



THIS BUSINESS of beautifying with trees is a complicated, expensive and often frustrating endeavor. Nevertheless, beautification is accelerating all across the country. The public wants it; demands it.

That sensing comes from the 45th International Shade Tree Conference, Aug. 10-14, in Portland, Ore.

Making the country's urban environment beautiful, however, presents arborists with a formidable "give and take" challenge. Somehow, they must discover how to get the demanding public to *give* what it *takes* to get the job done—considering the sapping of resources by Dutch Elm Disease.

A thick portfolio of presentations helped bolster arborists' confidence that they are abreast of latest developments. Reports ranged from the Apollo 9 theoretical to the ground-level practical. Still, the haunting question hovers: How can arborists become more professional; more important, how can this professionalism be instilled in the public's mind?

An encompassing definition of a profession or professionalism just isn't to be found, conceded Leslie

45th ISTC Report

Beautifying With Trees Is a Complex Business

S. Mayne, owner of Mayne Tree Expert Co., San Mateo, Calif., speaking to commercial arborists. After researching the term and reviewing his experience as a landscape forester, he concluded that among the definitions is one that arborists can, or should, fulfill:

"A profession is a field of activity in which the best interests of the client come first and where advice given him is never, primarily, self-serving."

Others added that a profession "was an art rather than an exact science."

Mayne suggested that an individual could become known as a professional, but the general public needed "some method for the qualifying of professionals." This goal is beyond

the capability of the individual, he felt, agreeing with William Owens of Portland, who suggested in the discussion period that "the only way to go about the problem is organizationally."

Utility Arborists Organize

Utility arborists were meeting separately but apparently eavesdropping on the discussion about upgrading professions and how it could best be done organizationally. They formed the Public Utility Arborist Association.

The new group will function within the framework of ISTC. Annual meetings will be conducted separately but at the time of the shade tree conference.

"We currently have about 100 util-



The Portland Hilton, site of the ISTC conference, was a splendid example of how large commercial buildings can be beautified with trees.

ity representatives who are members," said President H. J. Cran, Connecticut Light and Power. "We

hope to cultivate more interest and communications within the utility arborist profession."

Secretary-Treasurer Jerome E. Knight, Detroit Edison Co., said the association would publish a newsletter to keep members alert of pressures from the public and to keep them informed about subjects of special concern to utility arboriculture. He cited as a specific example, growth inhibitor research; and generally, transmission structure and right-of-way beauty.

Hopefully, closer ties will develop between utility arborists, and, when the need arises, spokesmen for all utility arborists will be available. The new group, Knight feels, also will bring about better working relationships with commercial and municipal arborists.

The necessity of closer ties among all arborists was brought into focus in discussions of tree ordinances that are needed in metropolitan areas.

Utilities in the State of Oregon, reported W. L. Carey, Portland General Electric Co., "spend \$2 million annually trimming and removing trees that homeowners have planted beneath power lines."

Portland GE, he continued, has developed a long-range street tree planning service that's available to cities and subdivision contractors.

"Since 1960, we've planted trees along 150 miles of streets at a saving of \$40,000 annually," Carey said. "And considering the public relations value, the mileage we've gotten out of it is fabulous."

He said the program is presented to "anybody that would listen."

And more and more people are listening right now for ways to improve the environment, suggested a keynote speaker, Norvell Gillespie, executive vice-president of the California Anti-Litter League.

Trees have belonged to the domain of the nomad, he said. Only recently have they been talked about in the very top level of our government.

"Now we have blueprints in our hands and survival in our hearts."

Trees are a measure of urban culture, he continued, but "you can't salvage urban environment by just squeezing in a few trees."

Calling the audience "environmental crusaders," Gillespie challenged ISTC to take the lead in advising communities on how to beautify their environments. The strength of ISTC leadership in these times is unlimited, he said.

New View from Space

The space age has brought a new perspective for viewing our environment and taking inventory of our total vegetation resources, according to Lawrence Pettinger, research technician at the Berkeley campus of the University of California.

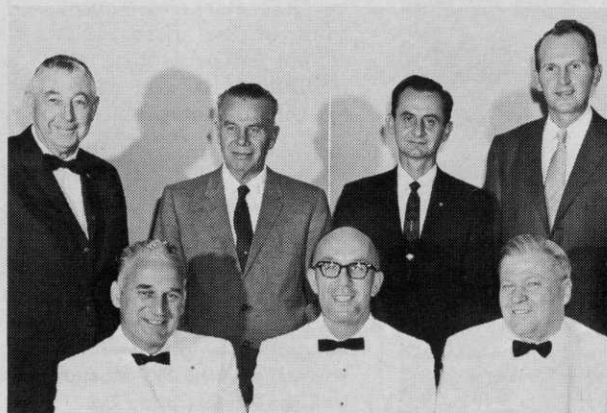
Photographs from space craft, such as Apollo 9, from special films now permit us to compare widely separated areas and to study their relationships.

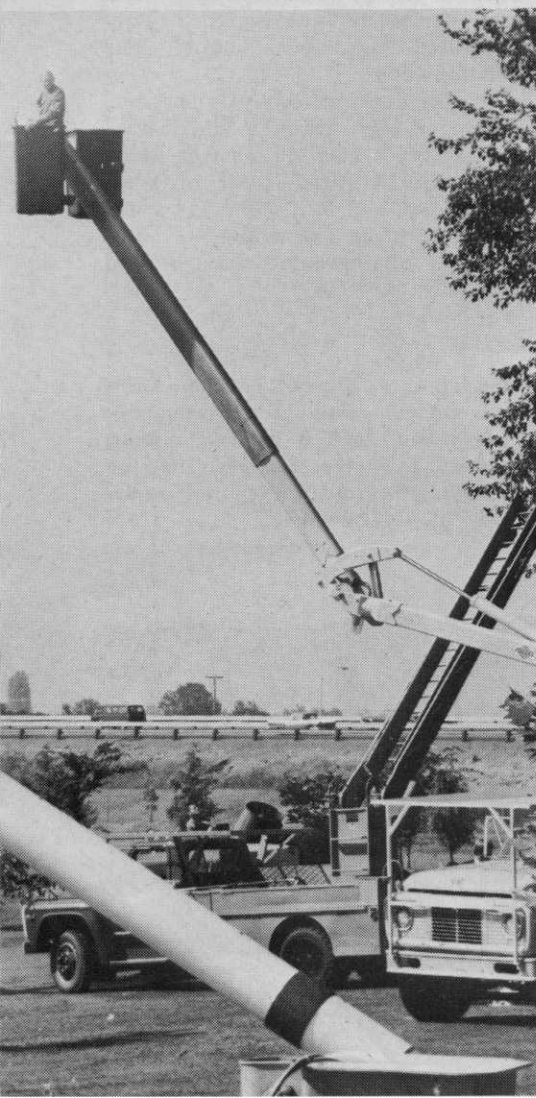
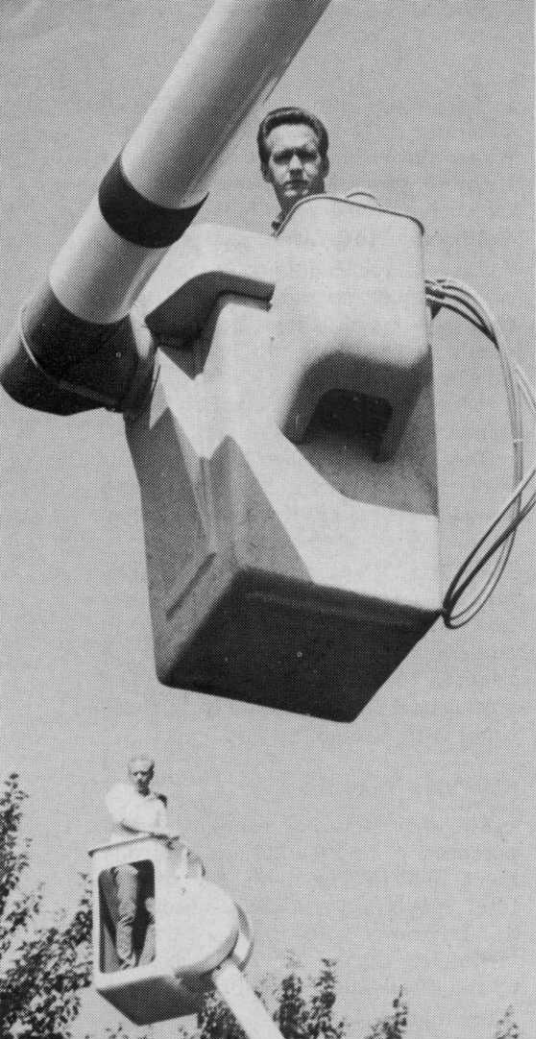
A new depth of study is possible, Pettinger said, through the use of special types of film, such as black and white infrared, color infrared, ultraviolet, and false-color enhancements of black and white.

Aerial photographic surveying to

Officers of the new Public Utility Arborist Association are, from the left: President—H. J. Cran, Jr., Connecticut Light & Power, Hartford; vice-president—C. E. Lee, Southern California Edison Co., Los Angeles; vice-president—G. K. Brown, Georgia Power Co., Atlanta; and secretary-treasurer—J. E. Knight, Detroit Edison Co.

New officers for ISTC are: Seated, from the left—J. A. Kimmel, president-elect; Richard E. Abbott, president; and Keith L. Davey, past-president. Standing, from the left—H. M. Van Wormer, vice-president; Noel B. Wysong, editor; E. B. Himelick, executive director; E. C. Bundy, executive secretary. The sign that L. C. Chadwick, executive director emeritus, holds was prepared by the Western Chapter but reflected sentiments of all ISTC members.





gain inventory data on vegetation will increase tremendously, predicted Pettinger.

"I don't claim we can eliminate ground work, but it will be reduced a great deal."

Types of data that will be sought will be: (1) species composition; (2) vigor and healthiness of the vegetation; (3) agents responsible for loss of vigor; and (4) probable growth rate and eventual yield.

Tree Pollution Evident

More down-to-earth research on specific problems was discussed concerning pollution damage, growth control, and damage that can come from improper staking of young trees.

Pollution is like corruption, said Dr. Spencer H. Davis, Jr., plant pathologist at Rutgers University, New Brunswick, N.J. "A little of it can go a long way and do a lot of damage."

Pollution damage results in many different symptoms, which usually fit into patterns that can tell us the general type or source of pollutant, he said.

Pollutants in the soil, such as salt, or oil, usually result in scorch symptoms on the tips of leaves and needles. Soil sterilants bring death first to the veins and the basal part of needles. Weed killers can cause severe cupping and curling and even death to younger leaves and needles.

A complication of dealing with pollution damage, Davis said, is that "all plants that grow from seeds are genetically different. Two trees growing side by side may respond differently to air, water and soil pollution." So we're faced with the difficult task, he said, of singling out for propagation those specimens that demonstrate resistance to pollution.

Soil-borne diseases of shade trees will require more attention as urbanization moves into areas previously agricultural, stated Robert D. Raabe, another plant pathologist at UC's Berkeley campus. Because some of the more serious diseases cannot be controlled, such as verticillium wilt, and others are hard to control, one of the main ap-

Aerial buckets roamed the upper altitudes of the field demonstration site. From top to bottom, these are: Asplundh Chipper Co.; the Hi-Ranger from Mobil Aerial Towers; and the Sky-Master from McCabe-Powers Body Co.



For a moment, a Vermeer tree spade captured attention . . .

proaches to the problem is again the search for resistant plants.

Formula of the Three Rs

The most effective insect control, said Clark O. Eads, entomologist at UC's Riverside campus, comes by recalling our forefathers' capsule phrase of education, "the three Rs." For insect control, the three Rs are the *right* material in the *right* place at the *right* time.

The formula works also for achieving desired results in growth control. Though the search for controlling tree growth has been varied and is centuries old, common to all the methods is the objective of reducing stem elongation.

Control of stem elongation depends upon control of cell elongation and division in the subapical meristematic regions, explained Dr. Roy M. Sachs, horticulturist from UC's Davis campus.

There are cases of separate effects upon cell division and elongation, but such separation is of little significance in practical control methods. Of great importance, he said, is the separation of activities and control of the apical meristem on the one hand and the subapical meristem on the other.

Use the right growth retardant and you can reduce stem length without materially inhibiting leaf initiation, expansion, and flowering, he said.

Much at Stake in Staking

Seemingly simple tree-staking can do major harm to young trees, reported Lanny Neel. His research at



... from its compact-size T-200 dozer. Vermeer is at Pella, Ia.

UC's Davis campus is supported by ISTC.

Staking is to anchor, support and protect, he said. But improper staking can cause mechanical injury, trunk malfunction, and cause greater wood stress.

Neel showed illustrations of how young trees leaned away from wood stakes when untied. Others grew crooked; still others fell to the ground.

The importance of his work became apparent on a tour of the J. Frank Schmidt & Son Company. The nursery has a reported one million trees growing, all of which are eventually staked. Some varieties, such as Norway maple, will average six feet in growth from the base bud during the favorable March to October growing season. The nursery uses metal rod stakes and has been able to hold culls at harvest to around 10%, a spokesman said.

Although staking must be done by hand, most other field work at Schmidt & Son is expedited with heavy, specialized equipment.

Trees are irrigated with a sprinkler system, fertilized and sprayed for insect control from both the ground and air, and dug with mechanical harvesters.

Tree Business Complex Today

Schmidt & Son is one of the largest nurseries in the country, so automation could be expected. Still, the firm supported Frederick R. Micha's contention that managing an arboriculture business isn't what it used to be.

Micha, general manager of the Monroe Tree Surgeons, Inc., New York, said that "Gone are the days when a foreman could leave the Davey Tree Company, buy a few pieces of equipment and plunge into the tree service business and make a go of it."

You must hire professionals now for tax structure, business law, labor laws, accounting and financing, and advertising, he advised. Community involvement, social acumen, and quality comprehension are essential. Quality of dress and of written and spoken word can easily limit success, he added.

But, he cautioned, unless all these things "are coupled with common sense, you certainly will fail."

"Common sense begins from time you enter your office door 'til you close your books at night."

Municipal Arboriculture Report

From an appraisal of what's happening across the country in municipal arboriculture, it appeared that supervisory personnel have had to lean heavily on common sense to make the most of their resources. Tax revenues aren't keeping pace with service demands. Dutch Elm Disease, still rampaging unchecked, has forced some municipalities to devote nearly all park department effort on tree removal, or else seek increasing help from commercial tree companies.

New York City is a good case in point, reported Carl J. Schiff, director of horticulture. Some 5,000 trees are removed each year, most victims of DED. City employees, he said, can't take on the removal on top of regular maintenance. Most of the removal is by contract with commercial tree companies, now at a cost of a half-million dollars a year.

A very real indication that people are paying more attention to their environment, especially trees, he added, is that 40,000 requests came in from residents last year asking for tree care assistance. "We are now preparing a \$1 million contract calling for the pruning of 50,000 trees."

Schiff expects the city's present park budget to increase from its present \$5 million to \$8-9 million for the 1970-71 fiscal year.

Schiff talked about a number of new techniques tried within the past year. A helicopter suspending a Sling-King seeded several hundred acres of land too rugged to be planted by conventional means. The Sling-King carried 600 pounds of

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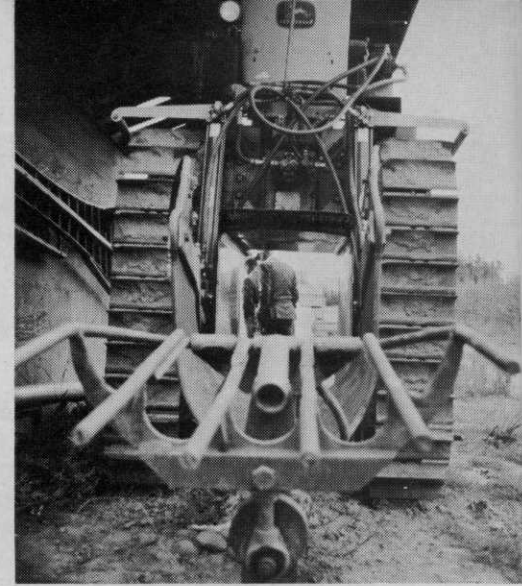
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Guests saw large-scale tree farming at the J. Frank Schmidt & Son Co. The nursery has a reported one million trees growing. Aerial spraying of chemicals and fertilizer is



employed. Trees are dug mechanically with equipment such as the John Deere harvester at right that seems to have swallowed two men.

perennial rye and sowed a 60-ft. swath on each helicopter pass.

When a citizens' group complained about DDT, Schiff agreed to run a test on trees planted at a new building site. On one side, trees were sprayed with Sevin and Malathion, on the other side, insect predators were brought in. Schiff said the biological approach worked to a degree but indicated the chemical spraying appeared more effective.

Not everyone is caught up with tree beauty, apparently. Schiff said that along many streets it has become necessary to install 18-inch metal collars around the trunks of young trees to protect them from the many dogs that people take walking.

Dutch Elm Disease, more demands for service, and inflationary costs without compensating tax revenues sent the Minneapolis forestry program on a six-year slide, reported David DeVoto, park forester. Now

he expects state legislation enacted this year to produce a turnaround.

The state lawmakers passed a bill that revamped the taxing authority of the Park Board. The bill replaced five separate out-of-date taxing laws with a single millage tax. The new tax law will increase the annual forestry budget from \$451,500 in 1969 to \$1,049,000 in 1970.

We hope to put new meaning into the reputation that Minneapolis is the "City of Trees," DeVoto said, with the establishment of a tree nursery. Annual production is to be 5,000 3½"-diameter trees.

Greenwich, Conn., may have the most expert tree man for a city manager of any municipality in the country. There's a reason. Joseph A. Dietrich had been in charge of the park department and has devoted a quarter-century to battling Dutch Elm Disease.

He reviewed the research work that five universities are conducting

through grants from the Elm Research Institute (he's a director). This work includes the development of disease-resistant varieties, expected to be available in six years; work on altering the odor code to repel the bark beetle (the use of juglone from shagbark hickory has reduced feeding 52% in some tests); and the breeding of wasps to prey upon the bark beetles.

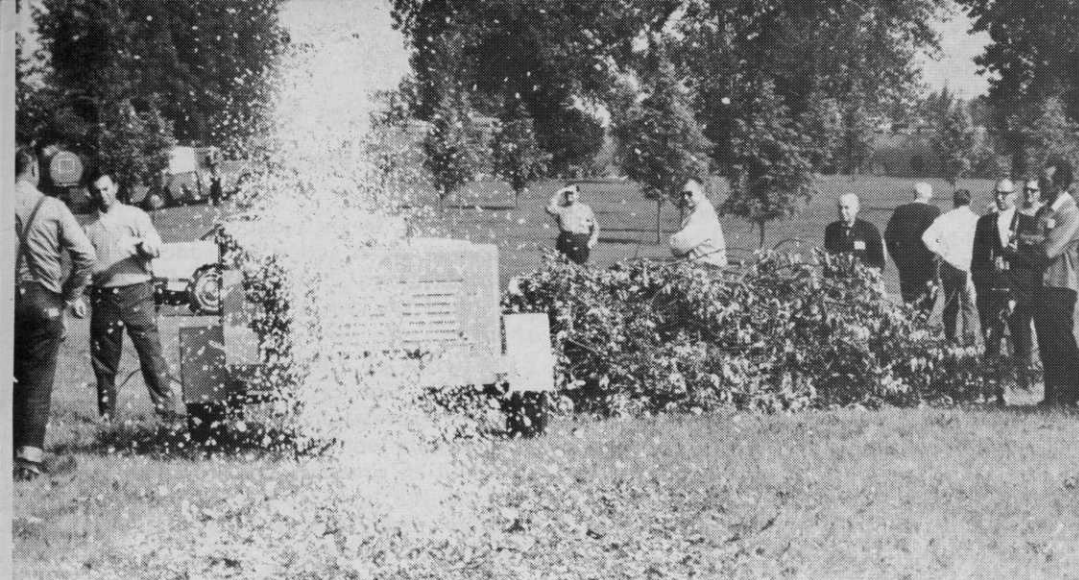
City growth and DED are the major problems for the Lansing, Mich., park department, reported David L. Phillips, superintendent of forestry. Long known as the "City in a Forest," Lansing has increased since 1949 from 9,000 to 21,000 acres, he said. Tree removal, 4,810 in 1968, has necessarily diverted much effort from rotation pruning, research, and private-owner services.

An as yet unsolved problem is that of tree disposal. The state has barred the burning of all brush and wood. Phillips said utilization of

It's Arlow Heskitt, representative for Karl Kummerling, Inc., that appears to be getting a sales pitch. A couple dozen companies bought booth space to display products at the

conference. The Homelite Division of Textron, Inc., was one of about a dozen exhibitors who had both booths and field demonstrations.





You're looking at the business end of an Asplundh chipper making short work of a brush pile. At right, Melroe Mfg. representative demonstrated the maneuverability of its



Bobcat by rearing it backward and pivoting it to the opposite direction. It was equipped with a front scoop.

logs as firewood and as chips had not proved to be satisfactory.

William T. Bell, street tree superintendent for Long Beach, Calif., took the group far from DED but not away from problems.

His department has 67 employees, most of them tree trimmers. Some 26,000 trees are trimmed and shaped by the ornamental tree trimming crews. A six-man crew maintains the city's 20,000 palm trees.

One foreman is a full-time inspector, making more than 9,000 inspections a year. Insect and disease control require that a Rotomist sprayer be in operation nine months of the year. A two-man planting team works year around.

An ambitious beautification plan conceived in 1940 by the late Jacques Greber for the Canadian capital city of Ottawa "moves forward step by step," reported J. A. White, district superintendent of the National Capital Commission.

Included in the scope of the plan were the relocation of three rail-ways cutting through the center of the city, together with their mar-shalling yards and stations; devel-opment of an 85,000-acre natural parkland within a few minutes' drive of the Parliament buildings; and development supervision of a 38,000-acre strip of land around the city to prevent indiscriminate use by speculators.

Recognition and Awards

During the shade tree conference, the National Arborist Association took note of Portland's oldest elm, in the courtyard of the downtown YWCA. NAA President Paul Wal-gren and past presidents Freeman Parr and H. A. Morrison presented a plaque to Mrs. Fred Roggi, YWCA director. The bronze marker will be placed near the American elm, planted in either the 1880s or 1890s.

Among the awards presented:

Honorary Life Membership—Dr. L. C. Chadwick, Columbus, O.; Keith Davey, San Francisco, Calif.; Riley Stevens, Portland, Ore.; George W. Duncan, Youngstown, O.; George Hafstadt, Middleton, Wis.

Honorary Membership—Dr. Gar-rett Eckbo, Berkeley, Calif.; Leslie Hancock, Mississauga, Ont., Canada; and Hans Heybroek, Wageningen, The Netherlands.

Award of Merit—Mrs. Valley M. Knudsen, Glendale, Calif.; Hackett C. Wilson, Shelby, N. C.; and O. C. Anderson, Houston, Tex.

Special Award—Iowa State Uni-versity film production staff for a film on Dutch Elm Disease.

Authors' Citation—Fred C. Galle, Pine Mountain, Ga.; George W. Kelly, Littleton, Col.; Dr. Mildred E. Mathias, Los Angeles, Calif.; Dr. Elizabeth McClintock, San Francis-co; Dr. Rene Pomerleau, Sielery, Quebec; and Prof. Victor H. Ries, Columbus, Ohio.

It's as easy as sawing off a log, Mark Eastwood finds; just as Harold DePue of Ackley Mfg. Co., predicted. In fact, after Fred Knowlton, left, and Joe Sullivan demonstrated

how little vibration there is with a McCullough chain saw, Kay Jones, Gales Tree Service, Belleville, Ill., decided to cut off a few souvenirs to take home.

