

Daniel C. Jaramillo, both USDA-ARS, at the New Mexico Agricultural Experiment Station. The machine was designed to apply herbicides to the root zone of saltcedar in the arid, low rainfall areas of the Southwest.

The blade of the plow is 8 feet long and two inches thick at the rear edge. A ½-inch pipe, fitted with five equally spaced spray nozzles, is welded to the rear edge of the blade. On the upper blade surface, protruding six inches to the rear and above the spray nozzles, is a sheet of ¼-inch metal. This "shield" supports and deflects soil, preventing interference with the spray pattern. A ½-inch supply pipe extends from the spray pipe up the rear of a vertical shank to the top of the plow frame where it connects to a power sprayer by a flexible hose. Herbicides may be applied at any depth to a maximum of 24 inches.

Creosotebush control with 2,4,5-T can be significantly improved by the inclusion of 50% dimethyl sulfoxide (DMSO) in the carrier. — USDA-ARS, Tucson, Arizona.

Response of creosotebush to aerially applied herbicide treatments — Applications were carried out the first week of September of 1964-67. Treatments included picloram at ½, 1, 1½ lb./a; dicamba at ½, 1 and 2 lb./a; 2,3,6-TBA at 1 and 2 lb./a; 2,4-D, dichlorprop and silvex at 2 lb./a; 2,4,5-T at 2 lb./a; and combinations of the above chemicals. Except for the treatment with 2,3,6-TBA at 2 lb./a, poor control resulted in 1964. In 1965, best control came with picloram at 1 and 1½ lb./a and with dicamba at 1 and 2 lb./a, the low and high rates of each herbicide killing 25% and 34%, respectively. In 1966, results with picloram were comparable to the 1965 results; picloram was not applied in 1967. In the dicamba plots, the kill at the ½, 1 and 2 lb./a rates was 4%, 25%, and 51% in 1966 and 9%, 35% and 61% in 1967, respectively. Average defoliation two years after treatment with dicamba at 2 lb./a was 80%. The 2,3,6-TBA at 2 lb./a was less effective than dicamba, giving 10-19% kill in the various years. Combination treatments of dicamba and 2,4,5-T at ½ lb./a each and 2,3,6-TBA plus 2,4,5-T at 1 lb./a each were slightly more effective than dicamba or 2,3,6-TBA alone at the same rates. — Walter L. Gould and C. H. Herbel, New Mexico State University and USDA-ARS.

In aerial brush control operations in western Texas, ½ lb. of 2,4,5-T ester/a in 4 gals. of a 1:3 oil-water emulsion gave an average kill of



Outgoing president L. L. Danielson, left, confers with incoming president Dayton L. Klingman concerning program agenda. The next WSSA meeting will be in February, 1962, in St. Louis, Mo. Local arrangements will be handled by Dr. Delbert D. Hemphill, professor of horticulture and project leader of the environmental health center, University of Missouri, Columbia.

22% on mesquite. Combinations of 2,4,5-T and picloram at ¼ + ¼ lb./a killed 42% of mesquite, 76% of Tasajillo and 41% of prickly pear. Equivalent rates of 2,4,5-T and dicamba killed 27% of mesquite, 65% of Tasajillo and 5% of prickly pear. In southern Texas, ½ lb./a of 2,4,5-T killed 24% of mesquite and 40% of guajillo, but did not give effective control of other species at rates up to 2 lbs./a. Picloram alone gave effective control of mesquite, prickly pear, blackbrush, granjeno, twisted acacia, whitebrush and guajillo at 1 lb./a. Highly effective control was obtained on all species except Texas persimmon at 2 lbs./a. Combinations of 2,4,5-T and picloram at ½ + ½ lb./a gave more effective control of most brush species than lower rates and were almost equally as effective control as higher rates, with the exception of whitebrush, lotebush and lime prickly ash. — Texas A & M University.

A year after treatment, silvex at 0.5 lb./a proved more effective in reducing the number of live sand shinnery oak stems than did dicamba, 2,4-D, 2,4,5-T or picloram at the same rate. Combinations of 2,4,5-T plus picloram or 2,4,5-T plus dicamba at 0.25 plus 0.25 lb./a were more effective than 0.5 lb./a of the herbicides applied singly. Silvex plus picloram at 0.25 plus 0.25 lb./a was more effective than 0.5 lb./a Silvex alone. — Texas A&M University.

Herbicide Application, Container Ornamentals

In one study, dichlobenil, nitratin, simazine, trifluralin and DCPA were compared in a 50% sand and 50% peat mix. Dichlobenil leached the greatest, simazine was inter-

mediate, and nitratin, DCPA and trifluralin leached very little. DCPA, trifluralin and nitratin caused the least injury to a wide range of species whereas dichlobenil and simazine injured some species. Low rates of simazine in combination with trifluralin, nitratin or DCPA controlled a broad spectrum of weeds with very little or no injury to many ornamental species.

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This Kapok tree, thought to be the largest in the U.S., was recognized by the National Arborist Association at its recent meeting in Tampa, Fla. But Richard Baumgardner recognized it as an outstanding specimen long before. He built a befitting eating place at its base. The Kapok Tree Inn has fed as many as 7,500 people in one evening. Three plaques, instead of one, have been ordered to appropriately recognize this specimen, whose trunk is an estimated 10 feet in diameter. Below, John Duling, right, who handled arrangements for the NAA presentation, talks with Mr. and Mrs. Baumgardner.

NAA Offering Non-Members

HOME STUDY COURSE ON ARBORICULTURE

A MAN WHO BUILT a fortune around a single tree and a multi-million-dollar garden, both of which attract tens of thousands of visitors every year, provided further dramatic evidence to members of the National Arborist Association that theirs is a profession held in high esteem and one that attracts a great deal of money.

As though in response to these expressions of high regard for trees and tree care, NAA members, meeting in February in Tampa, took actions indicating they're interested in taking the lead to improve the professionalism of arborists.

NAA, at its business meeting, de-



cided to offer its home study program to non-members and to continue development of a tree fertilizer especially for members.

An extensive home study course in general arboriculture is available, and advanced courses are still being written. Details may be obtained by writing NAA headquarters, 2011 Eye St., N.W., Washington, D.C. 20006.

Subjects for a typical year's course include: customer relations, professionalism, the importance of quality work, tree moving, tree feeding, objectives of pruning, pruning standards, tree anatomy, spraying trees, dusting, and safety for tree workers.

Some 150 persons heard reports on business management, research, and brainstorming of practical problems. Entertainment highlights included visits to Busch Gardens and the Kapok Tree Inn.

Al Meserve, a Connecticut arborist, provided an interesting background note for this year's NAA tree plaque presentation. It is the practice of NAA to recognize, by means of a plaque, trees that are considered outstanding specimens and to encourage preservation of these trees.

On a trip to Florida more than a decade ago, Meserve recalled seeing a man driving a stake into the ground at the base of a big tree near Clearwater. His name was Richard Baumgardner. When told the man was staking out a restaurant, Meserve questioned the wisdom of locating "way out here in the country." Meserve declined to buy stock, though Baumgardner assured him his restaurant would be one of those "better mousetraps" to which people would flock to buy.

Today the Kapok Tree Inn is nationally famous and is practically indescribable in words. Though the Inn can seat 1,700 diners at a time, guests stand in line for hours. On a recent evening, the Inn fed 7,500 persons.

A special tour of NAA members visited the Inn to present a plaque to Mr. and Mrs. Baumgardner. The tree, estimated to have been planted in 1888, is thought to be the largest Kapok tree in the U. S.

Dr. Charles Lincoln of USDA's Delaware, Ohio, tree research laboratory, talked about the better mousetrap search for ways to control Dutch Elm Disease.

Work emphasis at present is on ways to attract the elm bark beetle away from elm trees and to seek

parasites that would reduce beetle numbers.

Dutch Elm Disease already has killed 40% of the nation's elms, Dr. Lincoln said, and it continues to threaten an additional 400,000 trees each year.

Federal entomologists have found two chemical compounds uniquely present in the elm tree bark that serve as attractants. Additional research must explore several directions—developing the strains without the "scent"; masking the scent

chemically; or developing an artificial scent to lure the beetles elsewhere.

Dr. Spencer H. Davis, Jr., of Rutgers University expressed high praise and offered graphic illustration for the effectiveness of the new fungicide, Benlate. He reported the results of usage on gray mold fungus, laurel leaf spot, hawthorne leafspot, and botrytis leafspot. Tersan 1991, he said, had shown excellent control of dollarspot.

NAA members split into groups to

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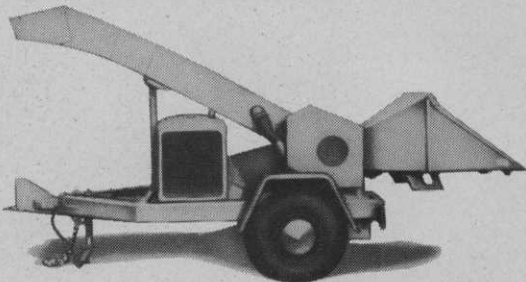
Members themselves provided the subject matter for one morning's program. The audience divided into discussion groups. Leaders then reported the results of brainstorming four topics.



Here is the formal changing of the gavel to usher in next year's leadership. From the left, are: Treasurer — Robert Felix, Harder Services, Inc., Hempstead, N.Y.; new director — Boyd Haney, B. Haney & Sons, Franklin Park, Ill.; second vice-president — John A. Shullenbarger, Gustin Gardens, Gaithersburg, Md.; incoming president — William P. Lanphear, Forest City Tree Protection Co., Cleveland; outgoing

president — William A. Rae, Frost and Higgins Co., Burlington, Mass.; secretary — W. Roland Shannon, Shannon Tree Co., Milford, Pa.; first vice-president — Glenn Burns, Karl Kuemmerling Associates, Inc., Canton, Ohio; and director — Thomas A. Morrison, arborist, Wilmetta, Ill. Director Paul Ramsey, N. G. Gilbert Corp., was absent.

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brainstorm four subjects; customer contract provisions, recruiting and holding good employees, conglomerate affiliation, and specifications for an all-purpose commercial arborist truck body.

Here is a summary of comments.

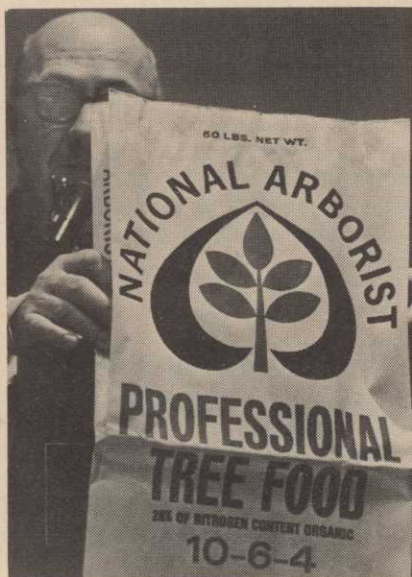
Customer contracts—"Get it in writing." Clearly describe your charges. Include provision for extra work. Have a policy on travel time, weather days, late payment, late work completion. "A well-written contract is a protection for both company and customer." Hold a field conference with customer. Make notes. Draw up a formal contract before work begins. Keep a day-to-day diary, sending a duplicate with billing. Be sure "guaranteed clauses" are understood. Charge for diagnostic work and drawings. Get full insurance coverage. Be sure client understands what you are talking about. Take before, during and after photographs. Make on-the-job inspections with the customer. Make specifications clear cut.

Recruiting and hold good employees—Talk with high school counselors to orient them on the opportunities in tree care work and seek their assistance in recruiting 18-year-olds. Offer retirement programs, hospitalization programs, guaranteed 40-hour week. Use bad weather days for training. Encourage use of the NAA home study program.

Conglomerate affiliation—An advantage is that the parent company is usually well-financed and can secure good equipment. A disadvantage is that your business could be sold out from under you. The group felt that while some companies might be looking for a tax loss, most would buy a tree company with good potential for long-term profit. The consensus was that there was no immediate danger of conglomerates taking over.

Specifications for an all-purpose arborist truck—This project appears to be a hopeless case at present. Laws are said to vary too much from state to state. Most companies design a truck to their particular specialty. For example, some do only spraying, some only trimming, some trimming and disposal, and so on. The group proposed that another equipment survey be taken. One arborist reported purchasing an equipment van. The vehicle afforded better storage and accessibility for tools, and in cold weather it was an ideal warm place for workers to eat when they're working in the field.

Safety awards were presented to three companies: Karl Kuemmerling Associates, Inc., Canton, Ohio, more than 100 employees; Chas. F. Irish Co., Inc., Warren, Mich., 25-100 employees; and Landscape Foresters, Ltd., Bronxville, N.Y., 25 employees or less.



Two kinds of tree food here. Dan Brogan, manager of professional sales for Agrico Chemical Co., holds up the bag for NAA professional tree food. While the program is going to be continued and expanded, economics limits the availability of the product to the eastern half of the U.S. But Mrs. H. C. Wilson's "tree food" is always available with just a little effort. Look closely for the tree design in this pound cake. Mix up two-third of the batter and pour into the cake pan, she said. Tint the remaining batter and pour it on top. Then pass a knife through the batter to form the trunk. It's very simple, said Mrs. Wilson, but she wouldn't guarantee what variety of tree you will get. That's the surprising part, she added.



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Plant Growth Regulator May Work on Johnsongrass

Gibberellic acid, a natural growth regulator in plants, may offer a way to control Johnsongrass.

Dr. G. W. Burt, University of Maryland agronomy researcher, reported at the 25th meeting of the Northeastern Weed Science Society that large doses of gibberellic acid prevented flowering (thus seed production) in three varieties of Johnsongrass tested.

Smaller and economically practical doses also proved effective against a Johnsongrass selection from Mississippi, but failed to inhibit flowering in Johnsongrass selections from the "cool and intermediate" climates of western and southern Maryland.

Dr. Burt believes the acid may be a useful control agent for warm climates and that perhaps a way can be found to trigger the same effect in cooler regions, such as combining the acid with other chemicals.

IH Dealers Announce Rent-a-Rig System

International Harvester Company industrial equipment dealers now offer the International Rent-a-Rig System—a program that provides on a rental or lease basis the productive machines and services the user needs to make a profit.

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Users, the company said, can rely on the International Rent-a-Rig System for dependable industrial equipment that will give them the top performance necessary to handle their jobs more profitably.

Heyser Landscaping Buys Portion of DeKalb Nurseries

Heyser Landscaping, Inc., of Norristown, Pa., has purchased the landscaping portion of DeKalb Nurser-

ies, according to President William Heyser.

The purchase includes the equipment and unstarted contracts. Colonel Eugene Muller, former president of DeKalb Nurseries, will become a sales representative for Heyser Landscaping. The sales yard portion of DeKalb Nurseries had been leased previously to Gaudio's Garden Centers, a division of Penn Fruit.

DeKalb Nurseries had been in business since 1901 and was founded by Colonel Muller's father, Adolf Muller. Heyser Landscaping was founded by Ellsworth and Ruth Heyser in 1928. Both are still active in the business along with their sons, William and John.

Hahn Division Leaves Kearney-National, Inc.

Hahn Division of Kearney-National, Inc., formerly Hahn, Inc., has been re-acquired by former owners Jack and Lloyd Hahn.

All of the original Hahn assets, including the Hahn-West Point Division, primarily a manufacturer and distributor of equipment for maintenance of golf courses and similar large turf areas, were re-acquired by the Hahn brothers.

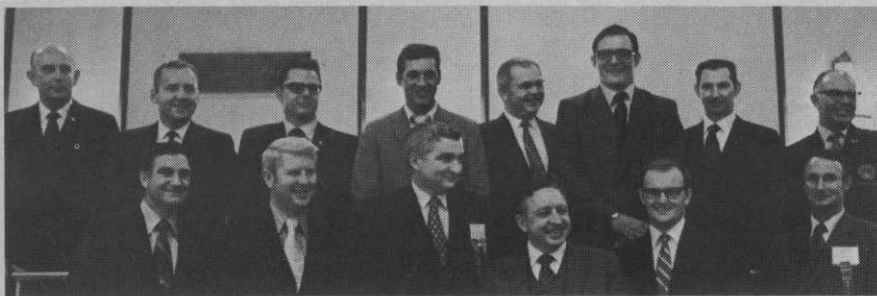
Also re-acquired was the Hahn-Eclipse Division, manufacturer of a complete lawn care implement line including lawn mowers, all-purpose tractors, rotary tillers, and snow throwers.

The third Hahn Division is the Hahn Agricultural Products Division, which grew from a barnyard farm sprayer producer to a firm which, at the time of the 1969 merger, had gross sales in excess of \$16 million and employed more than 450 people.

Federal Entomologist Blesses Methoxychlor for DED

A safe, immediate and economical switch can be made from DDT to methoxychlor for Dutch elm disease control, according to recent Forest Service research findings.

Two years of field studies in Milwaukee, Wis., by Dr. Jack H. Barger, Forest Service entomologist, have demonstrated that spraying with methoxychlor either by helicopter or mist blower controlled the rate of disease incidence while the rate of disease incidence increased in the



Officers and trustees for 1971 of the Ohio Turfgrass Foundation are, from the left: Top row — Trustee, Bill King of Princeton City Schools; trustee, John Spodnik, Westfield CC, LeRoy; trustee, Ron Smith, horticulturist, Bowling Green State University; trustee, Jim Seigfried of Losantiville CC; trustee, Harry Shrode, J-M Trading Corp.; trustee, Paul Mechling of Sylvania CC; trustee, Fred Buscher, Ohio Agricultural Research and Development Center; trustee, Don Collins of Upper Lansdown Golf Links, Front row — Executive secretary, Robert Miller of Ohio State University; second vice-president, Paul Morgan, Browns Run CC, Middletown; past president, Dick Craig of Camargo Club, Cincinnati; president, Bob O'Brien, Century Toro; first vice-president, Gene Probasco, Lakeshore Equipment & Supply Co.; treasurer, Myron Gifford, Wee Bonnie Golf Course, Galloway; Trustee Max Szturm, Wildwood Golf Club, Middletown, was absent.



Winners of Ohio Turfgrass Foundation scholarships are, from the left: Larry Joe Goldsberry of Logan; Jeff Gray of Arcanum; Mike Rainey of Oxford; Thomas Vanden Eynden of Cincinnati; Ted Mochel of Lemont, Ill. With the award winners are Paul Mechling (third from the left) and Dr. Robert Miller (far right).

plots that were not sprayed. From 1969 to 1970, the average disease incidence decreased by 32% in the helicopter plots, decreased 34% in the mist blower plots and increased 94% in the untreated check plots.

Methoxychlor has been available for Dutch elm disease control for a number of years. Tests have demonstrated methoxychlor's biodegradability and safety to birds and wildlife, but its higher cost formerly made it less attractive than DDT for ground-level spraying with mist blowers. Helicopter application of methoxychlor at a low rate shows promise of matching the cost of former ground-level spraying with DDT, Dr. Barger reported.

These field studies have been substantiated by two years of laboratory bioassay research that demonstrates methoxychlor will effectively control the smaller European elm bark beetle when used as a fall or spring treatment applied by mist

blower or helicopter. These bioassays also showed methoxychlor residues persisting for more than one year. This is considerably longer than previously reported.

Furthermore, these field studies demonstrate one-gallon of 12½% emulsion concentrate methoxychlor (½ pound actual) per tree applied in the spring by helicopter achieves the same result on rate of disease incidence in the field as was demonstrated with 2½ times as much methoxychlor applied at the same time by mist blower, Dr. Barger reported.

"Saturation treatment may not be essential for controlling disease incidence," says Dr. Barger. "We are continuing our field studies for a third year and hope to determine whether or not every elm tree in an area must be heavily sprayed to provide good protection against elm-bark beetle inoculation of Dutch elm disease."



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Virginia Turfgrass Council Discusses

THE TURF MANAGER AND THE ECOSYSTEM

BE MORE KNOWLEDGEABLE, more public relations conscious, and especially more careful with pesticides than you have been.

That's the summarized advice given at the 11th Virginia Turfgrass Conference to fulfill the theme: The Turf Manager and the Ecosystem.

"You had better be more careful than you have been; you're more liable now," cautioned Arthur T. Hart, state department of agriculture, in discussing Virginia's new pesticide legislation. For example, he said, it is now "against the law" to misuse a pesticide, that is, to use it contrary to label directives.

All pesticides and their uses are currently under study, Hart said, with a report due by Dec. 15, 1971. Concerning the effect of findings on legislation in 1972, Hart predicted "more restriction on custom appli-

cators and commercial users."

Several speakers referred to a massive knowledge gap that exists and contributes to the increasingly restrictive climate in which chemical users must operate.

Concerning information that is published, Dr. James O. Riggleman of DuPont observed that "We know what to believe, but the public doesn't."

A partial explanation, said Dr. W. H. Garman, vice-president of the National Plant Food Institute, is that "many people are not equipped to cope with statements about the environment, because they lack an understanding of chemistry and biology. Students aren't getting enough of this training."

And many ecologists, he continued, "do not think about the practicality of their ideas. We just can't



B. K. Powers, left, of Roanoke, Va., is presented the R. D. Kake Memorial Award for outstanding service to the turf industry by Lee C. Dieter, president of the Virginia Turfgrass Council.

farm like our grandfathers. We wouldn't be here."

He called the League of Women Voters' campaign in Minneapolis futile effort in seeking to end the use of lawn fertilizers containing phosphates.

"No where will you appreciably change the effect of the phosphate content of water. Taking all of the phosphates out of detergents will not stop anything."

Even if a method were devised to take 95% of the phosphorus out of water, Dr. Garman said, the remaining 5% is enough to feed all the algae that would grow. Taking phos-



Virginia Turfgrass Council leadership for 1971 is, from front to rear: Lee C. Dieter, president; Jack Kidwell, vice-president; Earl O'Dell, secretary-treasurer; directors Richard Amidon, Paul Weeks, B. K. Powers, Sheldon Betterly, Jack Henry, William Mooney Harvey Carpenter, John Shoulders,

Extension turf specialist, Virginia Polytechnic Institute; Dr. Richard Schmidt, associate professor of agronomy, VPI; and Dennis Brown, Division of Regulatory Service, Virginia Department of Agriculture. Amidon, Weeks and Henry are new directors.