

We also worked pretty late that night repairing the fairway for the next morning's round," he said.

Woehrle also made press relations part of his standard operating procedure for this year's tournament. "The inaccurate and incomplete press coverage concerning the condition of the course in some of this year's earlier tournaments," emphasized Woehrle, "convinced me that I should be aggressive in seeing that the press had a source of complete information about Oakland Hills."

Woehrle followed a two-step plan for press relations. First, in the press tent, he made certain each of the 200 typewriter had a note on it offering to answer all questions concerning the course and its condition.

His second step was actual *face to face* contact with the press during the tournament. "I spent a substantial amount of time around the press tent offering to supply information or answer questions," he injected. "Even though the course was in excellent condition, I still found being there gave me a chance to talk about the course preparation, how we made it more difficult, and so



Sand traps at Oakland Hills are never manicured. They feature a rugged lip similar to traps in Scotland.

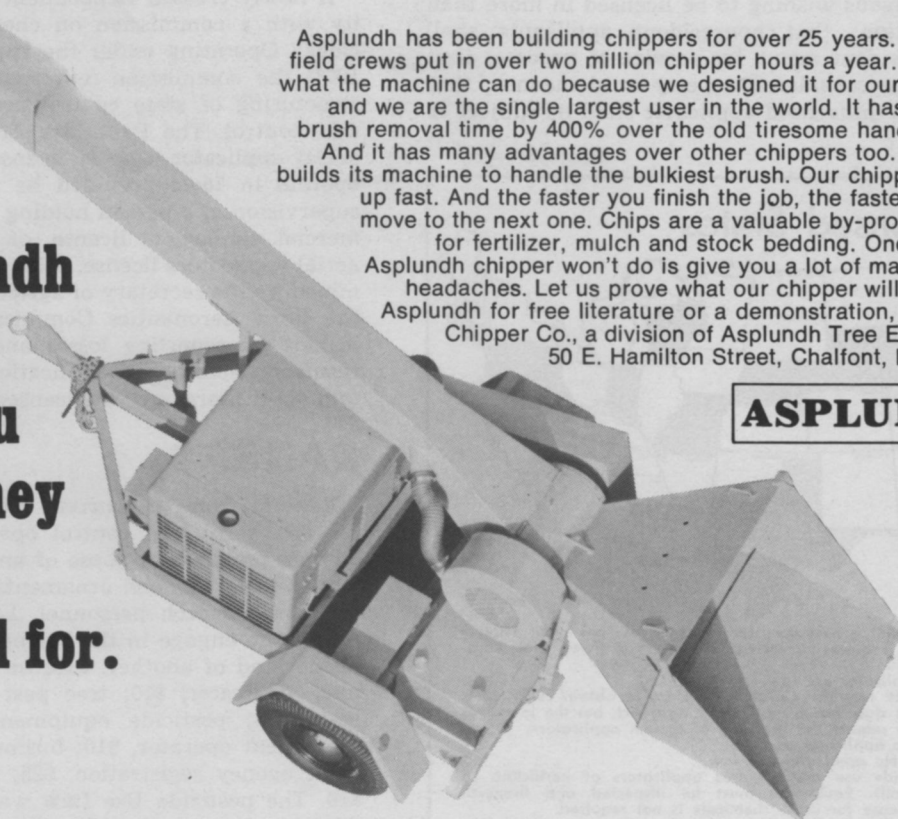
on.

"In contrast, if the course had not been in good shape, being in the press tent would have given me an opportunity to explain to the reporters why it wasn't before they wrote their stories. At least they would have had correct information to work with, even if their stories still came out unflattering. I think this year has shown the absolute neces-

sity for the superintendent to be providing accurate, complete information whenever the press is involved with the course."

Woehrle is now putting these ideas and many others he used in preparing for the 54th Championship into a booklet for other superintendents to use in getting ready for a major tournament. It should be finished late this year.

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GEORGIA

House Bill No. 571, approved April 3, 1972, creates the Georgia Pesticide Use and Application Act regulating custom applicators who engage in the business of applying pesticide. No provision is made to license dealers in restricted use pesticides and state, municipal and other governmental agencies are exempt from licensing — but not necessarily the “permit” requirement — provisions of the act. The Bill becomes law January 1, 1973.

HAWAII

The latest Senate Bill, No. 13, approved May 19, 1972, repeals most of the existing state pesticide control laws. In their place is the Hawaii Pesticides Law, a four part act that makes it unlawful to apply any pesticide in excess of dosage or inconsistent with time or other limitations specified on the label, use or apply restricted pesticides unless the person is a certified pesticide applicator with a valid certificate issued pursuant to regulations. Also, the department of agriculture may issue regulations to establish limitations and conditions for the application of pesticides by aircraft, power rigs, mist blowers, and other equipment.

IDAHO

New provisions proposed in a number of senate and house bills approved in 1971 add new teeth to the Commercial Sprayers and/or Duster Law. At presstime, some of the proposed changes include: providing for division of licenses into classifications: separate testing for such classifications; that an additional fee not be required of persons wishing to be licensed in more than one classification; that nonresident applicants shall designate a resident agent for service of process; first offense shall be considered a petty misdemeanor; that operation as an unlicensed applicator shall be subject to

a forfeiture of \$50 each day of unlicensed operation, as a civil penalty; and, that pesticide applicators who sell pesticides as an integral part of their services shall be exempt from dealer licensing provisions.

ILLINOIS

A nonresident desiring to apply pesticides in this state must annually pass an examination. Residents engaged in custom application must be licensed by the Director of the department of agriculture. Exemptions include structural pest control operators, fumigators, governmental bodies, tree experts. The director may restrict licensee to the use of certain types of materials or equipment. Other relevant laws applying to custom applicators include: Tree Experts, an act requiring examination, licensing and regulation of persons who diagnose, recommend treatment, or provide care for ornamental or shade trees; and The Insect Pest and Plant Disease Act, primarily a nursery inspection and pest quarantine act.

INDIANA

A Pesticide Review Board is the newest addition to the Indiana Code. In an Act, effective since January 1, provisions are incorporated of both the uniform State insecticide, fungicide, and rodenticide act and the model use and application act. In defining the term “restricted use pesticide” the Board includes any pesticide “found and determined to be unduly hazardous to persons, pollinating insects, bees, animals, crops, wildlife, or lands, other than the pests it is intended to prevent, destroy, control, or mitigate.”

IOWA

A newly created Department of Environmental Quality with a commission on chemical technology (pesticides). Operating under the approved Pesticides Act of 1971, the commission represents an organizational restructuring of state control programs, including pesticide control. The Pesticides Act permits a nonresident aerial applicator who is licensed in his home state to operate in Iowa provided he works under the direct supervision of a person holding a valid Iowa aerial commercial applicators license, or if he acquires an Iowa aerial applicators license, posts bond in an amount determined by the secretary of agriculture, and registers with the Iowa Aeronautics Commission. The act adds provisions for reporting losses and investigating damages resulting from aerial application of pesticides. All custom applicators must be licensed.

KANSAS

Exempt from the current Kansas Pesticide Use Law are structural pest control operators, persons working on own premises or those of another in an exchange of work, shade tree and ornamental shrub work, and Government research personnel. Licensing is required for those who engage in the business of applying pesticides to the land of another. License fees are: pesticide business applicator, \$10; tree pest control operators, \$100 (pending); pesticide equipment operator, \$10; public equipment operator, \$10; business license, \$25; government agency registration, \$25; each unit of equipment, \$10. The pesticide Use Law was to become fully operative on January 1, 1972. At presstime, an amendment delays implementation until January 1, 1973.

(continued on page 24)

Non-Licensed States

Delaware: A permit is necessary for restricted use pesticides only.
Indiana: Statute requires aerial applicators to register with Aeronautics Commission.
Missouri: No applicator use law.
Nebraska: Statute requires aerial applicators to obtain certificates.
New Jersey: This state has a Pesticide Control Act, but the law does not necessarily require the licensing of custom applicators.
Pennsylvania: No applicator use law.
South Carolina: No applicator use law.
Texas: A herbicide use law requires applicators of herbicides to obtain a permit. Equipment must be inspected and licensed. Applicators license for other chemicals is not required.
Virginia: No applicator use law.
West Virginia: No applicator use law.
Wisconsin: No applicator use law.
Wyoming: Aerial applicators must be registered with the state.

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environment" is defined so as to include "pesticide pollution."

KENTUCKY

To become effective January 1, 1973, the first Pesticide Use and Application permits the director of agriculture to issue a list of "restricted use pesticides." No provision is made to license dealers in restricted pesticides. Existing registration laws and the structural pest control law retain their current status. The Kentucky Department of Aeronautics KAV-5, "Aerial Applicators," a regulation, requires aerial applicators of agricultural chemicals to obtain a permit before engaging in the business of applying chemicals to crops, and requires certain bonding procedures.

LOUISIANA

Aircraft pilots and supervisors of ground equipment are required to pass a written examination before obtaining a permit to operate equipment in this state. License fees are: license, \$25; permits—examination, \$2; renewal, \$1; equipment inspection—airial, \$10, ground, \$10, hand, \$2. Licensing procedures under the Louisiana Horticulture Law grants a horticulture commission authority to license and regulate the practice of persons engaged in: entomology, plant pathology, tree surgery, horticulture, landscape architecture, landscape contractor, and ornamental plant spraying and dusting.

MAINE

Custom application of pesticides without a license is unlawful in this state. Licenses are issued for a calendar year. Licensing laws affecting arborists are covered by the Arborist Law. Further, a new section to the state pesticides control board law would make it unlawful "to apply pesticides to or in any river or stream or tributary thereof, or any great pond, without a permit from the board . . ."

MARYLAND

This is one of the few states where financial responsibility is detailed fully. A licensed custom ground applicator must carry public liability of \$20,000 for each person and \$40,000 for each occurrence. In addition, he must carry \$15,000 for each occurrence of property damage and \$30,000 aggregate for property damage. A licensed custom aerial applicator must have financial responsibility of \$50,000 public liability for each person, \$100,000 each occurrence and property damage coverage of \$50,000 each occurrence, \$100,000 aggregate. The same dollar figures apply to a pest control consultant, both ground and aerial. While licensing examinations are not specified in the Maryland Pesticide Applicators Law, a regulation of the state board of agriculture requires oral or written, or both be administered.

MASSACHUSETTS

Licenses are granted upon passing an examination and remain in force for a period of two years. Qualifications specify that an applicant must be 16 years of age or over and that two classes of licenses are established: operational and supervisory. Massachusetts has also established judicial procedures for preventing damage to the environment. The attorney general, as of July 18, is granted authority to "prevent or remedy damage to the environment . . ." and the term "damage to the

MICHIGAN

According to the Application of Economic Poisons, it is unlawful to operate pesticide equipment or apply pesticides commercially unless licensed by the director of agriculture. Exempt from this mandate are municipalities, road commissions, or state or Federal agencies. Although no written or oral examination is required, examination of the applicator form is made. An amendment to the Michigan Insecticide, Fungicide, and Rodenticide Act of 1949, approved August 12, 1971, would require restricted use pesticide dealers to obtain an annual license, (\$50,000 fee) after satisfying the director as to their ". . . knowledge of the laws and rules governing the use and sale of economic poisons and . . . responsibilities (as a dealer) . . ." In addition, it would require dealers to furnish the director a ". . . record of all sales of restricted use pesticides . . ." and to keep copies of such records for a period of 2 years.

MINNESOTA

The Minnesota Spraying and Dusting Law prohibits spraying or dusting for hire unless licensed by the commissioner of agriculture. Senate Bill No. 624, approved May 21, 1971, amends the Minnesota Economic Poisons and Devices Law by: requiring dealers in restricted use pesticides to obtain an annual calendar year license and to pay an application fee of \$20.00, and adding a new section relating to the handling, discarding, storing, and displaying of pesticides and authorizing the commissioner of agriculture to issue regulations governing such activities.

The act further amends the spraying and dusting law by requiring licensed aerial applicators to have passed an examination prepared by the department of aeronautics and administered by the department of agriculture; licensed applicators who apply pesticides in public waters to pass an exam prepared by the department of natural resources and administered by the department of agriculture. It also requires licensed applicators to carry identification cards and to present them upon request of the commissioner or a law enforcement officer. It would make it unlawful for any applicant or licensee to permit any judgment against him to remain unsatisfied for more than 30 days.

MISSISSIPPI

As amended, the Application of Hormone-type Herbicides by Aircraft law requires aerial applicators of herbicides to have additional licenses and keep certain records. Written examinations are required. All other applications of pesticides are administered under the Mississippi Pest Control Law, a licensing law, requiring application, examination, bond, record keeping, etc. (includes structural pest control operations).

MISSOURI

This state has no pesticide use and application law. The only other relevant law to the application of pesticides is the Missouri Economic Poison Law of 1955.

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ART EDWARDS
EDITORIAL DIRECTOR

Cancer-Inhibiting Plants Explored By USDA

A means for controlling cancer may well result from plant-collecting exploration now being undertaken by the U.S. Department of Agriculture.

Medicinal Plant Resources Laboratory Leader Robert Perdue of USDA's Agricultural Research Service says the program brings the broad spectrum of chemical substances in plants before a screen of selected cancer systems in living animals. Eventually the program carefully sifts out and identifies those chemical substances that have potential value for cancer chemotherapy in man.

During an early exploration, a tree from China called *Camptotheca* was sent to a U.S. Plant Introduction Station by an ARS plant explorer. In 1962, extracts from this rare tree exhibited definite anti-cancer properties. Since that time, intensive chemical and biological research has been focused on this plant.

The earliest known record of plant use for treating cancer or cancer-like disease is the Ebers papyrus — a document which dates from about 1550 B.C. This early Egyptian work recommended more than 40 plants for the treatment of tumors and warts and other possibly malignant growths. Some of these plants were barley, garlic, flax, absinthe, coriander, figs, onions, dates, and grapes.

It is interesting to note that this papyrus also mentioned two other plant products: yeast and the berries of juniper. The juniper berry is now known to produce a substance that is selectively toxic to cancer cells; yeast is the source of folic acid, which is also used in cancer therapy.

The present intensive search for anti-cancer drugs began in 1956, focusing first on synthetic chemicals and fermentation products. From January 1956 through 1971, more than 110,000 such materials were screened for anti-cancer activity.

Tests began on plant products during Fiscal Year 1957, and an average of about 5,000 have been tested during each year since 1961.

Plant materials are procured by botanists of ARS — the largest plant-procurement agency in the United States. Many other individuals or institutions have supplied smaller numbers of plant samples or extracts.

The procurement effort is centered in the Medicinal Plant Resources Laboratory — one of two ARS laboratories that have been procuring

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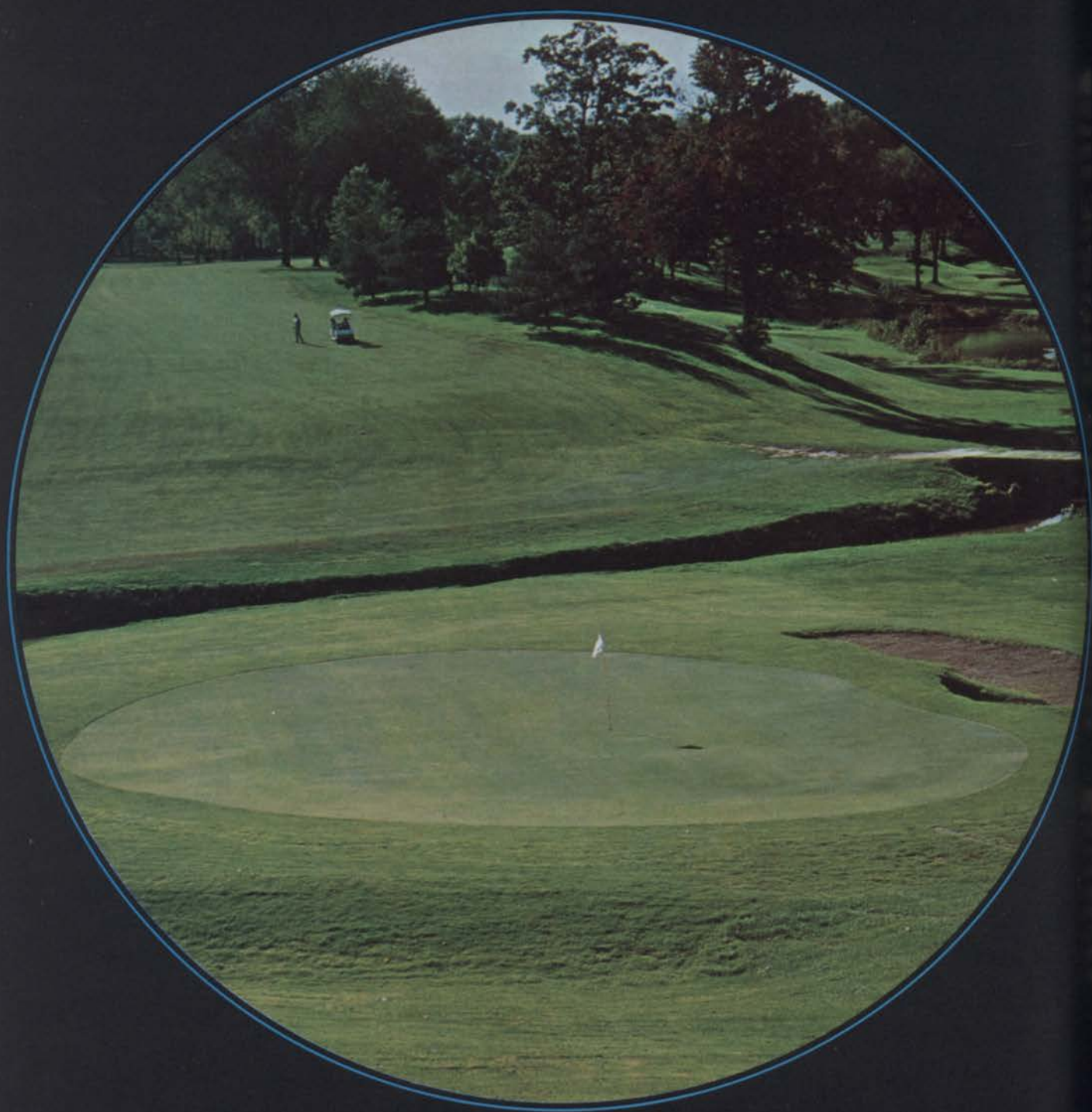
plant material for over 60 years for all phases of agricultural, biological, and chemical research.

Plant samples for anti-cancer screening by USDA botanists were first obtained in the United States, with some searches also conducted in Mexico. Later, samples were procured in Pakistan, Korea, Spain, Yugoslavia, Turkey, Uruguay, and Israel. Searches have also been made in Puerto Rico, Ethiopia, and Kenya, Tanzania, and Uganda, other parts of Africa. New projects are

under way in Taiwan, Panama, Brazil, Peru, India, and New Zealand.

USDA botanists have also obtained plant samples through commercial suppliers of seeds, plants and bulbs.

All collections are carefully documented to identify every sample. Accurate documentation is essential so that future USDA plant collectors will be able to return to the same location and procure duplicate samples, if necessary.



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For those areas where broadleaf weeds are a problem, use Dacamine Turf herbicide to sustain your Total Turf Care. Postemergent Dacamine kills dandelion, plantain, poison ivy and most other broadleaf weeds.

Dacamine is a special form of 2,4-D, non-volatile, yet very effective. It combines the weed-killing power of an ester with the safety of an amine. So Dacamine stays put—kills the weeds you spray it on but won't vaporize and damage valuable plants nearby.

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Daconil 2787 has performed well on over 25 grass species and varieties. Excellent turf tolerance allows you to use it even in hot, humid weather.

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Daconate is a ready-to-use arsonate liquid, pre-mixed with the right amount of surfactant for maximum coverage and control. Since it is an organic arsenic compound, it does not have the more toxic properties of inorganic arsenic compounds, such as calcium or lead arsenate. For best results, spray Daconate during warm weather when weeds are actively growing.

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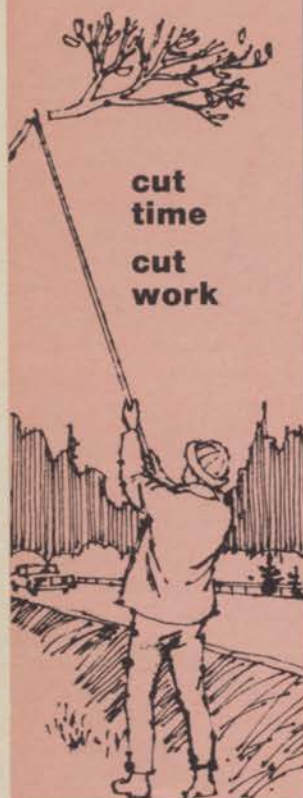
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Tropical Horticulture School Opens In Hawaii

The Pacific Tropical Botanical Garden will be initiating a two-year training program in tropical horticulture this fall. The instruction provided in the Training Program is intended to give the student a broad base of technical knowledge combined with practical experience. This will enable him to have increased job mobility in tropical horticulture at supervisory levels.

The educational program is designed to combine technical knowledge with practical skills.

The course in itself is a complete unit and reverses the usual approach of separating academic and applied studies.

The program is not intended to be a preparation for continuing academic study at a four-year college or university. Upon completion of his training, the student should be ready to be a productive employee in an entry level job and be prepared to advance to positions of increased responsibility.

Since this is an intensive two-year course, specialized training will begin immediately. Courses offered include: elementary botany, horticultural science and applications, nursery management, plant identification, economic entomology and plant disease control, weed control, ethnobotany, landscape maintenance and plant propagation.

About three-fourths of the student's time per week (30 hours) will be devoted to work-experience. Supervised or directed work-experience will be used to develop specific horticultural skills and understandings and to encourage desirable work habits and attitudes.

This year three on-island and three off-island students will be accepted for the first session of the program. Those off-island students selected for admission will be given a \$3,000 Study Grant for anticipated living and school costs. The basic entrance requirements are: a completed application form, high school graduation or equivalent, a general proficiency in the English language, and some practical experience in horticulture is preferred.

Anyone who desires to apply for this program or is interested in further information should contact Mr. Steven Frowine, Educational Supervisor, Pacific Tropical Botanical Garden, P. O. Box 758, Koloa, Hawaii 96756, Telephone: (808) 332-8131.

Irrigation University Started By Toro

The Moist O'Matic Division of The Toro Company is establishing a year-round training center for personnel involved in selling, designing, installing and maintaining institutional, industrial and commercial irrigation systems.

David W. Good, Moist O'Matic director of marketing, said the training center, to be located in the division's Riverside headquarters, will provide a flexible but concentrated teaching program to increase the skills and knowledge of persons involved in all aspects of irrigation systems utilization.

He said the irrigation systems industry is growing so rapidly that there is a severe shortage of skilled personnel. The industry, he said, will not be able to reach its potential unless that problem is alleviated.

Good said there were no short-term training facilities available to help industry personnel improve either their skills for specific tasks or their overall understanding of how various types of irrigation systems function and what they are designed to accomplish.

The Toro training center is expected to admit its first student group from California, on October 1. A formal opening, with classes available to participants from the rest of the U.S. and Canada is scheduled for November 6.

Good said the center's training program, which will include both classroom and field work, has been designed to serve primarily five groups: Installers (usually independent businessmen), specifiers (usually landscape architects commissioned to design a landscape plan including a sprinkler system layout) distributor salesmen, franchisees (independent businessmen specializing in the sale of Toro irrigation equipment), and personnel from golf courses, universities, schools, federal and state institutions and local municipalities who are responsible for turf and lawn maintenance.

Subjects to be covered include: how to survey, drafting techniques, types of sprinklers, sprinkler performance and spacing, sprinkler application and selection, hydraulics, friction loss, piping systems, control systems, codes, drain valves, service, installation, contracts, and sales aids.

E. Lee Bean, formerly district manager for Moist O'Matic irrigation products in the Mountain States area, has been appointed manager of the center.

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William S. Norton Named Mr. Toro 1972

Mr. Toro 1972, the highest honor that The Toro Company can bestow on one of its distributors, has been awarded to William S. Norton, head of The Norton Corp.—Turf Equipment, of Phoenix.

The award was made at the annual convention of distributor management and sales personnel where the Minneapolis-based manufacturer previewed its product lines and marketing programs for the coming year.

Three master salesmen were also honored at the weeklong meetings. They were: John Fitzgerald, of Lebanon, Ohio, for turf products; Don Hayssen, of Rochester, N.Y., for consumer products; and Lloyd Van Sickle, of Minneapolis, for Moist O'Matic irrigation products.

Norton, whose all-around performance this past year was voted the best of Toro's 90 distributors throughout the world, became the Phoenix distributor for Toro's full line 15 years ago, after nine years with Toro in Minneapolis.

Florida Turfgrass Meeting Scheduled October 16-17

"Environmental and Agribusiness Aspects of Turf Management" is the theme of the 20th annual Management Conference of the Florida Turf-Grass Association. The meeting will be held at the Flagler Inn, Gainesville, Oct. 16-19.

Dr. E. T. York, Vice President for Agricultural Affairs, University of Florida, will give the official welcome at the beginning of the General Session on Tuesday afternoon, October 17, and will deliver an address on "Turf Industry's Contribution to Florida Agribusiness." Dr.

W. G. Eden, Chairman of the Entomology Department will speak on "Agribusiness Aspects of the Pesticide Industry in Florida." State Representative Robert E. Dixon will be speaking on "Present Florida Pesticide Legislative and Future Needs." The Annual Business Meeting and election of officers will take place Tuesday evening at 7:30, with President William F. Lewis presiding.

Wednesday sessions will begin at 9:00 A.M. with two Sections, one on Golf Turf and the other on General Turf. Wednesday afternoon will feature the Annual Barbeque and tour of the turf plots.

The 20th Anniversary will be celebrated at the Wednesday evening banquet. Willard Fifield will be Master of Ceremonies and Mr. Hugh McIlwain the speaker.

Carbon Monoxide Levels Higher Away From Job, Research Shows

Exposure to carbon monoxide (CO) by employees away from work may be greater than many suspect, according to the National Safety Council.

An experiment, conducted by three staff members of the Industrial Hygiene and Safety Division at Argonne National Laboratory, Illinois, showed that 27 percent of some 460 responding participants found positive indications of carbon monoxide in their homes or automobiles.

Carbon monoxide detector tabs, available from a Danish firm, were used in the study. They were passed out to volunteers during the winter when heating systems give off the most CO, and doors and windows are usually shut. Each person received two tabs, one for exposure and one for shade reference.

The tabs were small plastic squares about two inches by two inches, with a dime-sized circular depression filled with a compound containing palladium chloride which blackens when exposed to carbon monoxide.

Of 454 people returning the tabs and questionnaires used in the study, 124 reported positive indications of carbon monoxide. Eighty-eight of 342 persons who used the tabs in their automobiles reported positive indications of CO. Seventy-six indicated a slight darkening of the tab (30 to 70 parts of CO per million). Ten persons reported gray tabs (80 to 120 ppm), and two reported black indications (more than 130 ppm).

Of 204 individuals that used the tabs in their homes, 36 had positive reactions, of which 35 reported a slight darkening and one a gray response.

Among the responding participants who found indications of carbon monoxide in their automobiles, 16 discovered defects in their cars. Where there were indications of CO in the home, five participants reported defective heating systems.

According to a report that followed the tests, "while levels of CO, up to approximately 70 ppm, are not considered immediately hazardous in a well ventilated and properly heated home, they could mean a furnace malfunction or improper ventilation. But unless remedied, such conditions could produce CO levels far above safe levels."

The experiment noted that though CO exposures occurred off-the-job, effects of carbon monoxide may be carried over to work places.

Among their conclusions, the Argonne researchers said: "carbon monoxide is a significant health and safety problem, and it warrants continued attention."

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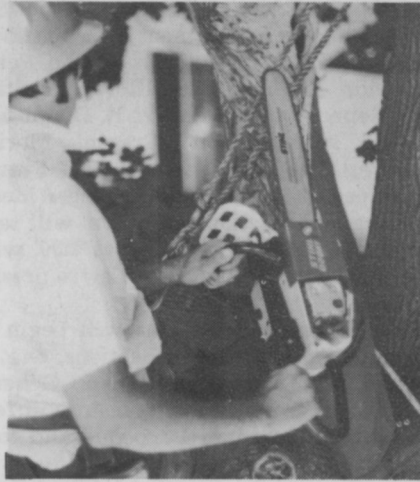
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POWER SAW SAFETY (from page 11)

fall. 2) Never, ever cut tree all the way through hinge when making the final backcut.

CARRYING SAW—Even short distance carrying with a saw can be dangerous. To start with, if the saw is warmed up and running at a high idle, the chain is probably moving. Even just a little nick from a moving chain can leave you with a nasty gash. More often than not you keep your saw from stalling and check your chain oil flow by revving the saw up a little between cuts and while walking from location to location. Ever think what would happen if you tripped and fell while you were walking along with your finger on the throttle? Think about it right now! And the next time you don't feel like taking the time or effort to shut off the saw and start it again when you're walking from one pile of brush to another or from one tree to the next, think about it then,

too. If you must carry your saw while it's running, at least have a proper grip on it, have it and your own balance under complete control, and watch where you are going.

BYSTANDERS—Power saws create a double dose of danger to bystanders and other workmen in the area because the noise they produce impairs the hearing of the operator to a degree that he cannot hear others working near him or for that matter, even calling to him. Anyone working near a chain saw operation should try to make his presence known by getting the operator's visual attention. Every power saw operator should always look around regularly to see who and what is near him.

REFUELING—"Gassing up" a saw is much more dangerous than many think. If you doubt that, just observe how many people keep right
(continued on page 34)

Be doubly cautious of wires when using power saws in trees.

