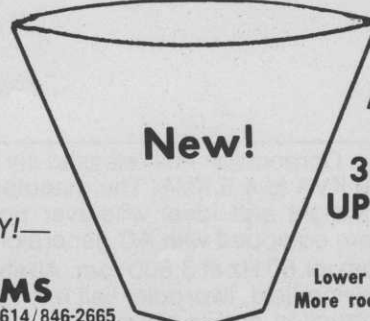
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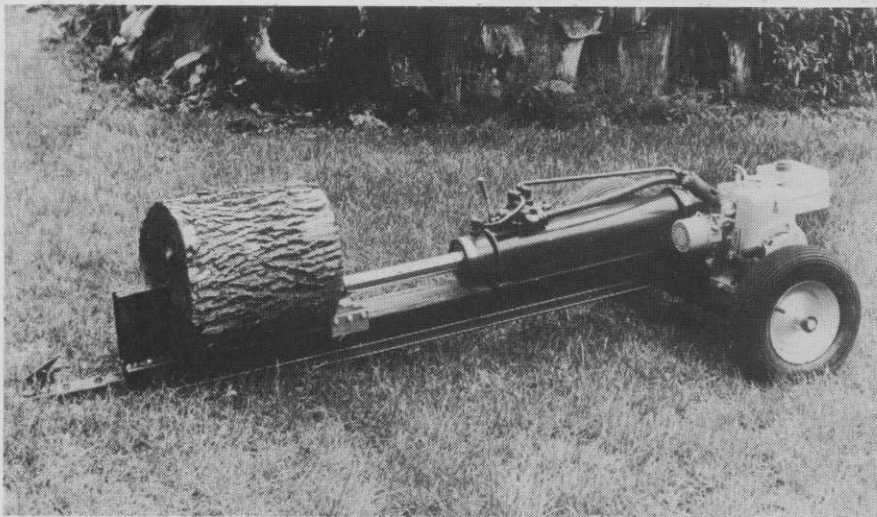
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HYDRA-SPLITTER: This heavy-duty unit is designed to give many years of reliable, trouble-free service, says Didier Manufacturing Co. The unit exerts 10 tons of ram pressure with a 7 in. cutting wedge. It has a 20 second recycle time, powered by a 4 HP gasoline engine. This unit is also available in a PTO-operated model. Didier claims it will operate off any forklift, skid steer loader, or tractor with a three-point hitch.

Circle 708 on free information card.

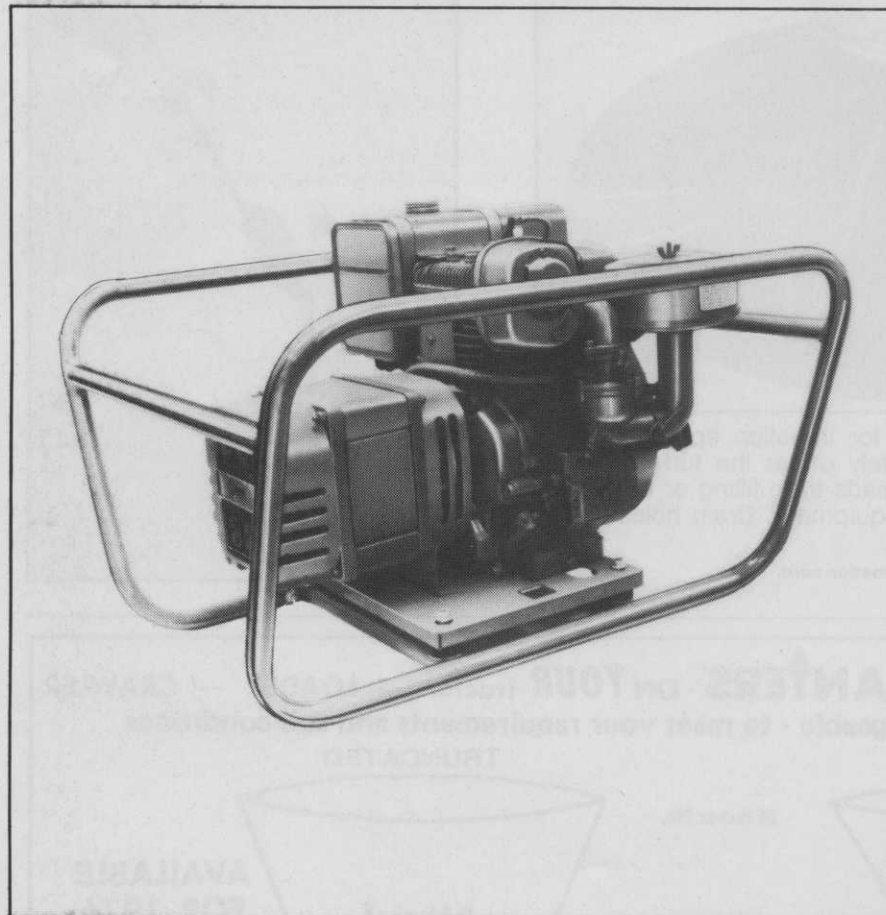
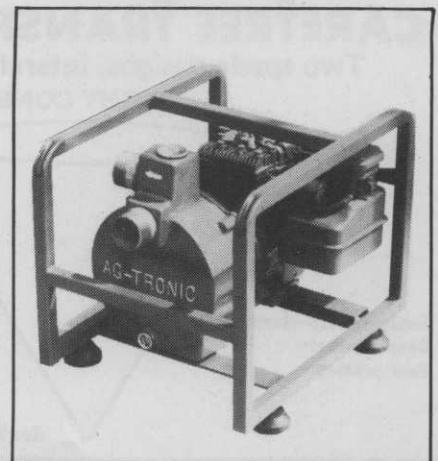


SPRAY STICK: A new sticker-extender spray additive, from Nursery Specialty Products Div., of J. A. Hartman, prolongs the effective life of pesticides, fungicides, insecticides and other horticultural and agricultural sprays, claims the manufacturer. With a dilution rate of one part spray-stick to 800 parts of the primary spray, the new product actually costs less than 1/2 cent per gallon of spray treated.

Circle 710 on free information card.

PUMP: The Kearney Division of Ag-Tronic, Inc., is now manufacturing a line of utility pumps available in 3 HP and 5 HP models. The units feature capacities of 150 and 200 PGM, powered by a Briggs and Stratton engine.

Circle 711 on free information card.



ALTERNATOR: Onan Corporation has released six new portable alternating sets ranging from 1.0 KVA to 4.5 KVA. The manufacturer claims these units are rugged yet lightweight and ideal wherever portable electric power is needed. All models are equipped with AC generators to provide 50 Hz electric power at 3,000 rpm, or 60 Hz at 3,600 rpm. All six models employ Onan's AC generator of revolving field, two-pole, self excited design. The generator is of drip-proof construction and is permanently aligned to the engine.

Circle 709 on free information card.