

A Totally New, Organic Product

(Releases the pressure of compacted, tight soils so as to allow roots to grow down deeper. Soil Rebuilder encourages grass to grow in thick and natural into bare and thin areas.) HELPS TO DEVELOP DEEP STRONG ROOTS.

In this age of ecology, Agro.Chem's organic Soil Rebuilder has been created to let nature itself breathe life into the earth.

Soil Rebuilder is a natural organic combination of plant by-products, decomposition by-products, organic extracts, bacterial by-products, and many organic complexes found in highly productive

incubated for 71/2 weeks under stringent conditions, Soil Rebuilder is guaranteed to be a pure,

productive product. When applied by sprayer, Soil Rebuilder loosens tight, compacted soils, coats soil particles with organic matter and helps develop productive soil aggregates.

At work, Soil Rebuilder increases organic matter, bacteria, bacterial decomposition and the availability of plant food and micro nutrients. Recharging the soil with life by increasing the penetration of air, water and nutrients deep within the soil, Soil Rebuilder helps Mother Nature rebuild her soil naturally

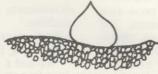
All of these reactions help develop a Deep Root System by making fertilizer work better. Soil Rebuilder lessens the need for extensive watering, fertilizing and weed control, thereby reducing maintenance costs

Soil Rebuilder is non-toxic and completely safe to use on all soils. It is harmless to humans,

pets and wildlife, too.
For improved productivity, try Agro.Chem's Soil Rebuilder. No other product can produce such dramatic, natural results because no other product is produced in such a natural manner.
Try this on your ground this year. Notice the improved results within a few weeks—water and nutrients penetrate and help fertilizer work better.

Since plant roots only absorb liquid materials, Soil Rebuilder was created to make water react in a special way. Agro. Chem calls this special water FLAT WATER. FLAT WATER is an active, live water that penetrates and recharges the soil with life-producing Fertilizer nutrients, Liquid nutrients, Air, Trace elements.

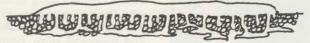
Soil Rebuilder draws these vital elements deep into the soil and root system. Bacterial action is sustained and plant nutrients are made available to build soil aggregates and improve soil texture. Result: Water, air and fertilizer penetrate faster and make soil more productive, roots are deeper and stronger. Disease and insect infestation are reduced drastically because moisture retention in the Matt and Thatch layers is reduced. Plants grow thicker, are more healthy and beautiful.



Ordinary water cannot seep into small soil openings. It just stays on the surface and evaporates.

For everything that grows in the soil, try Soil Rebuilder and all Agro.Chem products. Agro.Chem products are "productivity im-

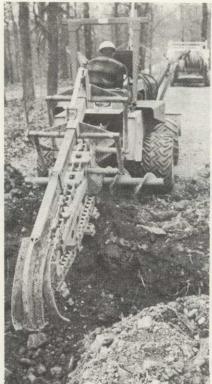
Order your performance package today. Contact Agro.Chem for nearest distributor. Phone 312/673-7500 or by letter to: P.O. Box 59225, Chicago, III. 60659.

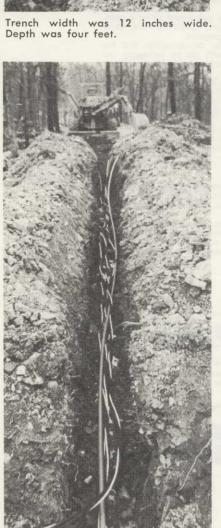


Flat water creeps and seeps into tight soils-coats soil and makes it more productive. Brings air, water and fertilizer deeper into soil to develop strong roots, healthier plants and lasting beautiful results.



Be certain to ask for Agro. Chem's Ground Care catalogue or circle number on reply card.





All the services were buried in the same trench.



The front-mounted utility backhoe was used to intersect trenches.

Lifelines To Campsite Hidden From View

OZARK MOUNTAIN campsites with all the conveniences of home—that's what Missouri's Silver Dollar City offered this season.

About 160 campsites were ready for the 1973 season and they featured electricity, water and sewer ready to be connected to the camper's trailer. Some even have a connection to hook up to telephone service.

Located in Southwest Missouri, Silver Dollar City is a recreation center in the Ozark Mountains. The city itself is a replica of an 1880's-style town featuring crafts, shows, and historical rides. Good fishing is nearby at Table Rock Lake.

One of the important considerations in building the new campsites was the preserve the natural beauty of the rugged, wooded area. So all utility service lines to the sites were buried. Silver Dollar City workmen accomplished most of the work themselves. However, trenching for the buried lines was contracted to Southwest Cable Plow Co.

Darrel Rantz, who operates Southwest Cable, used a diesel-powered R65 Ditch Witch trencher, equipped with a front-mounted utility backhoe, for most of the digging.

"We dug trench 12 inches wide,

four feet deep and buried the power and telephone cable, the water and sewer lines and a control line all in the same ditch," says Rantz.

"We used the trencher to do most of the trenches and the backhoe to intersect them. Since the hoe is on the front and the digging assembly is on the rear of the machine, we can switch from one operation to the other without losing time changing attachments or bringing in another machine."

Rantz says the area is extremely hard to dig in because of the rocks.

"We had a deadline to get 75 of the sites done before a convention", says Darrel, and we think it would have been impossibly to meet the deadline without the Ditch Witch. It would have taken six or seven backhoes to do what we did with one Ditch Witch."

The R65 is a four-wheel drive unit so it could be easily maneuvered through the underbrush and around the job site.

The total job included more than 20,000 feet of trench.

A Silver Dollar City spokesman says that another 100 similar campsites are projected for future construction.



delivers more than dirt

Dependability — You get it in critical spots like a cast-steel front axle, a cast-steel head on the dipperstick connection, a box-type loader mast with heavy pin supports. Two strong crossbars connect the loader booms. The bucket is topped with a double-thick spill sheet. Planetary final drives and sealed wet-disk power brakes are standard.

Production – Plenty of it is yours with more than 5 tons of backhoe digging force and a ¾-cubic-yard loader – on a maneuverable 77-inch wheelbase. Backhoe trenching capacity is 15 feet 1 inch, and there's 17 feet of ground level reach for fewer tractor moves.

Operating Ease — As standard equipment, you get 2-lever backhoe control, single-lever operation of loader bucket and lift arms, power steering, turn-around seat, hydraulic direction reverser and a flat open deck with sloping hoodline for full visibility. For more JD310 facts and helpful finance information, see your dealer, listed in the Yellow Pages. John Deere, Moline, Illinois.



Bulldozers and Earthmoving Equipment

Commercial Pesticide Applicators On The Move

By LEW SEFTON

Corporate Secretary International Pesticide Applicators Assoc.

THE 1973 annual convention of the International Pesticide Applicators Association was held in mid-August at the Marriott Inn, Berkley, Calif.

Host for the meeting which attracted over 100 commercial applicators from many states was the California Chapter of IPAA. Their arrangements for speakers, registration, accommodations and other delegate needs will be an incentive toward

excellence for all future hosts.

A highlight for all was the tour of spray companies in the Bay area. It permitted members to view first-hand situations which confront other commercial applicators. This year's tour included three California operators.

Of particular interest to those from the Pacific Northwest was the size and compactness of equipment. While the northern chapter members



New officers for the Association are: (l-r) Lew Sefton, corporate secretary; Bob Huntwork, vice president; Don Mock; president; and Ralph Backstrom, executive secretary.



"Create an image" said Henry Engh (above left) of Salt Lake City. Dr. Carl Koehler, University of Calif., Berkeley (center), brought much needed data on conifer problems to the convention. Dean Jamieson (right) makes insect identification interesting and fun.

of IPAA generally emphasize bigger and bigger spray pumps, tanks, and other accessories, those applicators in the Bay area use smaller units which are highly mobile.

It was clear that this type of exposure broadened the horizons of many of those present as to the latitude of this expanding market. It also brought much truth to the theory that applicators in one area of the country are interested in what applicators in another part of the country are doing.

The educational program for the meeting was one of the best presented to any group in the nation. Henry Engh, Engh Floral & Garden Center, Salt Lake City, Utah, spoke on "Public Relations and the Pest Control Industry." Known as "Hank, the Petunia King," he told those present thats his image has created a viable market for petunias. He explained how he developed this image and what he does to maintain it. Being petunia king has done more to create new business and increase profits than any other factor, he said.

Dr. Carl S. Koehler, University of California entomologist outlined insect and mite pests that attack landscape conifers. He said that one reason for insect attack is lack of water. Trees and ornamental plantings under drought conditions are more susceptible to attack, he said. He pointed out that it is believed that the infestation of bark beetles in Monterey Pines this year was brought about by stress in the trees caused by minimal rainfall. This permitted the bark beetles to take over.

Another speaker was Dr. Dean Jamieson, vector control specialist. Santa Clara City Health Department. He has the ability to make a slide presentation on insects as interesting as when a Mack Senate Serial first hit the motion picture industry. He can keep you anxiously awaiting, for a half hour, his final slide picturing a male scale insect. His dry humor and intermittent reference to that final sexy slide make you forget that you are actually learning. But, you are! Dr. Jamieson planted the seed for a better name to describe the work of the horticultural applicator. He said to call it "Plant Protection" not "Pest Control."

The next speaker on the program was Dr. Larry Galloway, management development manager for Nalley's Fine Foods, a division of W. R. Grace, Co., Spokane, Wash. Galloway

(continued on page 17)

Hold everything!



Toro has a utility vehicle on the way that's strictly utility. It's called the Workmaster, and it's got a price tag lower than you'd believe. Comes complete with hydrostatic drive, up-front seating for two, more drawbar pull than competition (that's what horsepower's all about), a longer, lower, heavier-gauge box, automotive steering, and that's not all. It's simple, rugged, reliable and easy to service — and one thing more. It's a Toro.

TORO

Here's why the Workmaster is worth waiting for!

FEATURES AND BENEFITS INCLUDE:

- Heavy-duty industrial-quality hydrostatic drive for infinite speed control, instant forward/reverse, high torque to rear wheels for drawbar pull that surpasses competition. A closed, self-lubricating durable drive system as in our Sandpro and Groundsmaster 72. No gears to change, no clutch to slip.
- **2.** Up-front seating for two provides comfortable, safe seating for driver and one passenger.
- Ease of maintenance is engineered in you don't have to empty the box to get at the battery. All frequently serviced parts (like the spark plug) are easy to get at.
- 4. Automotive controls and more leg room for operator front wheel returns to straight-ahead position when steering wheel is released. The Workmaster requires less learning time, gives greater security and comfort than competitive machines.
- 5 Oversize rear tires for greater hill climbing ability and sidehill stability.
- Lower center of gravity long, wide wheelbase; low box bed-height for greater safety and stability, less lifting.
- 7. High capacity box carries existing engine-driven top dressers and sprayers, and earns the name Workmaster on all kinds of hauling jobs.
- **8** A price tag lower than you'd believe you don't pay for things you don't need. The Workmaster is plain and simple with heavy-duty design, construction and components.

GENERAL SPECIFICATIONS*

ENGINE: Kohler air-cooled, 4 cycle - 14 H.P. at 3600 R.P.M. — 23.5 foot pounds of torque at 2200 R.P.M. — 31.27 cubic inches of displacement — compression release - Stellite faced valves - positive rotators on valves - heat treated crankshaft - 12 volt electrical system

FUEL CAPACITY: 8 hour fuel supply WEIGHT: approximately 900 pounds

BRAKES: 7" x 134" hydraulic drum brakes with parking brake on rear wheels - dynamic braking to the rear wheels through the hydrostatic transmission optional hydraulic drum brake for the front wheel

GROUND SPEED: 0-10 M.P.H., infinitely variable

GAUGES: ammeter and fuel gauges standard - hour

LOAD CAPACITY: 1000 pounds plus operator

SUSPENSION: full spring suspension on all three

TIRES: rear tires - 23 x 8.50 - 12 - 4 ply - front tire - 18 x 8.50 - 8 - 4 ply

PROPULSION: infinitely variable hydrostatic transmission coupled to an automotive type differential

SEAT: full side by side seating for two BOX SIZE: approximately 3' wide x 4' long

OPTIONS: hour meter - front wheel brake - folding ramp-type tailgate - headlights



(Our competition's green with envy!)

Specifications and design subject to change without notice. Toro is an exclusive trademark of The Toro Company.

brought out his points in better management by first mentioning some of the good management concepts practiced by everyone. This makes you feel so good that you are anxious to absorb the things you aren't doing right.

Plant pathologist Dr. David Schlagel, University of California, emphasized the need for ornamental applicators to apply agricultural research in their work. "There are no integrated control techniques for garden use," he said. "They are all based on agriculture."

He referred to "residues in the environment that people get worked up about." This is really the pesticide issue which has gained so much publicity on the west coast.

Robert Kuykendall, training program specialist for new applicators, then reviewed what is happening currently in the Environmental Protection Agency. He pointed out that EPA is setting minimum standards and will accept state regulations for environmental protection chemicals en toto as long as they meet these Federal standards. EPA is currently holding public hearings at which applicators may present arguments for or against proposed rulings as outlined in the Federal Environmental Pesticide Control Act.

Dr. Bob Raabe, plant pathologist, University of California, then told the group about the latest advances in the use of systemic fungicides. He said that these new materials do not move throughout the entire plant. Those currently on the market generally exhibit upward (xylem) and outward movement to the leaf



In addition to the tour of member facilities, delegates viewed commercial displays of equipment and chemicals within the meeting room. This complete spray unit was for sale and ready to go.

tips and margins and not downward (phloem) movement. He said that hardened parts of the plant do not pick up materials well.

During the following day's discussions Del Kennedy of the J. J. Mauget Company, Burbank, Calif. explained the Mauget tree injection process and the various products which may be injected into trees for better, sustained growth. He also pointed out how these products could be used to enlarge an applicator's business and augment the services which he currently provides.

This year the International Pesticide Applicators Association present a Distinguished Service Award to Lew Sefton for his contribution and service as executive secretary and editor of the association and its newsletter, The Professional Applicator.

In addition, ladies attending the convention were treated to a Bay cruise to Tiburon, a quaint little suburb. As part of their tour, the women saw the San Francisco skyline, prisons, bridges, had lunch at an exotic restaurant, and shopped on a little "atmosphere" street in one of the older parts of the city.

Don Mock and Bob Huntwork were re-elected president and vice president, respectively, for the 1973-74 year.

Other officers and board members are: Bob Skanes, Tacoma, Wash.; Jack Daniels, George Harrison, Rod Fairbanks, Stan Raplee, all of Seattle, Wash.; Bill Gildroy, Lake Stevens, Wash.; Lew Sefton, Lake Oswego, Ore.; Garry W. Mulkey, Junction City, Ore.; Bill Owen, Clackamas, Ore.; Charles Seibold, Milt Ellis, Ray Collier, all of Portland, Ore.; Jim Stevenson, Oakland, Calif.; Paul Walker, San Diego, Calif.; Jim Osborn, Danville, Calif.; Alvin Wallman, Sonoma, Calif.; and Don Caldwell, Salt Lake City, Utah, member-at-large.



"Distinguished Service Award" was presented to Lew Sefton (r) by Don Mock as IPAA first exec. sec. and editor of the newsletter, The Professional Applicator.



Don Mock was re-elected president of IPAA for the next year. Through his leadership the organization plans to build an active membership campaign to include applicators from many other states across the country.

From Common Laborer

By DICK WOODS

IT ALL STARTED when I enrolled as a two year student in the Agricultural Technical Institute (ATI) in Wooster, Ohio.

My goal was to become better qualified in horticulture, and more specifically the areas of landscape design, turf management and arboriculture. After a year in the program, I'm convinced I made a good decision. These are the dividends I expect to receive: an Associate Degree in Applied Science; learn a trade; and, study under some of the best professors, instructors and businessmen in the field.



One of my early jobs was planting nursery stock. We're ready to place this tree in a customer's yard here.



Insect and disease control are important considerations to homeowners in northern Ohio. I learned how to apply chemicals for their control.

Editor's Note: Dick Woods is a student studying for an associate degree in applied science at the Agricultural Technical Institute, Wooster, Ohio. He is typical of the young men across the country who are entering the Green Industry today. This article was written for WEEDS TREES AND TURF by Dick to express his appreciation for the training he is receiving and to tell others about his experiences.

I was a little naive at first, I didn't know what was in store for me. I can say now that I've worked



Landscaping is a lot of "fun" when you are knee deep in mud on a cold April morning.



Some of the equipment I learned to operate included this boom. It is useful in removing large dead limbs from

some of the hardest and longest hours in my life, but felt some of the greatest feelings of accomplishment. Let me tell you about some of them.

My school courses are pretty much what students in the beginning years of college are exposed to, math, chemistry, business management and other subjects. In addition, ATI is also exposing me to courses in turfgrass culture, horticulture, arboriculture, landscaping, nursery management, propagation of woody ornamentals - all of which I know will be put to use when I graduate.

Perhaps the part of my studies that needs the greatest amount of explanation is the earn/learn occupational internship program. This is where the student works for 18 weeks with an established business in the field. The company must be located in Ohio and approved by ATI. It is something like on-thejob training.

Because of my interest in landscaping and arboriculture, my professor, J. E. Kinsey, suggested that I talk with Larry Holkenborg of Larry Holkenborg Nursery, Inc., Sandusky, Ohio.

I first met his full-time foremen. Paul and John Leimeister. This gave me a chance to see how the company operated from an employee's view. They gave me a copy of the Company Policies to read and understand. Paul said that all employees are given these policies in order to maintain a position with Holkenborg Nursery. I asked many questions about what they did and they, in turn, asked me what I wanted in the way of a job. Then I met Larry, who by the way is a landscape arborist and a landscape horticulture graduate of Ohio State University.

After spending the better part of the afternoon going over aspects of the business, we decided to make the final decision on my internship position pending housing facilities and a favorable report from Larry's foreman.

Everything worked out fine, because at the Ohio Short Course last January, Larry, Professor Kinsey and I signed the contract. It was agreed that Larry would provide the best training possible in all related fields, would change my job duties at various times for maximum exposure to the business and explain and dis-

To Foreman In 3 Months

cuss other aspects of the job.

I first arrived to work on March 26. In about as much time as it takes to remove a tie and put on a pair of gloves they had me planting and selling nursery stock. I began digging trees and shrubs to place in show beds for immediate delivery to customers. Paul Leimeister showed me how to properly dig a tree or shrub. It was work, but after many days of digging I learned how to do the job well. I even learned some of the short cuts to this phase of the business.

As the weather became warmer and more predictable, we began the initial spring lawn cleanup program. This involved power raking, mowing, fertilizing and general cleanup of lawns and border shrubbery. This job became boring to me as time went on, but the end result was always a beautiful lawn.

When lawn cleanup jobs were

completed in May, all of us began planting trees and shrubs. Larry would explain to me different shrubs to use in various landscape situations. He demonstrated the correct way to plant an ornamental. As expected, I didn't always plant them correctly at first. That's when the most learning was gained; the job would have to be done over until it was right.

The details of my various assignments under Larry Holkenborg would fill a book. Larry is a perfectionist; any job I did had to be done right or I quickly found myself doing it over and over again.

Before I was promoted to temporary foreman, my assignment was to design and implement a landscape plan.

That's when the "fun" began.

My responsibilities were: all work be completed as prepared by the landscape design, proper planting depth and watering of shrubs as previously learned; being sure that the area was cleaned up after work; leaving watering instructions with landowner for newly planted stock; preventive maintenance on equipment; and making out the daily work order for the jobs completed each day. This also involved getting the customer to sign off the job on these work orders and writing a report.

I found that one of the greatest challenges I've experienced in my 19 short years is being a foreman over men twice my age. It made me put myself in their place when I would assign various jobs to be done. I had to ask myself if I would do this job or that job. I quickly realized that being a foreman is no picnic!

All the while, Larry's right-hand men, Paul and John Leimeister, kept (continued)

Ohio's Earn / Learn Concept

Stretching technology to fill a need is the objective of the new Agricultural Technical Institute (ATI) in Wooster, Ohio. Billed as the only two year technical institute in the U. S. devoted entirely to agriculture, ATI serves a state-wide function, drawing students from all corners of the state and many from out of state.

Ornamental horticulture is one of the largest enrollment areas, although the 450 students attending ATI this fall may pursue any one of 15 agricultural programs. The horticultural areas of specialization include: floriculture and greenhouse management; landscape design, construction and contracting; turf management; and nursery management.

As part of these cirricula, students take basic courses such as math, chemistry, botany and communications. All take five courses dealing with agricultural business to help them become more proficient at personnel, money and materials management. Technical preparation courses include: plant materials, plant propogation, landscape design, landscape construction, turf management, diseases and pests, mechanics, ir-

By J. E. KINSEY, Asst. Professor Horticulture Agricultural Technical Institute, Wooster, Ohio

rigation and drainage, garden center management, arboriculture and nursery management.

An earn/learn occupational internship is required before the student receives his Associate Degree in Applied Science. It takes 18 weeks of on-the-job training with cooperating horticultural businesses and industries. Supervision includes activity reports and a term paper by the student, evaluation by the employer and visitations by the instructor.

The first internship program at ATI was so successful that half of



My professor, J. E. Kinsey (r) reviews my landscape designs in a classroom at ATI.

the 50 students in the horticulture areas were offered permanent jobs when they graduated.

While affiliated with Ohio State University and the Ohio Agricultural Research and Development Center (OARDC), ATI basically stands on its own feet. It has a thirty acre campus and a \$3 million physical facility. Maintenance and landscaping responsibilities are detailed to students, including the greenhouse, turfgrass plots and greens, and ornamental gardens. Students also operate all the equipment needed to maintain the areas.

As further development, students attend many conventions, trade shows, field days and clinics as well as field trips to visit industry. Guest speakers are frequently invited to discuss industry problems.

ATI has helped fill the void between the top level ownershipmanagement and the laborer as middle eschelon managers, foremen and supervisors in Ohio. Programs in other states are also accomplishing goals, too. Through this effort, the Green Industry can be assured of having qualified and trained leaders in the future.



After you are tied into a tree, a climber can easily work without fear of falling. I'm pruning this tree up near the top. Note that I'm tied into a main leader.

teaching me new and better ways to complete different jobs in a shorter amount of time. It's one thing to learn out of a textbook or by experience, but quite another to be taught by an expert such as Paul. With the Sandusky area as my classroom and Paul as my teacher, I was able to pick up his excellent techniques.

Paul would demonstrate how to prune shrubbery and then stand back and observe while I tried it. When I'd make mistakes, he'd correct me and coach me until I got it right. This showed that they really cared for the best job possible. Pruning is not an easy job; it requires much time and patience. But as Larry says, "A good job only takes a little longer."

In June we started tree pruning. I was a real rookie at this job, since I'd only climbed one other tree in

my entire life. John first showed me how to tie the basic knots used by arborists. I was all thumbs at first, but slowly I was able to tie the various knots. Then he showed me the safest ways to move about while in a tree. This was one area in which Larry is very strict. He was always teaching and showing the safest ways to get a job done. I can honestly say that safety was foremost in every job I did during my internship.

Larry supervised my tree climbing training like an eagle. He watched my every move, commenting where I put my feet, how I tied myself in, where to place a rope, which limb to throw a rope over, etc. For a while I thought I would go "bananas." But Larry's interest in my safety paralleled my own concern for my safety. I had no desire to fall out of a tree. So

I paid close attention to what he told me. Larry has written a paper on the safe climbing technique. He feels a man should always be tied in when climbing a tree. (See WTT, Aug. 1972 P. 20)

Once I felt at ease in a tree, we got down to learning the job to be done. One of the most important and useful steps learned was that of making flush and proper cuts. It looks easy, and it is if you know how to do it. However, good instruction is a must.

Next, I was taught how to operate the company's boomtruck and hydraulic stump remover. Experience with every piece of equipment in their inventory was my objective. Over the period of my internship I believe I satisfied this.

In late June I was promoted to fulltime foreman. I'd had a taste of this in May and now Larry decided I was ready for the big time. Most of my jobs involved landscaping, although I did do some nursery and tree work. My foremanship taught me to look at each individual as a completely different person. I found that each had different ideas and each expected different performances than the next person.

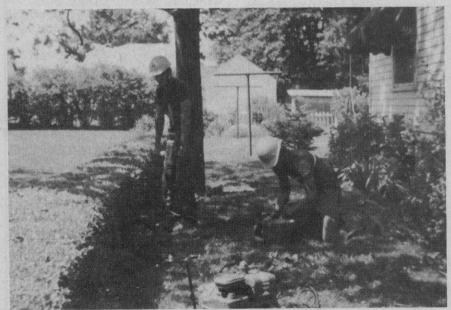
I also discovered that having all the responsibility was not as easy as it looked. There always seemed to be a new problem to solve or a decision to be made. I grew to understand why Larry, John and Paul has spent so much time in properly teaching me the "tools of the trade."

Larry Holkenborg is the kind of guy who doesn't believe in training a man from 8 a.m. to 5 p.m. five or six days a week. No sir! He expected me to "burn the midnight oil," too. By the beginning of June, I had received my certificate from the National Arborist Association for completion of eight lessons in Series I of two series of the Home Study Program.

I was also accepted as a student member of the International Shade Tree Conference, Inc. Larry took me to the meeting of the association's Ohio Chapter and later made it possible for me to attend the 49th annual meeting of ISTC in Boston. I consider this a highlight of my internship. It let me rub shoulders with true professionals in the field and opened my eyes to the great challenges confronting this dynamic Green Industry.

Completion of my training came in July. It was time to return to school and to the books. I knew that while my on-the-job training was drawing to a close, my training and

(continued on page 32)



Part of my training involved deep root feeding. Larry and Paul showed me how to operate the drill and how to fill holes with fertilizer. Deep root feeding is an important step to proper tree care.