to formulate Safety Standards for Tree Pruning. This work is now completed and the uniform standards will be published and made available to the separate states for implementation; We increased the size of our monthly magazine "Arborist's News" from 12 pages to 28 pages. This enlarged publication has permitted us to realize more advertisements to offset cost of printing; and total registration of 677 delegates was a record breaker at our 47th convention in Montreal during August.

Program for '72: Will continue the financial support of our research project at the University of Wisconsin titled "Effects of Transplanting on Physiological Responses and Growth of Shade Trees"; Will encourage the Federal Government of the United States and Canada to establish an Annual National Arbor Day during 1972; Will request that the U.S. Postmaster General consider the issuance of an Arbor Day Stamp in commemoration of the 100th Anniversary of Arbor Day in 1972; Will publish and make available our recently revised publication titled "Standard City Tree Ordinance"; and will continue the dissemination of knowledge in the science and art of growing and maintaining shade and ornamental trees via our annual and monthly publications, and our regional and international meetings.

Forecast for '72: The Industry Forecast during 1972 for those who work with shade and ornamental trees looks excellent; Arboriculture research and educational activities are increasing at the universities and the Federal Government. U.S. Forest Service is re-gearing to concentrate more on shade and ornamental tree problems as they relate to the urban population; Public in general is more aware of the need for professional tree service to keep their trees going and growing. There will be more emphasis placed on tree work safety regulations that will soon be enforced. This will up-grade the industry and will help eliminate the poorly equipped operator. Thus the professional approach will be more uniform throughout the industry; and in general trees are receiving more respect as a result of the emphasis placed on our environment.

NATIONAL AGRICULTURAL AVIATION ASSOCIATION

1101 17th St. N.W. Suite 808
Washington D.C. 20036
Tel. (202) 223-2822

F. Farrell Higbee, Executive Director


Annual Meeting: Dec. 11-14, International Hotel, Las Vegas, Nev.

Highlights of '71: Membership climbed to 500 industry members and 74 allied industry members.

Forecast for '72: This has been a good year except for isolated spots. Industry exceeded average annual growth rate. Next year expected to be better if economy improves.

NATIONAL ARBORIST ASSOCIATION

1750 Old Meadow Road, McLean, Va. 22101
Tel. (703) 993-7947

Allan T. Rains, Jr., Executive Secretary


Highlights of 1971: As a major service during 1971, NAA headquarters has strived to keep members informed of important activities in Washington relating to the Occupational Safety and Health Act and the Wage-Price Freeze. This has been done through articles in the Association's monthly newsletter as well as through supplemental mailings.

(continued on page 74)
Early testing of Medicaps was done in 1969. Tree at time of treatment showed mild iron chlorosis. Today it is a thriving specimen.

Tree, used as control in '69 test with tree in above picture, also exhibited mild iron chlorosis. It died in 1970.

New and on the Market

SYSTEMIC TREATMENT VIA TRUNK INJECTION

A new systemic system for treating trees via trunk injection is now on the market. Treatment, at the moment, is limited primarily to use of iron for chlorosis.

The patented system consists of a series of capsules being injected or planted in the tree trunk. Implants are known as "Medicaps" and are placed directly into the cambium layer in the area of active sap flow. Creative Sales, Inc., Fremont, Neb., manufacturer and sales outlet for the process states that use of the capsules is both easy and effective and speeds the use of pre-measured materials into the tree system.

Normally, a 3" to 5" tree will require three Medicaps, placed around the trunk at about 5-inch intervals. Each additional inch of tree diameter will require another Medicap, are then driven into the pre-drilled holes. Each Medicap is 1½-inch long, permitting the capsule to be driven exactly ¼-inch beyond the surface of the cambium layer. Treatment, according to Wolfe, requires only minutes per tree, using a standard drill and half-inch bit. And, he states, it should be good for 2 to 5 years unless the chlorotic condition is extremely serious in which case re-treatment earlier may be necessary.

Wolfe points to the Medicap technique as simply a plastic cartridge that serves as a container for a premeasured volume of chemical. It serves as its own applicator, has its own antirejection bars, and provides its own cork to seal the application site. The Medicap is tapered, to allow for easy insertion into the predrilled hole, has four slots on the sides which allow for release of the contents at a regulated rate. Slots, Wolfe reports, are lined according to Warren D. Wolfe, president of the corporation. Holes, one-half inch in diameter and 1¼ inches deep, are drilled into the tree trunk. The plastic, bullet-shaped Medicaps with a soluble sealant. This sealant retains the contents until contacted by tree sap at which time they are released into the sap stream.

Larger trees are easy to treat with new Super Medicaps. These have over double the iron content of those capsules first introduced. Wolfe also reports a new Mini-Cap is being introduced this season, which is ideal for plantings below 3" in caliper (i.e. field nursery plantings and highway or roadside plantings.

Wolfe, backed by a number of university research projects, believes that there is a great efficiency in trunk injection of iron. Iron compounds, he states, applied to the soil must be used at rates of 2½-4 pounds of product per inch of trunk diameter. With Medicap injection, using the concentrated form of iron, the rate may be as low as two grams or less.

Wolfe also reports that use of iron via the trunk implant system is only the beginning for the systemic method. Tests and research are underway with a number of promising systemic insecticides and fungicides, he continues, and there is reason to believe efficiency will be as great as that with iron. Tests to be made with different sized capsules will allow for rate studies, and possible use of combination ingredients.

A roundup of ornamental tree
WHAT'S SO SPECIAL ABOUT CYCLONE SPREADER/SEEDERS?

SPEED/ACCURACY
FREEDOM FROM STRIPES/VERSATILE
DEPENDABLE/EASY TO USE

Tools for the job consist of small hammer and portable drill and bit. Bulk pack of 100 iron Medicaps will treat 20 average trees, according to Warren D. Wolfe, Creative Sales, Inc.

Jim Elliott, left, production manager for Plumfield Nurseries, Fremont, Neb., and Warren D. Wolfe, president of Creative Sales, Inc., use new Mini-Caps for nursery trees down to 1-inch in size.

problems on which Wolfe reports research is underway or planned includes: (1) Dutch elm disease with systemic insecticides for possible control of the elm bark beetle; and systemic fungicides aimed at controlling the disease; (2) anthracnose which is an increasing disease problem in many sycamore trees; (3) mimosa webworm, a continuing problem; (4) bronze birch borer and other borers for which no acceptable control is currently available; (5) the pine tip moth and elm leaf beetle for which some systemic insecticides appear very promising; and (6) gypsy moth control.

Creative Sales, Inc., believes popularity to date for their new system stems from the fact that it avoids the common public resistance to sprays and dusts, and requires little time and equipment for a serviceman to handle a client problem. The system is also adaptable for the homeowner do-it-yourselfer, according to Wolfe.

THE CYCLONE SEEDER CO., INC.
Dept. 101-12, Urbana, Indiana 46990

Cyclone

For More Details Circle (140) on Reply Card
Indiana Annual Winter Conference, Indiana Association of Nurserymen and Indiana Arborists Assn., Stouffer's Inn, Indianapolis, Ind., Jan. 4-6.


Western Association of Nurserymen, 82nd Annual Meeting, Plaza Inn, Kansas City, Mo., Jan. 9-11.


Nebraska Turfgrass Conference, Tenth Annual, Kellogg Center, Univ. of Neb., Lincoln, Neb., Jan. 12-14.


Georgia Nurserymen Short Course, Annual, University of Georgia Center for Continuing Education, Athens, Ga., Jan. 13-14.


Ohio Chapter of the International Shade Tree Conference and the Ohio State University short course for arborists, turf managers, landscape contractors, garden center operators, nursery men, and others, at the Sheraton-Columbus Hotel, Columbus, Ohio. Jan. 23-27.


Colorado Farm Show, Community Building, Greeley, Colo., Jan. 25-26.


Midwestern Chapter of the International Shade Tree Conference, Pick-Congress Hotel, Chicago, Ill., Feb. 8-10.

Southern Chapter of the International Shade Tree Conference, Marriott Motel, Atlanta, Ga., Feb. 12-16.

International Turfgrass Conference and Show, 43rd Annual, Golf Course Superintendents Association of America, Convention and Exhibit Center, Cincinnati, Ohio, Feb. 13-18.

Maryland Arborists' Day, University of Maryland Center of Adult Education, College Park, Md., Feb. 15.

Maryland Nurserymen's Day, University of Maryland Center of Adult Education, College Park, Md., Feb. 16.


INDUSTRY ASSOCIATIONS IN 1972 (from page 71)

Members have also received the results of an equipment survey conducted by the Association, and will receive complete industry statistics during the fall.

The Association has made its Home Study Program in Arboriculture available to non-members, and Standards on Tree Care have been revised and reprinted and are available for sale.

A membership campaign was launched during September, and will remain in full swing through early 1972.

Program for 1972. During early 1972 the Association's membership campaign will continue, as will such services as the monthly newsletter and other mailings of pertinent material. The industry statistics will be compiled again during 1972. It is hoped that the Association will be able to print a document on running a business, covering such topics as accounting, personnel, taxes, and general management.

Forecast for 1972: The economic outlook for 1972 as it pertains to the tree business is probably going to relate directly to the success of the new inflation controls. 1972 will be better than 1971 but definitely not a boom year. We will have to pay close attention to the Government regulations such as the new safety law provides. All the help we can get, such as training our men with the National Arborist Association Home Study Program, attending the February Annual Meeting, and learning our responsibilities for safety will add to our ability to compete against the profit squeeze of inflation. To summarize, 1972 will be a good year for the better prepared. It will be very competitive, and costs must be kept down as inflation is not controlled as yet.
BOB CLARK converted his corn fields and dairy farm into a thriving public golf course.

Acting on a suggestion 11 years ago, Clark converted the 160-acre family farm on the southern outskirts of Des Moines into an 18-hole public golf course. Later he started growing cultivated sod for market.

"I didn't know the first thing about golf courses or golfing," Clark said. "I had no idea what grass to sow for greens even."

First he went around the area and studied other courses. Then he enlisted the assistance of two Iowa State University professors, Dr. Elliott Roberts, when he was at Iowa State, and Don White. They designed the course and staked it out. Clark tore out fences and plowed up the entire farm. An auction disposed of unneeded equipment and cattle.

Clark also got expert advice on the kind of grass to use from Polk County Extension Agent Grover Hahn.

The first nine was completed in 1961. Clark called in experts to design the second nine which was developed in 1963.

"It was quite a change for the Clark family because we had always been farmers," he said. "My father, who was 77 at the time, agreed to the new venture—quite a change of direction."

The elder Clark still buzzes around the course in a golf cart and even shoots a round or two now and then.

The old cow barn now serves as a shed for golf carts. A modern pro shop has been added.

Known as Willow Creek, the bustling course is one of the most attractive in Iowa. A creek that used to be a watering spot for Clark's 24 Holsteins, has been dammed to make lakes and provide hazards for the linksters. Its also a source of irrigation for the course.

In 1965, Clark took another major step by instituting a sod farm along-side the course.

So successful has the operation been that Clark is searching for more acreage to grow sod.

"We're about at the saturation point for our sod business," he said. "The sod farm came as an offshoot.
Clark's sod business started small, with sales doubling each year. He sold more than 60 acres in '71.

of the golf course and now is coming into its own as another major source of income."

Clark said that the sod business has doubled every year, reaching 40 acres in 1970. He sold more than 60 acres this season.

The sod farm covers 130 acres of Kentucky Bluegrass for sale on both the retail and wholesale levels. His customers are contractors and home-builders as well as individuals who merely want to make repairs in their yards."

"It takes one to three years to grow grass on the sod we sell," Clark said. "The weather is the determining factor because we don't irrigate the sod farm."

Most of the approximately 25 employees are members of the Clark clan.

"It's a family team," said Clark. "We like each other and get along surprisingly well. All live on or near the golf course. I'd be lost without these people."

Clark's wife, Ardis, is his No. 1 assistant. Two daughters, Susan, 22, and Lori, 12, work in the clubhouse. Sons Bob, 24, and Dan, 14, do "anything and everything" around the course and sod farm. Clark's sister, Mrs. Mary Acheson, is the bookkeeper. One of her sons, Kent, manages the sod farm; another, Sam, has worked for Clark since he was eleven and is marrying a girl who used to work at the clubhouse. Two more of Clark's nephews, brothers Bill and Jim Baumberger, have also worked for him. About the only nonrelative is Dale Foster, grounds superintendent.

Sod operation has been successful. Clark is now seeking more land to expand.

Of his sod operation, Clark says, "We sell it any way the customer wants it — cut, rolled, delivered and laid. We'll even prepare the ground for laying."

The workhorse machine in his equipment stable is a Massey-Ferguson MF 20 industrial tractor equipped with a scraper. "We do everything with this combination," Clark said. "During the season it goes nearly 12 hours a day. When we get caught up on the sod farm, we put it to work mowing the golf course."

Weather and workers are Clark's biggest problems."

"It's hard to get the kind of help you need — the ones who want to work," he said. "Also, we have a seasonal operation and can't keep a full work force on hand all year. This means we lose a lot of people from year to year and have to spend valuable time training new workers."

Plant diseases and weeds posed an early threat to both operations, but Clark said that experts from Diamond Shamrock Chemical Company recommended application of Dacthal and Daconil. "They did the trick," he said.

Clark said he is still looking for new enterprises to be spawned by the golf course."

"The course provides only a fair income," he said. "We need to branch out more. What we have now enables us to hold this high priced land together and possibly get more. We feel we are just scratching the surface of the potential offered here."
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James T. Conner, to Chemagro as Washington, D.C. representative in a government, legislative liaison position, from the National Agricultural Chemicals Association position of director of congressional affairs.  

W. Richard Hildreth to director of the Saratoga Horticultural Foundation, Saratoga, Calif., from California Arboretum at Davis. He succeeds Maunsell Van Rensselaer, now director emeritus.  

Ambrose DeGidio, named general manager of Toro’s Turf Products Division, replacing the late Dr. Finn J. Larsen, from director of engineering and manufacturing of the same Division.  

Ernest W. Neben, to Wanye Manufacturing, Pomona, Calif., as vice-president, manufacturing, from general manager’s position with Cochran Western Corp.  

James E. Olds, to Toro as patent attorney, from St. Paul, Minn., firm of Kinney, Alexander, Sell, Steldt, and Dela Hunt.  

Einar Jacobsen, elected chairman of the board of Jacobsen, from position of president, and Neal D. Crane, named president and chief operating officer, from American Machine & Foundry where he was vice-president.  


D. W. Clark, appointed media manager, American Cyanamid; and Dennis McCormick, named assistant manager, public relations.  

Thomas L. Proctor, appointed sales representative for professional pest control, Velsicol Chemical Corp.  

Dr. John R. Hall, III, named Extension turfgrass management specialist, University of Maryland.  


Harry O. Bercher, retires as chairman of the board of International Harvester; Brooks McCormick, president, elected chief executive officer in addition to duties as president.  

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The Brillion Versa-Mower has two 5' wings that safely operate up to 60° above horizontal, or 22° below. Lets you cut a 15’ swath on embankments, gulleys, rolling terrain, without scalping. Wings lift and lower hydraulically. Even fold vertical for an 88” transport width.  

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**DECEMBER 1971**  
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Roy F. Broyhill

FEMA Elects Broyhill

A manufacturer of specialty spray application equipment, Roy F. Broyhill, was elected president of the Farm Equipment Manufacturers Association at the recent 21st annual convention at Denver.

Broyhill is president of The Broyhill Company, Dakota City, Neb. The Association membership manufactures "shortline" equipment and accounts for more than a third of the total farm equipment market. Currently, more than 250 of these companies from the U.S. and Canada and from 10 foreign countries hold membership in FEMA.

Minnesota '72 Team

George Lilli, Lilli Landscaping, was reelected president of the Minnesota Landscape Maintenance Association in a recent annual session. Named vice-president was Lowell Rinker, Rinker Landscaping.

Others elected for '72 are: Leonard "Andy" Anderson, Green Thumb Lawn Service, treasurer; Dwayne Albright, Albright Landscaping secretary; Mel MacFarlane, editor of publications; Earl Halvorson and Ken Simons, special consultants; and Walt Cooper, business coordinator and promotions director.

Traffic Noise Reduced

Up to 50% By Tree Belts

Traffic noise can be reduced up to 50 percent with tree and shrub barriers. A similar sound level reduction is also possible with barriers around shopping centers or near heavy industry.

A University of Nebraska engineer, David I. Cook, and a U.S. Forest Service researcher, Dr. David F. Van Havebeke, have released these findings. They have further tests underway to study use of trees and shrubs in combination with solid barriers and natural land features in noise abatement.

Their studies to date include a report on five "solved" noise problems, and include the following specific recommendations:

1. Tree-shrub belts 65 to 100 feet wide are effective in reducing noise from high speed car and truck traffic in rural areas. The edge of the tree belt should be within 50 to 80 feet of the center of the nearest traffic lane, and the center tree rows should be at least 45 feet tall;

2. Tree-shrub belts 20 to 50 feet wide are effective in reducing noise from moderate-speed car traffic in urban areas. The edge of the belt should be 20 to 50 feet from nearest traffic lane. Six-to-eight-foot shrubs next to the traffic lane should be backed by rows of 15-to-30 foot trees;

3. For maximum effectiveness, tree-shrub belts should be tall, dense, and located close to the noise source, rather than close to area protected. Evergreen trees and shrubs are most effective where year-round noise screening is desired; and

4. Tree-shrub belts should be about twice as long as the distance from the noise source to the receiver.

The report, "Trees and Shrubs For Noise Abatement," is available at 50 cents from the Department of Information, East Campus, University of Nebraska, Lincoln, Neb. 68503.
TURF INSECTS

FALL ARMYWORM
(Spodoptera frugiperda)

TEXAS: Second generation increasing on grasses in Erath County. Apparently decreasing in south-central area.

A STINK BUG
(Edessa floridana)

VIRGINIA: Adults collected in house in Gloucester County October 6. This is a new county record.

GRASSWORMS
(Mosis spp.)

FLORIDA: M. latipes accounted for 90 percent of populations; damage severe to 10-acre pangola grass pasture at Loxahatchee, Palm Beach County and 0.5 to 1-acre spots in pastures at Belle Glade.

A DELPHACID PLANTHOPPER
(Delphacodes propinqua)

ARIZONA: Moderate to heavy in Bermudagrass seed at Yuma, Yuma County.

INSECTS OF ORNAMENTALS

BRONZE BIRCH BORER
(Agrilus anxius)

OREGON: Survey of ornamental birches in Pendleton, Umatilla County, detected infestation in eastern sector of city. Previously, infestations in southwest sector.

HAWTHORN LACE BUG
(Corythucha cydoniae)

PENDLETON: Adult infested Crataegus monogyna stricta at Gilbraltar, Berks County, September 30.

A LACE BUG
(Stephanitis takeyai)

PENDLETON: Adults moderate on Pieris japonica at Kimberton, Chester County, October 1; adults light on P. japonica at Media, Delaware County, September 30, for new county records; adults heavy (treated in July) at Audubon, Montgomery County, October 6; heavy on azalea (yellowing) in nursery at Glen Mills, Delaware County, September 30.

CRANBERRY SPANWORM
(Anaritirinella pampinaria)

ARIZONA: Controls difficult in many instances in Maricopa County.

TREE INSECTS

BARK BEETLES
(Dendroctonus spp.)

SOUTH CAROLINA: Populations of D. terebrans (black turpentine beetle) and D. frontalis (southern pine beetle) increasing on pines in Oconee, Aiken, and surrounding counties. NORTH CAROLINA: D. frontalis increased in Durham, Person and Granville Counties. In other areas, activity remains about same or less than earlier in 1971. Salvage control continues.

VARIABLE OAKLEAF CATERPILLAR
(Heterocampa manthei)

OKLAHOMA: Moderate on oaks in Tulsa County. Light on pin oak in Stillwater area, Payne County. TEXAS: General larval infestations in oaks throughout northeastern area. Isolated infestations on oaks in Travis and Montgomery Counties.

A LECANODISPIDID SCALE
(Lecanodiaspis prosopidis)

UTAH: Heavy on ash twigs at Moab, Grand County, September 1.
Jim Burdett, left, and Ross Smith, Burdett's, Inc., discuss scheduling of manufacturer representatives for a 5-month program called "Burdett's Walk-In and Talk."

**New System for Customer Orientation**

**WALK IN AND TALK**

"Burdett's Walk In and Talk, 1971-72," a new type promotion, has been scheduled by Burdett's, Inc., Lombard, Ill., dealers in seeds, fertilizers and golf course supplies, as a service for customers. Walk-in sessions began Nov. 1, and will extend through Mar. 27, 1972.

More than 20 companies, plus the state of Illinois will provide representatives for a series of "learning bull-sessions." Each firm presents a day-long program at which their particular product line or service is shown and demonstrated. Held at the Burdett's, Inc. warehouse, programs include sessions from 9 a.m. to 12 noon, and from 1 to 4 p.m.

The State of Illinois will be represented by the Horticultural Inspection Supervisor from the Department of Agriculture, division of plant industry.

“Our goal is to give customers first-hand information direct from company representatives,” says James R. Burdett, vice-president and general manager of Burdett’s, Inc. “We feel that conventions and open houses do not provide everyone with enough time to find out new information, discuss it, and really nail down the full benefits of new products, or even a better way to use the older ones! At these sessions customers may walk on, question the experts, explain their individual problems, seek a solution and leave with a new outlook. You can cover a lot of ground when you're face to face discussing something,” he continues “and we're looking forward to some enjoyable, informative sessions.”

Early in program. Left to right, Art Gerdes, F. E. Myers Co.; Jack Crippan, Crippan Landscaping; Johnie Naughn, Dept. Mental Health, Ill.; Ross Smith, Burdett’s, Inc.; Ron Grundberg, North Shore Spray; and Joe Parch, Dept. Mental Health, Ill.; look over Myers unit prior to Gerdes tearing it down for demonstration.