



Government News / Business

EPA is proposing new federal standards to protect agricultural workers from pesticides, in addition to safety precautions now required on container labels. The proposed standards include: barring all persons but applicators from a field being treated; barring entry to the field for 12 hours after treatment unless the worker is wearing protective clothing (48 hours in the case of 13 listed pesticides); and various restrictions on preharvest operations in a treated field.

A U. S. Forest Service plan to defoliate some 2½-square miles of national forest lands in Wisconsin has encountered strong opposition from local environmental groups. The Forest Service plans to spray 32 areas with 2,4-D and 2,4,5-T to kill scrub oak and other broadleaf trees that are depriving red pines of light they need to grow. Forest officials say there is legitimate concern over effects of the chemicals, but applicators will be following standards even more strict than those set by EPA. The pesticides have been used more than 20 years as vegetation control for highways, railroads and industrial applications.

The Federal Energy Office has issued new rules on industry exclusions from petroleum allocation. Regulations apply primarily to fuel oil consumers but could be applied to other petroleum products should another shortage situation arise. Ornamental shrub and tree services is the only category excluded from the regulations under the new listing. This classification is defined as: "Establishments primarily engaged in performing a variety of ornamental shrub and tree services." It includes arborists services, ornamental bush and tree planting, pruning, bracing, spraying, surgery, tree trimming for public utility lines and utility line tree trimming services.

EPA's Office of Pesticides has retained CONSAD Research Corporation, Pittsburgh, Pa., to study and determine the extent of urban pesticides runoff. CONSAD plans to describe the use and time of use of pesticides in urban areas and the extent of runoff; evaluate the direct and indirect impact on the environment resulting from urban pesticides runoff with emphasis on the pathways to the aquatic environment; and recommend systems which will control the subsequent loss of properly applied pesticides.

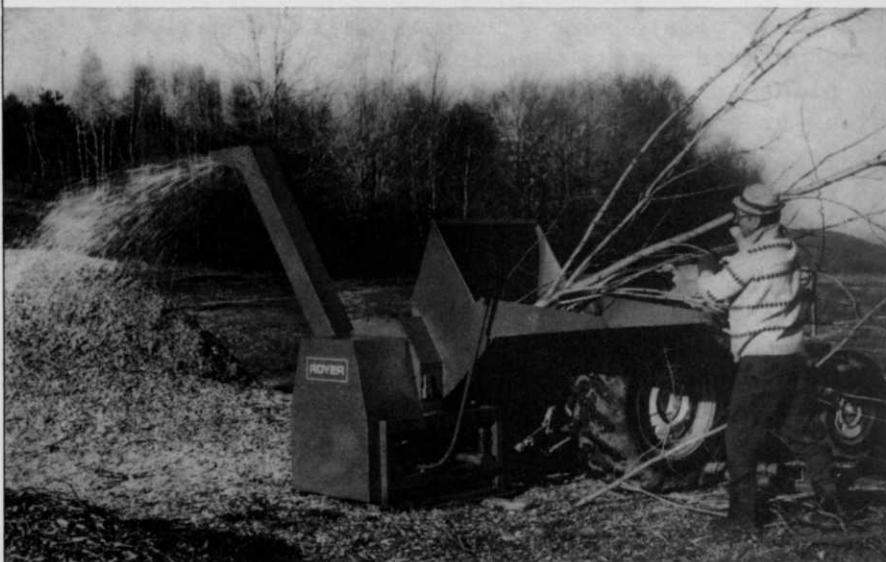
OSHA boss, John H. Stender, citing U. S. Public Health Service statistics, said the death rate from occupational diseases--100,000 per year--is seven times higher than the rate of on-the-job accidents. He said OSHA and its research arm, the National Institute for Occupational Safety and Health (NIOSH) of the Department of Health, Education and Welfare, have started a \$3.5 million crash program to develop complete standards for 400 of the most toxic substances. U. S. Department of Labor also says it will assist states operating federally-approved job safety and health programs in investigating catastrophic and other unusual accidents.

Regulations to administer experimental use permits have been proposed by EPA for unregistered pesticides or pesticides with restricted registration. The regulations are designed to allow limited use of a pesticide which may provide substantial pest control benefits, while generating data on the pesticide's effects on the environment.

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Royer's new "2600" Series Chippers are designed to be a lot easier on your budget and your ears. They provide an exceptionally fast, low-cost way to convert brush, branches, trimmings and stalks into chips. And, they're specifically designed to meet the needs of small commercial applications . . . are available in both PTO (three-point-hitch for tractor operation) and self-powered models.

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Here's how it works: As material is placed in the deep-throated hopper, the rotating anvil self-feeds the material to a high-speed chipping rotor. Steel blades, projecting through slots in the rotor, then slice the material into chips for immediate discharge by the integral blower. Very simple. But very different from other chippers.

We believe you'll like everything about our new chippers. Their performance. Their lower cost. Their quieter sound. You can get complete details by requesting "2600" literature.

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161 Pringle St., Kingston, Pa. 18704

*Patent pending

Dear Sir:

As always, I read with interest and pleasure the many fine articles appearing in the March issue of WEEDS TREES AND TURF (Volume 13, No. 3, 1974). A small article on page 64 relative to sycamore anthracnose, however, may be somewhat misleading. The title of the article suggests wet weather favors this particular disease; some of the best research into weather influences on sycamore anthracnose was done by Dan Neely and Gene Himelick in the early 1960's and reported in Plant Disease Reporter Volume 47:171-173. They found that wet conditions had very little if any effect on disease severity and spread, and that the governing factor was principally cool air temperatures during the two weeks preceding bud break. This was a fine bit of applied research that gave us the optimum time for applying fungicidal control.

Again, many thanks for your fine magazine.

David S. Wysong
Extension Plant Pathologist
Cooperative Extension Service
University of Nebraska
Lincoln, Nebraska

Dear Sir:

I have to take issue with a comment in your March 1974 issue. On page 14 under Government News/Business, the first story relates to OSHA. In line 4 and 5 it states that "Most farm machinery is adequately guarded, anyway".

This is far from true. I work with farm safety in Nebraska. Many of our manufacturers are sincere and do a good job of shielding, however, we have many companies who do no shielding at all. To date, (March 21) in 1974, we have killed 5 Nebraskans with unshielded farm equipment. Two of these were elevators, 1 grinder, 1 post hole digger, and 1 hay loader. I don't consider the loss of 5 lives the price we must pay for poor shielding. If we had proper shielding of equipment, the standards would not be needed.

Rollin D. Schnieder
Extension Safety Specialist
Cooperative Extension Service
University of Nebraska
Lincoln, Nebraska



“Jobe’s TREE FOOD SPIKES save time, labor and money.”

says Delos A. Bailey, owner of Del-Mar Landscaping Service, Bloomington, Minn.



George Mann, left, and Chris Danielson, Del-Mar Landscaping Service, Bloomington, Minn., fertilize their customers' trees with Jobe's Tree Food Spikes.

“Good help is hard to get. Up here in Minneapolis we’re busy both summer and winter—with snow removal a big job in the winter. Mowing, tree and shrub planting, trimming and fertilizing keep us busy in the summer. That’s why we like Jobe’s Tree Food Spikes for fertilizing trees. The analysis is right—and they sure save time. Jobe’s are simple to use: just one spike per inch of trunk diameter.”

You’ll like Jobe’s Tree Food Spikes too. They’re 16-8-8 fertilizer compressed into the shape of a railroad spike. All you do is pound them into the ground; rainwater does the rest. Trees and shrubs can be fertilized *in one fourth the usual time* and about *half the normal cost*. See the table below:

Jobe’s Tree Food Spikes for a 20 Ft. Tree	
Based on State University Field Tests and Recommendations	
5 spikes 16-8-8 fertilizer—	24c per spike *
1 spike per inch of trunk diameter	\$1.20
5 minutes labor @ \$4/hr.	.33
Labor and materials	\$1.53

Call your nearby supplier or order direct—5 cases @ \$25 per case*, 20 cases at \$22 per case, freight prepaid.

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More Play, Better Management

ALMOST IN THE MIDST of Baltimore's outlying industrial area lies Bethlehem Steel's Sparrows Point Country Club. In contrast to the beehive of activity in the nearby business community, the peaceful, country atmosphere of the club makes it stand out almost like an oasis in a desert.

The club provides a convenient recreational and social outlet for the corporation's employee-members and their guests. Maintaining that relaxing atmosphere provides a special challenge for golf course superintendent Alex Watson.

The Sparrows Point membership includes upwards of 700 golfers who utilize the club's nine and eighteen hole courses.

"The golfing pressure is increasing," Watson observes. "The number of members hasn't increased that much, but we are getting more and more play by the members and their guests. This means that the grounds maintenance crew has to accomplish more in a day to avoid interfering with play."

This increasing player pressure is directly related to one of Watson's current major problems, finding good labor. "We're located right in the heart of a major industrial area," he explains. "People don't care to work here when they can find higher paying jobs in a factory just down the road. College students are a big help to us during the summer months. They're inexperienced, of course, but they're good workers, and we'd be hard-pressed without them."

Increasing golfer pressure combined with a limited seasonal labor supply puts a premium on organization and management. A valuable aid, Watson has learned, is a well-planned, closely-followed work schedule. His master schedule coordinates activities all year long, as well as in the busy months of May through August when his crew usually numbers 18 or 19 men.

Of all the duties that go with his job, turfgrass management, naturally, is a top priority item. At Sparrows Point, the greens are mainly Arlington and Congressional bentgrass. Tees are mostly bermudagrass, with some bluegrass and bentgrass. Fairways are primarily bluegrass mixtures, with areas of hybrid and native bermudagrasses.

Dollarspot, leafspot, red thread, rust, brown patch, and, occasionally, snow mold are the common disease threats in Watson's area. But a four-season preventive spray program has minimized disease problems, he says.

"Each spring, as soon as weather and ground conditions permit, we treat tees and fairways with fungicides, herbicides, and insecticides," he explains. "The greens are treated with fungicides and insecticides only, and the treatment is continued regularly throughout the season."

A combination of systemic and contact fungicides is the key to Wat-

son's disease control program. "The development of systemics has been helpful," he notes. "And rotating them with a basic contact product like Acti-dione has enabled us to avoid the problems of disease strains resistant to some of the newer systemics that many turf managers have encountered."

For greens, Watson combines regularly scheduled fungicide applications with daily inspections for disease. Additional fungicide treatments are applied if needed.

Once begun, fairway and tee fungicide treatments are also continued through the end of the playing season. Herbicides and insecticides are applied routinely with the first two fungicide applications, then discontinued unless required.

Watson's crew saves time and labor by making combined herbicide and fungicide applications when the products permit. "We always check compatibility of products before mixing them together,"



A radio-equipped golf cart provides mobility while keeping Watson in touch with members of his maintenance crew.

he notes. "Compatibility charts provided by some of the manufacturers are a big help." Wetting agents are also added to fungicides when the label permits.

Off-season treatments are dictated by the weather. If possible, Watson likes to make a late November or December fungicide application to prevent snow mold on greens. "If conditions permit, we like to make one greens application prior to February," he says. "Even if the weather's bad, though, we always make a late February application."

During the golfing season, Watson's schedule calls for treating greens on Friday to prevent disease outbreaks during the busy weekends. Even though his crew works a half day on Saturdays, and a skeleton crew remains on duty on Sundays, weekend golfer traffic precludes spraying. Fairway treatments are scheduled so as to begin on Monday and finish before Friday.

Fertilizer and herbicides are also accounted for in Watson's master schedule. A 2,4-D MCP, dicamba mixture is applied with the first two fungicide treatments to control knotweed and troublesome broadleaf weeds. Later applications are made as needed.

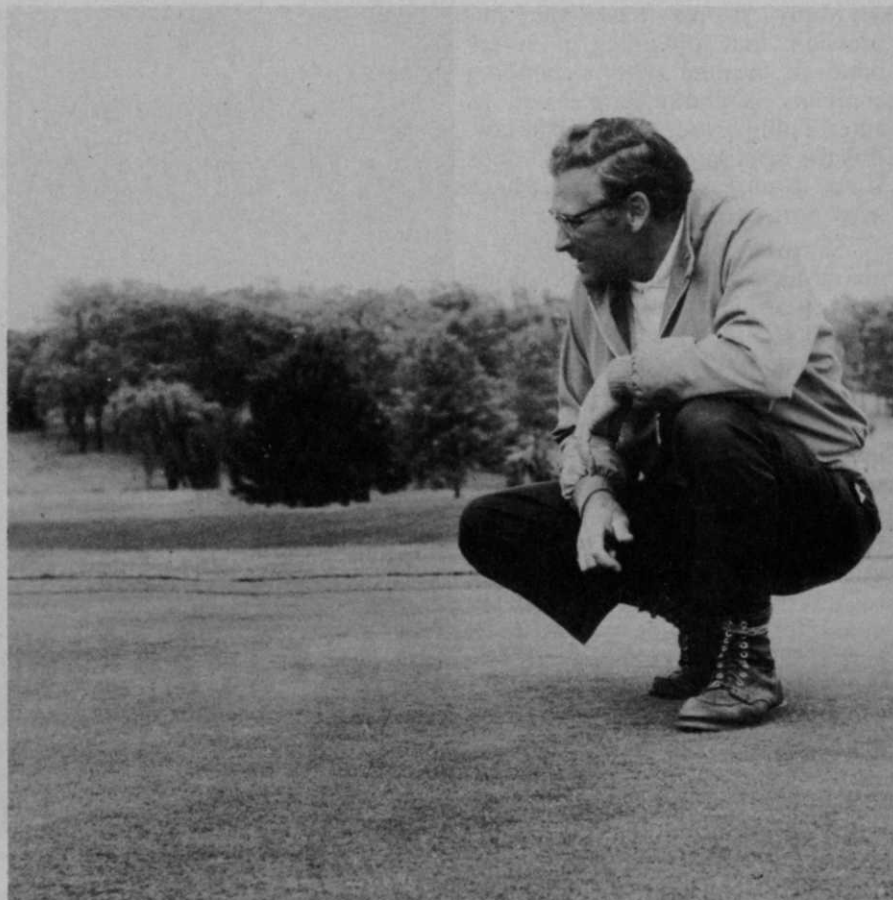
Fairways and tees are fertilized every four weeks throughout the playing season, receiving a total of seven or eight pounds of nitrogen per 1,000 square feet during the course of seven or eight applications. Bermuda tees receive from two to four pounds more nitrogen than bluegrass, a yearly average of about ten pounds per 1,000 square feet.

Greens receive the same total amount of nitrogen, but with smaller, more frequent applications — normally about 13 treatments continued through the winter season.

"We take soil tests from tees, fairways, and greens every three or four years to determine exactly how much fertilizer to apply," Watson notes. "These tests also tell us whether lime is required."

Watson has found that grass doesn't require as much phosphorous as was commonly supposed in the past. Consequently, this year's application is a mixture of nitrogen and potassium.

"Those of us who have been on a tricalcium arsenate program for Poa



Regular fungicide applications plus frequent spot checks help Watson avoid disease problems.

annua control have found that phosphorous tends to negate the effects of the weed killer," he adds, "particularly in poorly drained areas."

Watson has been testing tricalcium arsenate for several years, with good results. "The only Poa annua left is in poorly drained areas where we believe phosphorous is tying up the tricalcium arsenate in the soil.

"We have applied about 26 to 28 pounds of actual tricalcium arsenate per 1,000 square feet over the entire course," he continues. "This is considered the peak amount required for maximum Poa and crabgrass control. From now on, we'll add about three pounds per season to maintain this level."

The more flexible items on Watson's master plan — drainage and irrigation, for example — are handled as time and labor permit.

"We normally water the fairways between 5 p.m. and 10 p.m. every evening when dry weather persists. The greens are watered as necessary," he says. "The shrubbery, trees, and flower beds we take care of when we can."

Aerification of greens, tees, and

fairways is done in the fall and any other time it's needed. Watson does not believe in spring aerification as a standard practice.

"I prefer to avoid operations that set back the grass in the spring," he explains. If necessary he'll slice or spike the turf during the summer, but he prefers to have the turf fairly dense as spring approaches.

"In the fall, when the grass has been through a hot, humid semi-dormant period, is the time you can help renew and invigorate it with aerification, fertilizer, and overseeding if necessary," he believes.

Planning work in advance and utilizing new developments and information enable Watson and his crew to keep Sparrows Point attractive and functional for its membership. "We work closely with the University of Maryland, Penn State, and VPI to keep abreast of their research," he says, "and industry helps, too. Some companies have obviously put a lot of time and research into developing products and information that turf management people can benefit from."

Many people have the impression that obtaining a surety bond or dealing with a bonding company is about as pleasant as entertaining your mother-in-law. But the mystique attached to bonds is not as unreasonable as they have been portrayed.

Simply put, a bond is a guarantee of the performance of an obligation. In it, one party guarantees to a second party the performance of an undertaking or obligation by a third party.

Historically, guarantees were given by individuals until the 1870s when corporations began issuing such guarantees for a fee. The entrance into this field by corporations was a logical step since going to a friend and asking him to guarantee something obviously is embarrassing, particularly if he refuses. In addition there was always the question of the adequacy of the guarantor.

Today, bonds are required by federal, state, county and municipal governments to protect taxpayers dollars particularly in the area of the construction of government financed projects. The cost of these projects represents an expenditure of billions of dollars every year. To spend this money without guarantees that those receiving it will perform would border on the criminal. Owners in the area of the private sector of construction require bonds to protect their investment in their projects. Finally, subcontractors and suppliers rely on labor and material payment bonds as a guarantee that they will be paid for work they do and goods they supply.

A surety bond is a written instrument by which two parties, namely the principal and the surety, become obligated to a third party, the obligee, for the payment of a sum of money, not to exceed the bond amount, if the obligation set forth in the bond is not fulfilled. It is a contract resting on an underlying contract or obligation.

This is not insurance. Many people tend to equate surety and insurance as being the same thing because insurance companies are the major writers of surety bonds. This is due to the fact that insurance companies have the financial strength to put at risk. By virtue of their financial strength and their having been in the business of exten-

BONDS AND BONDING

By JOHN J. CURTIN, JR.*

Inside Report From A Surety Specialist

ding surety guarantees, insurance companies are the only corporate entities with the staff and the expertise to properly evaluate a surety situation.

There are several major distinctions between surety and insurance. Basically, they are in the area of definition and approach. A surety bond is an extension of credit. It is a financial institution pledging its assets on behalf of someone else who does not possess those assets. While surety bonds are a pledging of assets they are undertaken with the idea that the pledge will not have to be honored because they have evaluated the obligation and are confident that it will be completed properly. On the other hand, insurance contracts presuppose loss. An insurance company knows that out of every dollar it takes in in premium a certain percentage of that dollar will be paid out in losses.

How is a bond obtained? The first step is to talk to a surety agent. He should do the initial investigation and make the submission to a company which best fits the situation. This is important because companies, while they all adhere to the same basic set of principles, vary in their interpretation of those principles and in their personnel. A good agent will generally be aware of which companies fit your situation best and will go directly to those companies.

A surety is going to analyze each case differently and make its decision on the facts presented but the basis of the decision will be the people involved more than any other single factor.

Basically, from the point of view of the information desired by a surety all we have to do to anticipate their questions is to remember what they are doing. In most cases a surety is being asked to guarantee the performance of a contractual obligation and the payment of bills incurred in the course of that contract. Therefore, it is logical for a surety to look at your ability to perform and to pay. Superimposed on these two areas is a determination that the seeker of surety credit possesses integrity.

(Continued on page 56)

* The author is a member of the surety staff of the Francis H. Curtin Insurance Agency, Inc., Cambridge, Mass. He is also regional vice president of the National Association of Surety Bond Producers and treasurer of the Surety Underwriters Association of Mass.



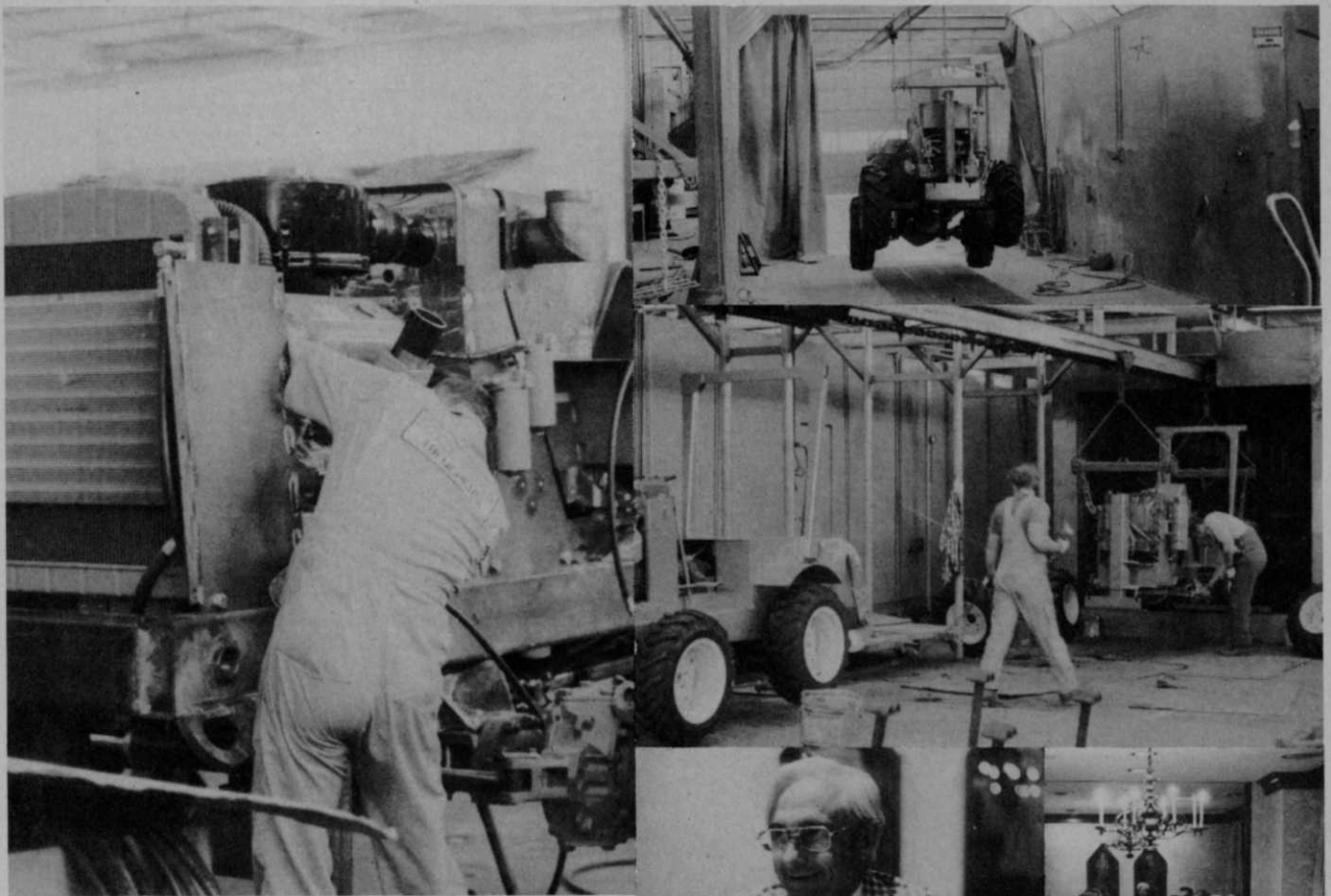
Chipco Spot Kleen is the systemic fungicide for prevention and control of dollar spot, Fusarium blight, large brown patch, copper spot and stripe smut.

Its long residual control makes a program based on Chipco Spot Kleen effective and economical. And Chipco Spot Kleen has a wide margin of safety to turf.

Once you use a Chipco something, you'll use Chipco everything.

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Ditch Witch products take form in the Perry, Oklahoma plant. A workman (top, left) constructs one of the first R200 vibratory plow units to come off the production line. Trenchers receive the characteristic orange color (top, right) in the final stages of production. Edwin Malzahn (bottom, center) chats with members of the press at a banquet during the press fly-in.

Manufacturer Finds Success in Prairie

In 1955 a manufacturing company set in the middle of Oklahoma prairie country had nine employees and a goal. Today, that same company employs nearly 600 persons, is growing rapidly and sells many of its products before they leave the production line.

The company is Charles Machine Works, owners of Ditch Witch, and its product is trenching equipment. Not standard trenching equipment, but smaller, more mobile trenching equipment. In fact, Charles pioneered the service-line trencher.

A constant stream of innovations, a unique sales representative arrangement, and a family spirit

keeps Charles one of the forerunners in the trenching manufacturing business. Its latest innovation is a 195-h.p. vibratory plow unit designed to lay utility cable up to 3-inches in diameter at rates up to 7,000 feet per hour. The new product, the R200, has appeal for the telephone and large utility industries. Prototypes built to test the design have installed more than one million feet of cable in various types of terrain. The first production unit will shortly leave the production line.

Another recent innovation is the multiple-use modular trenching unit. A single unit can trench, lay cable with vibratory plow, replace dirt with backhoe,

dig with digging boom, carry a reel, bore holes under obstacles and sweep the pavement with a broom.

Once Charles Machine designed and built an industry adapted product, they proceeded to set up an efficient sales network. The country was divided into regions and sales managers, rather than living in their region, live near the plant in Perry, Oklahoma and fly to their regions to sell. Consequently, sales families remain in Perry as part of a larger, company family.

The Ditch Witch family consists of everyone working for Charles Machine Works. Unity of spirit is evident. A profit sharing program spreads the

economic rewards of success to each employee. Consequently, motivation is at its highest. A group effort production line further strengthens ties between employees.

The man behind it all is a third generation Perry native, who after obtaining a degree in engineering, took his father's metal shop where oil drilling equipment was made, and the pioneer spirit of his grandfather, a Perry blacksmith, and made it into success for the entire community. Edwin Malzahn's plant today employs a tenth of the population of Perry and has turned an agricultural town in the middle of the Oklahoma prairie into a booming industrial center.



There is a Chipco® Herbicide to solve any weed control problem you have. **Chipco Bucril®** – for postemergent control of a broad spectrum of broadleaf weeds in newly planted turf grasses.

Chipco Crab Kleen – for economical and selective postemergent control of crab grass, chickweed, and other grassy weeds in established turf.

Chipco Turf Herbicide “D” – for postemergent control of broadleaf weeds such as dandelion, curled dock and many others in established turf.

Chipco Turf Herbicide MCPP – for especially effective postemergent control of surface-creeping broadleaf weeds such as clovers, chickweeds, ground ivy, knotweed, and others in established turf.

Chipco Turf Kleen – for ideal all-purpose control, because it combines MCPP and 2,4-D for unequaled broad spectrum control of surface creeping and broadleaf weeds in golf course turf.

As we said, you name the problem, and the best quality answer will have our Chipco name on it.

Once you use a Chipco something, you'll use Chipco everything.



By HAROLD DAVIDSON
Department of Horticulture
Michigan State University

Are Your Trees Starving to Death?



Iron chlorosis in oaks is associated with alkaline soils containing relatively high concentrations of phosphates and bicarbonate ions.



These maple leaves exhibit signs of chlorosis. The probable cause is a manganese deficiency.



Most chlorosis can be corrected by using Fe or Mn chelates or by inserting iron-containing capsules into the trunks of the trees.

IN MOST CASES, the chances are your trees are not starving to death. But rather they are enjoying a more than adequate diet of N, P and K, since turf people are known to be fairly liberal in applying fertilizer to turf. And where turf is well fertilized, the trees in those areas are also well fertilized.

However, there are a couple of situations where the trees could be starving to death in areas of plenty. This would be where you are irrigating the turf with water of high pH, in the range of 7.5 to 8.5, and where there are tree species — oak, sugar maple, sycamore — that do not like the alkaline environment. In this situation, the trees develop chlorosis; that is, the leaves fail to develop the green color in the area between the veins, although the area adjacent to the veins remains green. The chances are fairly good that the trees are suffering from iron or manganese chlorosis. It is difficult to determine the difference between the two deficiencies without chemical testing. The probability is fairly good that on oaks, especially pin oak, that the problem is related to iron and on maple it could be Mn.

Iron chlorosis is aggravated by factors that promote the oxidation of iron from the ferrous (Fe^{2+}) to the ferric (Fe^{3+}) form. It is associated with alkaline soils containing relatively high concentrations of phosphates and bicarbonate ions. Also, decomposing organic matter in alkaline soil will help to increase the alkalinity of the soil and thus maintain iron in the ferric form.

Plants that cannot counteract the alkaline soil factors will develop iron chlorosis. The fate of the plant is related to its ability to change iron from Fe^{2+} to Fe^{3+} .

Many remedies have been recommended to correct iron chlorosis. They include: 1) the pounding of iron nails into the trunk, 2) injecting iron salts, such as ferric citrate, iron tetracetate and iron sulfate into the trunk, 3) spraying the leaves with various solutions containing iron, 4) application of iron salts to the root zone, 5) the use of iron chelates both as sprays and soil injection, and 6) modifying the soil pH by using various acidifying agents,

(Continued on page 54)