National Arborist Winter Convention



Arborists' Program Includes New Chemicals, Urban Tree Problems

Though heavy snows blanketed some parts of the nation, sunshine greeted attendants of the National Arborist Association Annual Convention held at the Sheraton Hotel at Fort Lauderdale, Fla., Feb. 8-13.

Association officers elected at the meeting are as follows: president—Paul R. Walgren, Jr., Walgren Tree Experts, Hamden, Conn.; first vice president—William A. Rae, Frost & Higgins Co., Burlington, Mass.; second vice president—William P. Lanphaer III, Forest City Tree Protection Co., Cleveland, O.; secretary—Riley R. Stevens, Ste-

vens Tree Surgery, Portland, Ore.; and treasurer—Glenn Burns, Karl Kuemmerling & Associates, Canton, O. Immediate past president is Kenneth P. Soergel of Cross Roads Nursery & Tree Service, Gibsonia, Pa.

Newly elected board directors are: Robert Felix, Harder Tree Service, Inc., Long Island, N.Y.; John Shullenberger, Gustin Gardens Tree Service, Inc., Gaithersburg, Md.; and George Goodall, Goodall Tree Expert Co., Portland, Maine.

First speaker on the program was Frank S. Santamour, Jr., research geneticist at the U. S.

National Arboretum in Washington, D. C. Discussing "Trees for the Urban Environment: Problems and Prospects," Santamour enumerated some of the reasons why cities are not ideal for growing trees; tall buildings that block sunlight; toxic chemicals from industry and automobiles; intense summer heat radiated from buildings and pavement; salt used in de-icing roads.

Trials of pollution tolerance can be made in special fumigation chambers where seedlings are exposed more to toxic pollutants, he revealed. Recent





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studies have indicated that white oak, white ash and many pines are sensitive to ozone but that spruces, firs, sugar maples and European linden are more tolerant. Pollution tolerance is inherited, Santamour contends, and differences within species and single-tree progenies have also been demonstrated. Thus it's possible to not only select trees for tolerance but to use these trees to breed improved types, Santamour said.

While we are familiar with major disease problems of urban trees, we tend to be rather unfamiliar with soil-borne fungi, he said. Abnormal soil and environmental conditions under which city trees exist make them more susceptible to fungi that would merely be saprophytes on good sites, according to Santamour.

In concluding, he stresses that research to select and breed trees for an environment of the future should begin *now*.

Sales Experience

Unusual sales experiences was the topic of O. J. Andersen of Trees of Houston, Houston, Texas. One case he cited was that of transplanting three oaks for Neiman-Marcus for \$20,000. Andersen's firm had salvaged the huge 16-foot-diameter trees from an old school ground.

Don't be afraid to charge your customers enough to make a profit, Andersen warns. A \$7000 tree is not out of line for a \$10 million building. Trees of Houston purchases fine trees on land to be razed for highway rightsof-way and sells them to clients up in years who move into 1-story homes, he said. Many of these retired people, even though they can usually afford any price, are initially shocked at the cost of these trees. However, he continues, if you are a salesman instead of an ordertaker, you can sell them. His firm is finding it's not too hard to sell a man a tree for \$750 or \$1000. It's almost impossible to make a profit planting \$50-\$100 trees, he says.

Another situation Andersen cited was one in which his firm bought an old house for \$50... just for a tree on the property. Selling the tree for \$3500, he said, they gave the house away free to wreckers.

Leadership

Third speaker on the program was Carl C. Brigham of Carl C. Brigham & Associates, Atlanta, Ga. Discussing "The Five Demands of Personal Leadership," Brigham listed them as follows: (1) Being emotionally mature; (2) Learning to predict human reactions; (3) Deliberately overestimating the importance of the other person's point of view; (4) Being yourself without underestimating yourself; (5) Taking a genuine interest in other people.

The "amateur" in business, Brigham contends, doesn't know the rules—and what's worse, doesn't know he doesn't know. The "pro," on the other hand, knows and plays by the rules: he accepts responsibility for his actions, has a code of conduct, has learned to distinguish between "urgent" and "unimportant," and keeps his time balanced well, says Brigham.

Leadership, he continues is a sum total of many things: personal example, vocational competence, effective human relations, guidance in personal problems and motivation.

Henry A. Spies, vice president of Alexander & Alexander, Inc., New York City, gave his views on "A Modern Program of Insurance Protection."

Your risk exposure must be carefully chartered and evaluated, Spies cautions. You must decide what must be insured to guarantee your firm's protection and what risks you can afford to self-assume.

Popular "package deals," while often sufficient, may include some overlapping, Spies

said. Insuring material value of small importance and overlooking the much larger dollar value exposure produced by claims from the public for bodily injury or property damage is not uncommon, he revealed.

Equipment Check

To be on the safe side, he continued, equipment should be checked daily; sky worker buckets and booms should be insulated against contact with live wires. Eye protection is extremely important; hard hats should be standard equipment. Chipper troughs should be extended out far enough to prevent workers from reaching the drum area; a solonoid brake on the drum will minimize freewheeling action following power turn-off, he says.

Don't overlook possible injury to the public from falling debris, overspray or crop and livestock contamination, he warns. Helicopters and other aircraft should have adequate liability-property insurance, he added.

As more sophisticated chemicals come into use, additional care in application is required, he said. While many unjustified claims are presented by the public, legitimate damages do occur which can be minimized by proper planning and the use of good equipment by trained and well-informed employees.

Dr. W. D. Thomas, Forestry Specialists, Chevron Chemical Company, Richmond, Calif., then spoke on "New Chemicals in Arboriculture."

Chemical solutions to arboricultural problems commonly used today are those that arborists have worked out for themselves, Thomas reveals. Although the agricultural chemical industry is beginning to awaken to the needs of arborists, until the industry realizes that arboriculture is a big business, treemen will have to continue dabbling with "homemade" mixtures, he said.

New formulations of old chemicals and new chemicals—such as Dibrom and Difolatan—are coming to the fore to fill arborists' as-yet-unsatisfied needs, he said.

Through a mutual liaison between the arborist, the state or federal specialist and the agrichem specialist, new chemicals in arboriculture are on the horizon, Thomas concluded.

Don't Underestimate Bee Stings, Warns Brandt

Bee stings can prove fatal to hypersensitive golfers, cautions James W. Brandt, president of the Golf Course Superintendents Association of America and superintendent of the Danville (Ill.) Country Club.

Although most insect stings cause no more than slight discomfort, in rare cases of hypersensitivity one bee sting can cause death, says Brandt. Many bee-sting fatalities could have been prevented, he laments, if the victims had known of their susceptibility prior to the sting.

Brandt suggests seeing a doctor soon to determine whether you are overly sensitive to insect venom. By starting proper medication now your resistance can be built up by the time golf season begins, according to Brandt. The American Medical Association reports that such therapy has proved effective for about 95 percent of those treated for stings.

Based on other information from the AMA, Brandt calls attention to the following tips that may help avoid attracting insects and prevent stings:

- Insects sting only in self defense when threatened or disturbed, especially if their nests are endangered. They are apt to attack something that stirs the air and excites them.
- Bees seem to be attracted to and/or angered by dark colors.

Light pastel shades don't seem to annoy them.

- Insect repellents may help in avoiding insects.
- As insects are attracted to floral scents, avoid using aftershaves, colognes or other cosmetic preparations before teeing off.
- If a bee, wasp or yellow jacket flies close to or lands on you, try to stay still or move slowly. Chances are, if you attempt to brush it away the motion will frighten the insect, and it will attack.

Study Shows No Pesticide Residue Buildup to Date

Analyses of soil samples from all parts of the country have failed to show any buildup of pesticide residues, according to Dr. Paul F. Sand of the U. S. Department of Agriculture's Agricultural Research Service.

Speaking at the Weed Society of America meeting recently held in Las Vegas, Sand explained that an expanded soil monitoring program was initiated last year to get information on residues in both cropland and non-cropland soils. About 15,000 sites were sampled throughout the United States, Sand revealed. A pesticide history is kept for each site and soil samples are analyzed at the Gulfport, Miss., lab. The work is continuing.

"Once the initial pesticide soil status report is compiled for each area, we can go back periodically and retest to see if residues are building up or decreasing," Sand said.

It will be a long-term project, he concluded, as it will take several years to develop an accurate picture of what is happening to pesticide residues in our soils.



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Weed Science Society executive committee, seated, left to right: Dr. Arnold P. Appleby, secretary, Oregon State University, Corvallis; Dr. Dayton L. Klingman, vice-president, Crops Research Division, Beltsville, Md.; Dr. Boysie E. Day, immediate past-president, University of California, Riverside; Dr. Glenn C. Klingman, president, Eli Lilly & Co., Greenfield, Ind.; and Dr. L. L. Danielson, president elect, USDA, ARS, Beltsville, Md.; and standing, Dr. Earl G. Rodgers, editor of "WEEDS," University of Florida, Gainesville; and Dr. Fred W. Slife, business manager and treasurer, University of Illinois, Urbana.

Ninth Weed Science Society Meeting Features New Herbicide Technology

Weed science is making undreamed of advances in technology. Researchers are at the point of pinning down the specific action of pesticides in soil and plant life. New research holds early promise of not only pinpointing pesticide persistence, but of methods to break down such persistence by formula.

Thus, environmental safety coupled with increased weed control and improved use of water have become prime goals of the industry. Each advance makes pesticide use not only more palatable but of increasing use to society.

Many of these new developments were reviewed at the recent Weed Science Society of America session at Las Vegas, Nev. More than 250 papers were presented and almost 1000 weed

science researchers on hand to discuss the industry.

The need for continuing efforts in weed prevention were highlighted by Dr. Robert J. Anderson, associate director of USDA's agricultural research service. He reported that farmers are now spending \$2.5 billion a year to control weeds but are still losing more than 13 per cent of their crop production. He also noted that 2 million Americans are afflicted each year with skin poisoning or skin irritation caused by weeds such as poison ivy.

The society's highest award, honorary membership for life, went to Dr. Erhardt P. Sylwester, extension weed specialist in Iowa. Dr. Sylwester was born on a farm in Sibley County, Minn. He received his bachelor's and master's degrees from St. Olaf College and his PhD from

Iowa State College. He started as a forest pathologist, then became extension botanist and plant pathologist at Iowa State College before being named head of the Iowa State College Seed Laboratory. Since 1952 he has developed one of the finest extension weed control programs in the U.S. He has served the North Central Weed Conference since its inception in 1944 and has been president and chairman of this and other weed conferences. He has received the USDA Superior Service Award. As a longtime active participant in the Weed Science Society, Dr. Sylwester has been influential in training many of the current generation of weed scientists.

Two members of the society received plaques as joint authors of the outstanding paper pub-

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Awarded honorary life membership in the WSSA was E. P. (Dutch) Sylvester, Extension weed specialist at lowa State University, Ames.

lished in "Weed Science" in 1968. They are C. R. Swanson and H. R. Swanson of the USDA. Their paper was entitled: "Inhibition and Degradation of Monuron in Cotton Leaf Tissue by Carbamte Insecticides."

New officers for the coming year are: president, Dr. Glenn C. Klingman, director of plant science, Eli Lilly Co., Indianapolis; president-elect and 1970 program chairman, L. L. Danielson, plant physiologist and leader in weed research in horticultural crops, USDA, Beltsville; vice-president, Dayton Klingman, agricultural research service, USDA, Beltsville; secretary, Dr. Arnold Appleby, farm crops department, Oregon State College. Dr. F. W. Slife remains as treasurer and business manager; and Dr. Earl G. Rodgers of the University of Florida continues as editor of the society's journal, "Weed Science."

The next meeting of the society is to be held at the Queen Elizabeth Hotel in Montreal, February 3-5, 1970. John Bandeen of the University of Guelph is in charge of local arrangements. Plans have been made for the 1971 meeting in Dallas and for the 1972 meeting in St. Louis.

Pesticide Decomposition

A new technique has been discovered that allows scientists to chemically duplicate, in their laboratories, the effects of living microorganisms on pesticides in soils.

Scientists have long known that soil microorganisms play an important role in destroying persistent herbicides. But, until now they had no way of knowing just how the microorganisms brought about these beneficial effects.

Dr. Jack R. Plimmer of USDA's Agricultural Research Service described the method that he and his colleagues, Dr. Philip C. Kearney and Mrs. Ute I. Klingebiel developed in studies of atrazine, an s-triazine herbicide.

Earlier findings showed that the herbicide could be destroyed by a soil fungus that biologically split one side chain from the chemical molecule. The new technique enables scientists to produce similar reactions in a test tube without the presence of microorganisms or any other living cells.

In developing the technique, the researchers found that radicals, or very reactive chemical groups, generated by a simple system, produced reactions



Awarded plaque for best paper award was C. R. Swanson, Crops Research Division, USDA, Stoneville, Miss. Coauthor H. R. Swanson was not available for picture.

which removed both side chains from the molecule, thus permitting the test-tube observations.

Now that this important advance has been made, the researchers plan to extend their studies to similar types of herbicides. With this technique, they expect to produce metabolites that are difficult to isolate in nature. By studying the properties of these new products produced by pesticides, they hope to learn more about the safe use of pesticides and environmental hazards.

Rights-of-Way

Chemical treatment of power line right-of-ways can be effective in controlling undesirable woody plants. Reporting on a 15-year study of vegetation development following chemical woody plant control in central Pennsylvania, Dr. W. R. Byrnes said he and Purdue colleague, Dr. W. C. Bramble, applied initial treatments, including selective basal, semi-basal and broadcast foliage sprays in 1953, with follow up basal sprays in 1954 but with no further chemical treatment until 1966.

"The original chemical sprays were highly effective on the woody brush," Byrnes reported, "resulting in 94 to 99 per cent topkill among the five chemical treatments applied. Furthermore, the follow up basal sprays caused virtual elimination of tall-growing tree species."

Byrnes stated that ground layer vegetation on the rightof-way developed into a dense, vigorous community of bracken fern, sedges, herbs, and blueberries while such plants were very sparse in the adjacent undisturbed forest.

"Broadcast and semi-basal sprays drastically reduced plant cover and altered species composition of the ground layer," Byrnes related, "however, after 12 years these treatment areas had returned to the original compact Bracken-Sedge-Herb-Blueberry community."

"The basal sprays," he continued, "selectively removed woody brush with only minor disturbance of ground cover plants. The shrub sweet-fern invaded all treatment areas and gradually developed into a dominant species on the right-of-way by 1968.

"Wildlife species, particularly deer, rabbit, grouse and turkey, utilized the right-of-way treatment areas for food and cover," Byrnes pointed out. "A low woody shrub border selectively developed along the edges of the right-of-way has been particularly beneficial for deer."

Herbicide Activity

The effectiveness of amiben, a widely-used herbicide, may be prolonged by chemical modification. Amiben, a selective herbicide applied as a preemergence treatment to control grass and

broad-leaf weeds in many crops, rapidly loses effectiveness when exposed to light.

However, Dr. Alan R. Isensee, plant physiologist of USDA's Agricultural Research Service, reported a way to reduce the light-sensitivity of this herbicide. Experiments indicate that chemical modification of the amiben molecule by benzoylation of the primary amino group may provide a way of reducing photodecomposition and possibly improving the performance of herbicide.

In laboratory research, amiben, N-benzoyl amiben, and their methyl esters were irradiated in solution. After 2 to 4 hours, Dr. Isensee reported that amiben and its methyl ester were inactive herbicidally but the N-benzoyl derivatives were fully active after 6 hours irradiation.

Applied on a soil surface at 1, 2, or 4 pounds per acre, amiben

lost 11 to 14 percent activity after 8 hours of sunlight. However, he said N-benzoyl amiben suffered no loss during the same length of time. These results indicate the possibility of increasing the usefulness and persistence of a herbicide by slight chemical change, Dr. Isensee said.

Herbicide Persistence

Of five herbicides tested in Idaho, only one continued to persist in the soil after 50 days of incubation, according to Dr. Lambert C. Erickson, agronomist, University of Idaho. Erickson said that five herbicides were applied pre-emergence at five rates in five spring sown crops. The herbicides were ingran, picloram, linuron, silvex and dicamba. The five crops were Piroline barley, Idaed 65 wheat, Summit flax, Improved



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Alaska peas, and Mingren sun-flower.

"Major emphasis was given to detecting herbicide translocation symptoms in the seed crop. Thus far our study shows that via germination bioassays only dicamba shows evidence of such transmission and it shows only in peas," Erickson stated.

Concerning the possible pollution of the soil by long-lasting residues, Erickson reported that soils treated approximately May 20 were sampled on September 1, and later tested by pea bioassay for the presence of herbicide residues.

"Detectable residues were found for all herbicides for all rates," he explained. "However, after 50 days of incubation in the greenhouse, the soils were again bioassayed and no residues were found except for picloram."

Erickson also reported that these studies revealed no significant effect on the chemical composition of plants.

Perennial Weed Control

Putting chemicals on weeds to make them grow might seem a strange way of eradicating weeds, but scientists at Stanford Research Institute believe this may be the answer for certain perennial weeds.

Dr. Charles A. Beasley, manager of SRI's Plant Biology Laboratory, has managed to manipulate the growth pattern of Johnson grass so that the plant is more vulnerable to herbicides. The objective of this research is to allow the plant to be killed with a single application of herbicide.

"One of the major problems with applying herbicides to Johnson grass is that while one part of the plant is growing vigorously other parts may be in various stages of dormancy," Dr. Beasley explained. "Herbicides usually kill only those parts which are active, and are relatively ineffective on the dormant buds."

In laboratory experiments a chemical called Ethrel (2-chloro-ethane phosphonic acid), when applied to Johnson grass, acted in such a way as to cause most of the vegetative buds to become active simultaneously, allowing one application of herbicide to eradicate the entire plant.

Bartles Continues Fight Against Wood-Burning Ban

William H. Bartles of W. H. Bartles Tree Service, Hyde Park, N.Y., has quite a few bones to pick with the ban on open burning of wood, brush and leaves. While no one can deny the need for preventing air pollution, Bartles says, the major contributors to this pollution—motor vehicles and industrial smokestacks—should be attended to and not the "little guy," i.e. "smoke from wood, which burns clean anyway."

Municipal disposal areas, already taxed to capacity by a throw-away society, are now faced with the additional problem of incorporating logs, brush and stumps into their land fill system, he says. Governing officials, instead of trying to repeal the unnecessary ban on open burning of wood, are going to great lengths to dream up impractical ways to make the antiwood burning resolutions work.

One scheme that will gobble up tax dollars, according to Bartles, is the "chipper plan." This proposal pertains to the use of chippers to dispose of brush and logs dumped at central sites. Officials fail to realize—and do not ask experienced tree service businessmen about limitations of chippers, Bartles says. These machines, he points out, are not effective when working on material that is dirty or when metal is present.

As Majority Leader of the Dutches County Board of Representatives, Bartles has questioned the wood-burning ban from the beginning. His guest editorial in the April, 1968 issue of Weeds Trees and Turf Explained why the ban is unsound.

In his continued fight to repeal the ban in New York State, Bartles has proposed that sites be picked in open areas where private individuals and municipalities can truck their burnable wood by-products and debris. Crews could then rotate from site to site and burn the piles under proper atmosphere and safety conditions.

This plan, he says, would lessen the load on town disposal areas where garbage is now being covered in the land fill method. It would also provide persons in the tree service business a place to properly dispose of such debris.

"It is impossible to level and cover 'uniformly' as the rules specify, and it is not practical to use any other method of disposal than burning," Bartles contends.

In his fight to get state authorities to repeal the wood-burning ordinance, Bartles and others have sent copies of specially passed resolutions to the governor, state legislators and every county government in New York. They also called a special meeting to present to state and federal officials reasons for seeking the repeal of the ban.

Bartles reveals that hearings have been held by the Board of Health in New York in answer to ever-increasing pressure to revise the resolutions. Some changes may come about, he reveals, although he cannot tell what they might be.

Bartles has asked that every New York tree service company will contact their governing officials to try to make them see the impracticability of the chipper plan. The Dutchess County proposal—which has since fallen through due to lack of funds—would have cost half-a million dollars for the first three years, he reveals, and the plan would not have worked. Federal funds were to have been used.