



Ronald L. Harper, left, Philadelphia Electric Co., Philadelphia, Pa., and Hyland R. Johns, Asplundh Tree Expert Co., Jenkintown, Pa., co-chaired the 43rd ISTC Conference. They were on hand to welcome the 1000 attending the event. They are using Asplundh Chipper Company's L-30 fibreglas boom and bucket.

Beauty Combined Is Pattern of

A WTT staff report on the 43rd International Shade Tree Conference at Philadelphia, Pa. meeting in conjunction with the ISTC were members of the National Arborists Association. The groups will meet next year at Chicago, Ill., August 11-16.

A NEW YORK CITY public affairs counsellor points to small businessmen as the group who have made the United States the economic symbol it is today. Even the most gigantic corporations began as small businesses. Speaking to delegates at the 43rd International Shade Tree Conference and National Arborists Association sessions at Philadelphia, Penn., Joseph J. Eley, president of Public Affairs Counsellors, Inc., challenged tree men to fight for responsible government.

Since 1953, Eley said, the federal government has frequently made noises that indicated concern for the small businessman through the Small Business Administration. Yet the truth is, Eley said, that small businessmen such as the tree care groups are very much on their own in our society. Eley pointed out that more people are engaged in service industries today than in manufacturing. There is little doubt but that the trend will continue. Henceforth, he pointed out, there will be increasing com-

petition for the service dollar. Thus, economic and political trends will have an immense effect on business operators such as arborists. The irony, according to Eley, is that while the small businessmen are the backbone of the free enterprise system, they are given least consideration by the government, by the economist, and by the political and economic press.

In stressing these opinions, Eley proved to be very close to the tone of thinking in evidence

by tree men attending the annual international conference. Many seemed concerned with the rising cost of doing business, and the necessity for care in keeping service charges keyed to costs of operation. At the same time delegates were highly enthusiastic about the impetus of the National Beautification Program and its impact on citizens at large. Business apparently is booming and at the same time more careful business manage-

John Bean's power spraying division exhibited the Model 100G Rotomist for shade tree, sanitation, mosquito control and leaf windrowing along with one of their truck mounted heavy duty sprayers. On Rotomist is A. O. Kalp, Middletown, N.Y.



With Business Management ISTC and Arborist's Annual

ment is required to produce a profit.

Secretary of Agriculture Orville Freeman, in his keynote speech, emphasized the Convention theme, "Beautify With Trees," when he reviewed the work of the Department in the beautification effort. Secretary Freeman said the national campaign involving the Department of Agriculture is to encourage individuals and communities to plant more trees. And not only to plant trees, but to plant the right trees, and to take care of them after they are planted. "Unfortunately," the Secretary said, "many Americans . . . have, for their entire lives, been separated from trees and from flowers . . . from something that I think is within us all, and has been since the Garden of Eden. It is an affinity with nature, of which we are a part. It is a longing for the beautiful and the good." This situation, the Secretary implied, may well be one of the complex factors responsible for the discontent in the land today. Crowded, ugly living, he said, creates what scientists call the "stress syndrome." In short, Secretary Freeman said, we need, as human beings, to "smell the flowers."

Like Secretary Freeman, Robert F. Lederer, executive vice-president of the American Association of Nurserymen, stressed the value to the nation of the



Outgoing ISTC President Richard J. Campana, chairman of the Department of Botany and Plant Pathology at the University of Maine, Orono, Me., at the left, gets the traditional tree planting ceremony underway at Fairmount Park.

Newly elected ISTC officers, President Elect Keith L. Davey, San Francisco, Calif., left, and President Freeman L. Parr, Hicksville, N.Y., center, visit with Executive Director Dr. L. C. Chadwick, Columbus, O., following board of governors session.

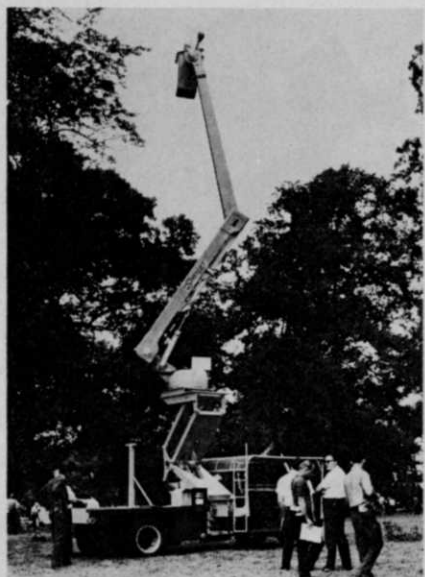




Fairmount Park was setting for buffet luncheon and massive field demonstration during Conference. Buffet included silver service, and park attendants along with Park Director Harold Schick served as hosts to Conference guests.



Myers demonstrated new TT29 Tall Tree mist sprayer. Equipment according to Myers representative is designed especially for tree protection, mosquito control, leaf windrowing, brush burning and sanitation spraying.



On hand at Fairmount Park was a demonstration of the Servi-Lift built by Hunt-Pierce Corp., Milford, Conn.

Fitchburg Chipper demonstration was staged, right, by Arborist Equipment Co., Philadelphia. Chipper is built by Fitchburg Engineering Corp., Fitchburg, Mass.



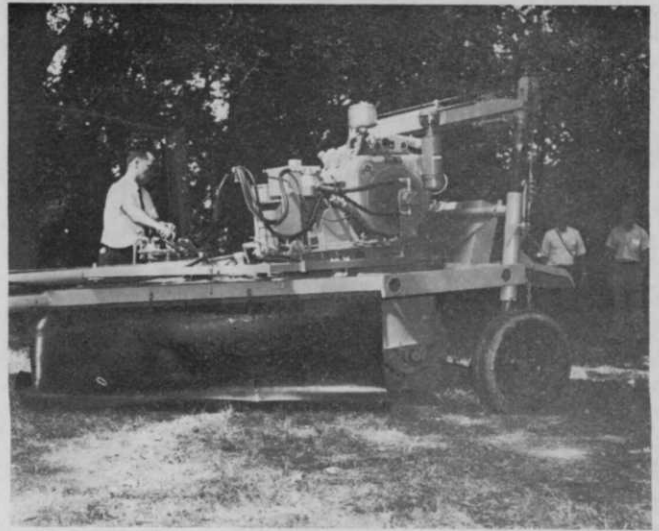
Prentice Hydraulics, Inc., Prentice, Wis., showed their hydraulic loaders, left, for logging and other tree service company utilization.



Weed Control Service, Inc., Portland, Ore., demonstrated the Ackley line of hydraulic and air powered tools. Ackley equipment is built by Ackley Manufacturing Co., Portland, Ore.

National Beautification Program. In talking to NAA members, Lederer urged that they not forget the profit motive of the total program. He reviewed the Federal Housing Administration problem in Florida where a backlog of foreclosed homes was not selling. After the FHA spent an average of \$1200 per home on landscaping, the homes were moved at a price which more than compensated for the additional investment. He also mentioned the program of the Volkswagen Corporation which has used landscaping as "a major step in attracting and holding

Vermeer Pow-R stump cutter, right, removes stumps 6" to 18" below ground level. Vermeer demonstrated this unit along with tree moving equipment.



Fairmont Hydraulics line of equipment included 7 hydraulic action tools. Tools are built at Chicago, Ill.



Baker Equipment Manufacturing Company has been selling their boom and bucket, above, in combination with Mitts and Merrill chipper pictured below.

high caliber employes who are specialists." Landscaping of dealer sites includes a patio, the primary purpose of which is a comfortable place for employes to relax during coffee and lunch breaks.

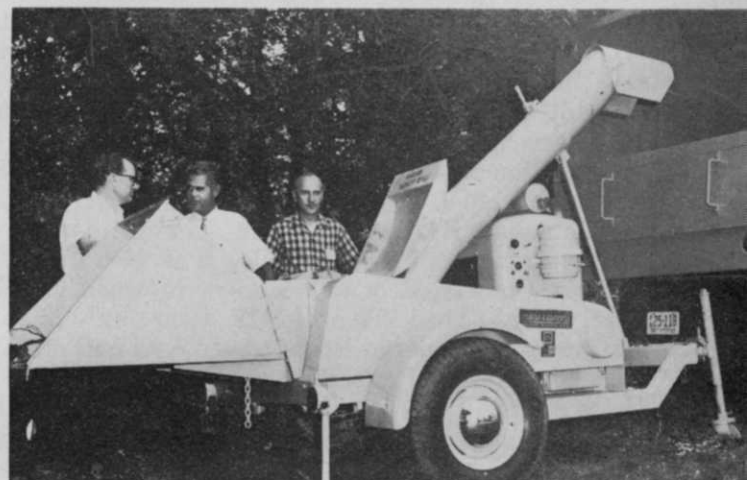
On sales and repeat sales, Archibald E. Price who operates his own tree care business at Glenview, Ill., reported that his firm tries to sell their service at a prestige level. "We try to do good work and we try to work at a profit, a good profit, but a fair profit," he said. One of the most important features of up-to-date service selling is keeping talk at a minimum, Price believes. He suggests saying as little as possible. Sell them and leave them is his motto. He told the group that if you cannot sell early during the call, leave quickly and return at a later date. The days of fast talking service selling are over, Price said.

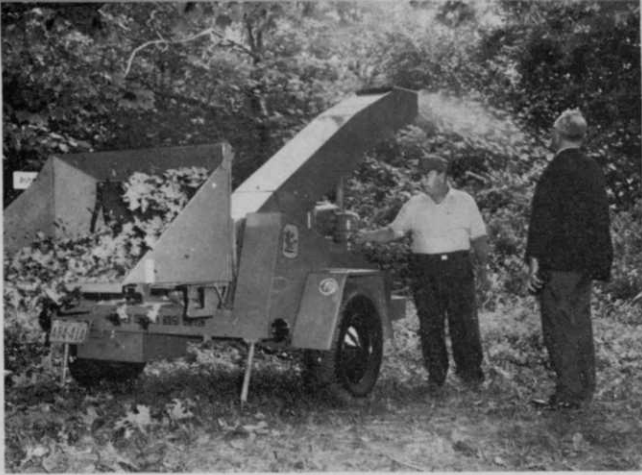
Price feels that a salesman should not be overtrained or

undertrained, but at the same time should have a good, basic knowledge of the work and sales approach. Price said that on sales calls, always made at the front door, when no one is home his salesmen leave a card to show that they are calling and are interested in the client's property.

Price says that when the sales-

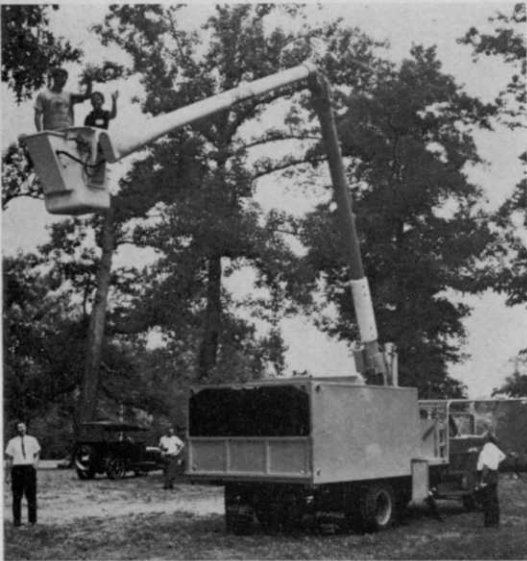
Mitts and Merrill chipper with swing-away feed chute and staggered knife pattern was demonstrated by representatives, Leon Baldwin, left, Suffern, N. Y., Gene Deas, center, Richmond, Va., and Jack Ramous, Saginaw, Mich.



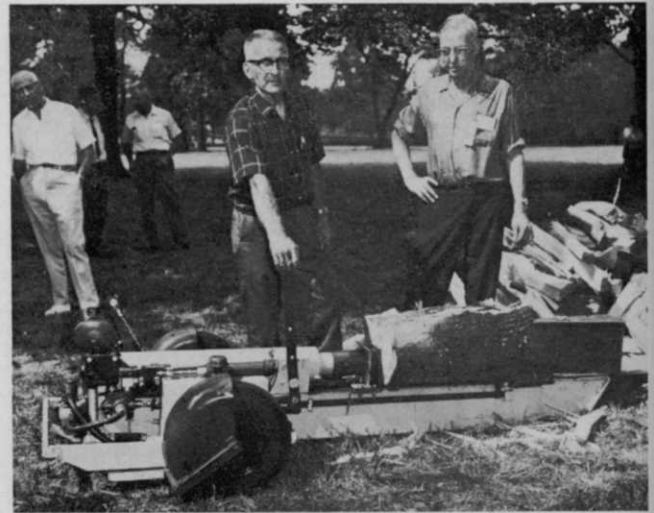


Asplundh chipper, built by Asplundh Chipper Co., Huntingdon Valley, Pa., is demonstrated here by Harold Gentile who during Conference served as chairman of trade exhibits.

and claims offer extensive work for the qualified consultant. As governments have widened streets, changed highways, and constructed throughways, Scott reported that he has found a need for an unbiased expert in the vegetation field. He has also found need for his services in settling insurance claims. He warned any arborist planning a consulting venture to be wary of the phone call from appraisers who are simply fishing for knowledge and who attempt to pick up bits and pieces of information. "We simply ask them if they wish to engage us," he



Skyworker bucket is available in heights of 26, 31, 36, and 45 feet. Comes with all fiberglass upper boom, built by Hughes-Keenan, Delaware, O.



Lickity Log Splitter built by Piqua Engineering, Piqua, O., comes in a number of sizes. Demonstrating at conference are Red Sanders, left, West Milton, O., and J. Ervin Shainline, Collegeville, Pa.

man cannot answer a client's question, he tells the client and then phones back the information.

In the Price firm, kicks are answered as fast as leads. Many complaints are mere misunderstandings. These, Price feels, need to be settled at once, to keep the customer happy, to keep him from talking to his neighbor, and to insure repeat sales. Service sales and repeat sales involve the entire spectrum of selling, Price believes. Salesmen are expected to follow through on each sale, insuring satisfied clients.

A bit unique on the Conference program was a discussion on operation of a consulting service by Norman J. Scott, owner of the Canadian Horticulture Consulting Company of Willowdale, Ontario, Canada. Scott who formerly operated Brookdale Kingsway Nurseries at Bowmanville, Ont., found after selling out his business that he tired of retirement.

Much of Scott's consulting

work consists of tree information, but he finds that as is true with most arborists that he deals in a number of phases of horticulture. With values in the economic world changing, Scott has found the public, especially corporations and governmental units, willing to pay for technical information relating to the field. Many arborists dispense advice freely with no thought of remuneration for this service. Such, Scott says, is not true of most other professions.

Scott told ISTC members and arborists that he had found a definite need for a consulting service in the horticultural field to work closely with architects on the outdoor aspects of business and municipal construction. The landscape architect, he said, does not fulfill this requirement.

Appraisals and valuations as they apply to expropriations



Lynn Partee, left, Blume System Tree Experts, Houston, Tex., receives Class I safety award from NAA safety division chairman, Glenn Burns. Blume won the award for companies with 100 or more employes for the 7th consecutive year.



Clarke W. Davis, left, executive-secretary of NAA, chats with newly elected president, Kenneth P. Soergel, Soergel Arborists, Gibsonia, Pa., center, and outgoing president, Harry A. Morrison, Wilmette, Ill.

with illustrations to assure identification. Among the most severe diseases this past year in Pennsylvania, according to Professor Nichols, was anthracnose on sycamore. Trees showed early symptoms which resembled frost injury. Sparse foliage, except for tufts of healthy leaves at the tips of the upper branches was also typical. Fortunately, he said, most trees recovered and sent out new crops of normal leaves. Much of the early infection could

said, "if not, no discussion about the problem."

Another phase of the business which has proved valuable is a contract he has with a large department store. This store with several hundred outlets seeks his advice on handling, care, and selection of their retail horticultural stock.

Scott has found that university staff personnel are pleased to assist him on a fee basis. He believes that consulting work offers an opportunity for the trained arborist with experience, but does not recommend it for a young man just out of college. He warns that the consultant cannot become personally involved but must rely on his judgment and professional knowledge. Also, he told the group that the consultant must stick to consulting problems only, keeping away from landscape planning and other similar areas.

Tree culture sessions, several of a workshop nature, made this

NAA board members, with the exception of newly elected Hyland Johns, Jenkintown, Pa., are: left to right, front row, Harry A. Morrison, Wilmette, Ill.; Kenneth P. Soergel, Gibsonia, Pa.; Riley Stevens, Portland, Ore.; and back row, Paul R. Walgren, Jr., Hamden, Conn.; William A. Rae, Arlington, Mass.; William P. Lanphear III, Cleveland, O.; and Glen Burns, Canton, O.



43rd Conference among the most productive for arborists. Typical of discussions was that of Professor Lester P. Nichols of the department of plant pathology at Pennsylvania State University, University Park, Pa. He demonstrated tree disease problems

have been prevented, Professor Nichols stated, by a single application of a phenylmercury spray at bud-break.

A rather common tree problem today is injury from salt used to deice roadways. Professor Nichols said much of the damage does not come from salt drainage, but from salt spray

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Entertainment and Hospitality Chairman George T. Lewis, center, Lewis Tree Surgeons, Media, Pa., directs new Conference arrivals Mr. and Mrs. Marshall Sutherin, Sutherin Bros., Memphis, Tenn., about town.

Pitman chipper built by Pitman Manufacturing Co., Grandview, Mo., features according to the maker, shallow cutting action, unique self-aligning cutting blade and emergency safety brake.



Meeting Dates



Arizona Agricultural Chemicals Association, Annual Meeting, Arizona Biltmore Hotel, Phoenix, Ariz., Oct. 12-13.

Industrial Weed Control Conference, Texas A&M University campus, College Station, Tex., Oct. 22-24.

New England Agricultural Chemical Conference, New Hampshire Highway Hotel, Concord, N.H., Oct. 24-25.

National Agricultural Chemicals Association, Annual Meeting, Holiday Inn, Palm Springs, Calif., Nov. 5-8.

American Society of Agronomy, Annual Meeting, Sheraton-Park and Shoreham Hotels, Washington, D. C., Nov. 5-10.

Texas Fertilizer Association's 1967 Agricultural Exposition, KoKo Inn, Lubbock, Nov. 9-10.

Fertilizer Industry Round Table, 17th Annual Meeting, Hotel Mayflower, Washington, D. C., Nov. 15-17.

Entomological Society of America, Annual Meeting, Hotel New Yorker, N.Y.C., Nov. 27-30.

National Fertilizer Solutions Association, Annual Convention, Denver-Hilton Hotel, Denver, Colo., Nov. 28-30.

National Aerial Applicators Association, Annual Conference, Marriott Hotel, Dallas, Tex., Dec. 3-5.

North Central Weed Control Conference, Civic Auditorium, Fargo, No. Dak., Dec. 5-7.

Illinois Turfgrass Conference, University of Illinois campus, Urbana, Ill., Dec. 7-8.

Ohio Turfgrass Foundation Turfgrass Conference, Sheraton-Cleveland Hotel, Cleveland, O., Dec. 11-13.

Northeastern Weed Control Conference, Hotel Commodore, New York, N. Y., Jan. 3-5.

Virginia Turfgrass Conference, Virginia Turfgrass Council and V.P.I., Golden Triangle Motel, Norfolk, Va., Jan. 23-24.

California Weed Conference, 20th Annual, El Rancho Hotel, Sacramento, Calif., Jan. 22-24.

Weed Society of America, 1968 Meeting, Jung Hotel, New Orleans, La., Feb. 6-8.

American Sod Producers Association, First Annual Meeting, In conjunction with Golf Course Superintendents Assn. Convention, San Francisco, Calif., Feb. 18-23.

ISTC Report (from page 20)

whipped up by passing traffic. Because such problems do not fit the general pattern of pathogenic symptoms which plant pathologists and arborists normally seek, they are sometimes difficult to diagnose. Therefore, he urged arborists to keep records of weather, or at least the unusual weather conditions, of spray applications of pesticides and wood killers, of the use of wood preservatives on fences near shade trees, of the laying of gas or water lines, and the use of salt on roads near trees. Such records help since many times the non-pathogenic factor which caused the problem occurred earlier than the resulting damage. There is an answer to every tree problem, Professor Nichols said, if the clues are carefully sought out and used for diagnosis.

Woody Species Are Now Problems

Woody species which are resistant to the standard stem foliage spray of 2,4-D and 2,4,5-T have become problems on utility rights-of-way during the past few years. J. W. Kirch, Amchem Products, Inc., Ambler, Pa., discussed steps his company has taken to develop prescription vegetation control. Kirch said that with species susceptible to the standard stem sprays largely killed out, that resistant perennials such as milkweed, horsetail, and chickory, along with woody vines such as honeysuckle, kudzu and trumpetvine have taken over. Several new compounds, he said, have been found effective on these hard to kill species. Small amounts of the new compounds mixed with 2,4-D or 2,4,5-T will clear the right-of-way without substantially adding to the cost.

Cold hardiness in plants is a subject of great importance to the arborist, especially injury during the winter period. Dean R. Evert, horticultural graduate assistant at the University of Minnesota, St. Paul, Minn., reviewed physiological changes which occur as plants harden during the fall. Changes occur

during a 2-stage process in the fall season. The first stage of cold hardiness begins in late summer, triggered by the decrease in day length. The second more intense stage comes with freezing temperatures. Spring growth then breaks the period of hardiness. Since little is known about winter injury, Evert reported that no strong recommendations can be made to guarantee freedom from winter injury. However, he did say that it is important to use materials which are known to be locally hardy. When this is not possible, Evert suggests selecting materials from a similar geographic area or from one which has a more severe climate. In all plants, he said, because energy is needed by the plant to harden, it is necessary to maintain a good level of food reserves during hardening. This means as much light as possible and adequate water. Finally, Evert said that the fertilizer program should be such that late fall growth is discouraged by keeping the levels of nitrogen and phosphorus low during hardening.

Dr. Philip L. Rusden, plant pathologist at Bartlett Tree Research Laboratories, Stamford, Conn., reports that his company has been expending considerable effort on drought effects. How this problem which has been common in eastern sections of the nation for the past several years can best be handled is of considerable economic importance to the industry. Drought can breed drought, Dr. Rusden said, the same as we can expect a series of wet seasons to breed wet seasons. Not only do the records prove these points, but meteorologists have established a scientific basis for this natural phenomenon.

To bring the problem into focus, Dr. Rusden reminded arborists that an acre inch of water weighs about 100 tons. An inch of water on one square mile amounts to about 65,000 tons. In an area such as the Northeastern U. S. where foliage normally enjoys an average rainfall of 44 inches per year, a drop in rain-

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Insect Report

WTT's compilation of insect problems occurring in turfgrasses, trees, and ornamentals throughout the country.

Turf Insects

FALL ARMYWORM

(*Spodoptera frugiperda*)

Georgia: Light on golf greens in DeCATUR County.

A FLEA BEETLE

(*Chaetocnema* sp.)

California: Adults heavy on dichondra lawns at Escondido, San Diego County.

A FALSE CHINCH BUG

(*Nysius* sp.)

Nevada: Heavy in yards, lots, and rangeland in southern Washoe County.

AN OLETHREUTID MOTH

(*Bactra verutana chrysea*)

California: Larvae and pupae heavy on 5 acres of nutgrass at Orland, Glenn County.

A SOD WEBWORM

(*Crambus* sp.)

Oklahoma: Heavy on lawns in Altus, Jackson County.

Insects of Ornamentals

AZALEA CATERPILLAR

(*Datana major*)

Georgia: Heavy on azaleas in Camden and Clarke Counties.

AZALEA LEAF MINER

(*Gracillaria azaleella*)

California: Heavy on azalea plants in Danville, Contra Costa County.

TEA SCALE

(*Fiorinia theae*)

Florida: All stages moderate on 50 percent of 200 camellias and 80 percent of 100 Burford holly plants at nursery in Longwood, Seminole County.

WHITE PEACH SCALE

(*Pseudaulacaspis pentagona*)

Florida: Moderate on stems of 87 nursery plants of golden raintree (*Koelreuteria* sp.) at Lake Helen, Volusia County.

AZALEA WHITEFLY

(*Pealius azaleae*)

Ohio: Moderate to heavy on 8,000 plants in Lake County.

Tree Insects

ELM LEAF BEETLE

(*Pyrrhalta luteola*)

California: Eggs and larvae heavy on elm in San Jacinto, Riverside Coun-

ty. This is a new county record. Adults heavy on cottonwood in Twain Harte, Tuolumne County. Heaviest in State for past several years. **Nevada:** Damage very heavy to elms in Caliente, Lincoln County. **Utah:** Damage heavy to elm foliage in Fillmore area, Millard County. This is a new county record. **New Mexico:** Heavy on elms in Roswell, Chaves County. This is a new county record.

SMALLER EUROPEAN ELM BARK BEETLE

(*Scolytus multistriatus*)

Colorado: Heavy on American elm near Canon City, Fremont County.

LOCUST BORER

(*Megacyllene robiniae*)

Ohio: Larval mining serious problem on black locust in southeastern and east-central areas.

ENGRAVER BEETLES

(*Ips* spp.)

Georgia: Heavy on pines in Worth and Tift Counties.

BOXELDER LEAF ROLLER

(*Gracillaria negundella*)

California: Severe on boxelder in Alturas, Modoc County; browning widespread.

COMSTOCK MEALYBUG

(*Pseudococcus comstocki*)

California: Heavy on fruitless mulberry trees (*Morus* sp.) Delimiting survey shows many mulberry trees and very few catalpa trees infested. Mulberry severely damaged.

NANTUCKET PINE TIP MOTH

(*Rhyacionia frustrana*)

Oklahoma: Damage heavy in ornamental pine plantings in Mayes County.

FALL WEBWORM

(*Hyphantria cunea*)

Wisconsin: Heavier than normal in State; many half-grown and some full-grown larvae. Webs larger than usual. **Iowa:** Heavy on elm, ash, and walnut in southeast area; up to 5 webs on some trees. **New Mexico:** Heavy on shade trees at Fort Stanton, Lincoln County; ranged 10-20 webs per tree on walnut.

Compiled from information furnished by the U. S. Department of Agriculture, university staffs, and WTT readers. Turf and tree specialists are urged to send reports of insect problems noted in their areas to: Insect Reports, WEEDS TREES AND TURF, 1900 Euclid Ave., Cleveland, Ohio 44115.

ISTC Report

(from page 26)

fall shows the tremendous pressure placed on large trees. A lack of one inch of water can add up to a serious threat in a very short time. Man, Dr. Rusden said, appears to be somewhat guilty of accentuating drought by paving, draining land, and just walking around. New parking lots, highways, airports and housing developments all contribute to the pressure of foliage.

Conservation of Water Is Important

Since, for practical purposes, we cannot make it rain, Dr. Rusden suggests that conservation of available water is a step toward helping solve the problem. The technique of subirrigation helps trees suffering from drought. Such irrigation helps by putting water into the soil, especially when nutrients in solution are added, by aerating the soil, and by breaking up compacted soils.

Surface watering is also helpful where a source of local water is available. Mulches are familiar and help greatly by holding water loss by evaporation to a minimum and in keeping soil in the root zone cooler and more moist. Anti-desiccants or anti-transpirants in the form of plastic or wax preparations also help reduce water loss. Dr. Rusden also mentioned the use of mechanical barriers to protect plants from sun, especially during moving. Pruning can also help a drought stricken tree, Dr. Rusden said. A small root system cannot support a large crown. Thus reduction of the crown relieves pressure on the roots to supply moisture. He related that at the Bartlett Tree Research Laboratory that some trees were pruned over a 30-year period. Trees that normally would have been 40 feet in height were kept to about 12 feet. Dr. Rusden implied that more water short years are in sight and called for additional research on the problem.

Root systems of deciduous trees are quite different than most people believe, according to

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Classifieds

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 1900 Euclid Avenue, Cleveland, Ohio 44115.

Rates: "Position Wanted" 5c per word, minimum \$2.00. All other classifications, 10c per word, minimum \$2.00. All classified ads must be received by Publisher the 10th of the month preceding publication date and be accompanied by cash or money order covering full payment.

FOR SALE

1955 HALE CENTRIFUGAL, 60-gal./min., 600-lb. sprayer, with approximately 200 ft. of 3/4" and 1/2" hose and 2 guns. Brouse Bros. Nursery, Potshop Rd., R.D. 1, Norristown, Pa. 19401. Phone 275-5682.

HELP WANTED

FORESTER. B.Sc. 1963. Single, age 27. Military obligation fulfilled. Seeks position in right-of-way maintenance utilizing chemical brush control and total vegetation control experience. Résumé and references on request. Write Box 28, Weeds Trees and Turf magazine.

Head Greenskeeper—City of San Jose. \$7,848-\$9,552. Position involves supervision of construction, care and maintenance of Municipal Golf Course. High school graduation, plus 5 years' experience in golf course maintenance, including one year in a supervisory capacity. Apply Room 211, City Hall, 801 N. First St., San Jose, Calif. 95110. An Equal Opportunity Employer.

PARK MAINTENANCE MANAGER, Fairmount Park Commission, City of Philadelphia, Salary \$10,175-\$12,691. Administrative divisional head position, under general supervision of Park Director in large diversified city-wide park system of seven thousand acres. Involves planning and directing maintenance services for grounds (parkways, fountains, drives, streams and river frontage, squares); buildings (including historic homes and museums); and recreation facilities (five golf courses, swimming pools, nine day camps). The manager is responsible for supervising specialized subordinates who direct a large trades force and related personnel. Some budgetary knowledge necessary. Applicant should possess a college degree with major course in park management, horticulture architecture or a related field, and three years of experience in management or supervision of the maintenance and upkeep of a large park system, including a variety of park facilities and buildings. Additional experience in lieu of the required years of education will be considered. Forward applications to: Andrew Dehel, Personnel Officer, Fairmount Park Commission, Belmont Office, West River Drive, Philadelphia 31, Pennsylvania.

ISTC Report

(from page 28)

Dr. Benjamin B. Stout, of the department of horticulture and forestry, Rutgers State University, New Brunswick, N. J. Dr. Stout exploded two common myths which people believe about trees. First is the dumbbell concept of shape. Most people, he said, conceive of the tree as having comparable sized crown and root systems which are about the same shape. These form the bells, and the trunk forms the handle. Beyond the seedling stage, there is little evidence to support this, he said. The second myth is that every tree has a taproot. Such is not the case, according to Dr. Stout. In his studies at Harvard Black Rock Forest, Cornwall, N. Y., he found that rooting systems vary greatly between species and within the species itself. The root system largely depends on the site where the tree is growing.

Generally, Dr. Stout said, the lateral spread of the root system is greater than the spread of the tree crown. Crown spread is usually less than tree height, which is less than root length. Further, the direction of root spread is not predictable. It may be evenly distributed around the trunk but is more likely to spread toward the more favorable moisture supply.

Grafting of roots between trees depends largely on density of roots within a species, nearness to base of the tree, and depth of soil. For example, Dr. Stout reported on 2 white oaks growing only 4 feet apart. More than 20 root grafts were counted. But 5 feet beyond the base of these trees no grafts were found. Roots from nearby trees of other species did not graft with the white oaks even though their roots grew through the white oak systems.

Of 25 trees in one study, Dr. Stout found that the lateral spread of the root systems averaged 4½ times the crown spread. He believes that rooting habits, both depth and lateral, are related to species and site. Generally, he said, rooting depth

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proved to be quite shallow, usually 4 feet or less with roots concentrated in the upper one foot or so of soil. Because of this relationship and balance, Dr. Stout speculated that shade trees planted along streets frequently sit for years before making any significant growth. Both crowns and root systems have been severely pruned and are presumably in balance. But the large vascular system probably requires almost all the energy captured in photosynthesis for maintenance. Little is left for growth. Thus, Dr. Stout suggested that a tree needs to be balanced in 3 parts, rather than 2, the 3 being transpirational surface, vascular system, and the root system extent.

At the combination conference of ISTC members and National Arborist Association members, staged Aug. 27-Sept. 1, more than 795 persons registered. This figure included exhibitors and guests in addition to members of the two organizations.

ISTC members of the Board of Governors elected Freeman L. Parr, Parr and Hanson, Inc., Hicksville, N. Y. as president to succeed outgoing President Richard J. Campana, University of Maine, Orono, Me. Parr who last year was vice-president and normally would have moved into the president-elect position was elected president by virtue of the resignation of the 1966 president elect, C. Elmer Lee, Southern California Edison Co., Los Angeles, Calif. Keith L. Davey, president of Keith L. Davey Tree Surgery Co., Limited, San Francisco, Calif. was named president elect. Richard E. Abbott, Ohio