volved either directly or indirectly in all phases of the care and management of turfgrass. Water is necessary for germination, cellular development, tissue growth, food manufacture (photosynthesis), temperature control and resistance to pressure. It acts both as a solvent and as a carrier of plant food materials. Nutrients dissolved in the soil are taken in through the roots and then carried to all parts of the grass plant in water. The food manufactured in the leaves is also distributed throughout the plant body in water.

Turgid Leaves Help Resist Traffic

Water transpired by the leaves serves as a temperature regulator for the plant. The amount of water within the cells of the grass leaves plays a role in counteracting the effects of traffic. When the plant cells are filled with water, they are said to be turgid, a condition that helps leaves resist traffic (foot and vehicular). Hence, adequate water within the cells helps avoid the damage which may result when pressure (traffic) is applied to grass in a state of wilting. Wilt is a condition that exists when cells do not contain enough water. They are said to be flaccid.

For all these functions, very large quantities of water are required and they, along with other considerations, must be kept in mind when developing a watering program for turfgrass.

In addition to watering practices, mowing influences turfgrass growth, development, maintenance and playability in a number of other ways. First, good mowing practices are one of the more important factors contributing to appearance—especially a well-groomed appearance—of any turfgrass area. Second, because of the regularity of the mowing process, grass cutting is the major time-consuming operation in the maintenance program. Third, the manner in which turfgrass is mowed will greatly influence its health, vigor, density, degree of weed invasion and longevity. Also, mowing is one of the factors limiting or controlling the adaptability or suitability of a given grass for turf purposes; and, since mowing practices must conform to the specific demands created by the use for which the turf is grown, it becomes one of the major management practices with which the turfgrass supervisor is concerned.

To be suitable for the production of turf, a grass plant must be able to grow and persist under the environment to which it is subjected. Good turfgrass is judged by standards of playability and usability as the case may be, and unless a grass is able to survive under the type of maintenance demanded by players or users, it must be replaced or maintenance practices must be modified; otherwise, use must be restricted. For those concerned with the production of turfgrass, restriction of use always should be considered a last resort. The primary objective of the supervisor and grower is to produce high quality turfgrass suitable for use or play irrespective of environmental adversity.

More often than not, practices which are desirable for good grass growth have to be modified extensively to meet turfgrass requirements for use or play. As stated earlier, such is the case with mowing practices.

Athletic Field Turfgrasses Limited In Number

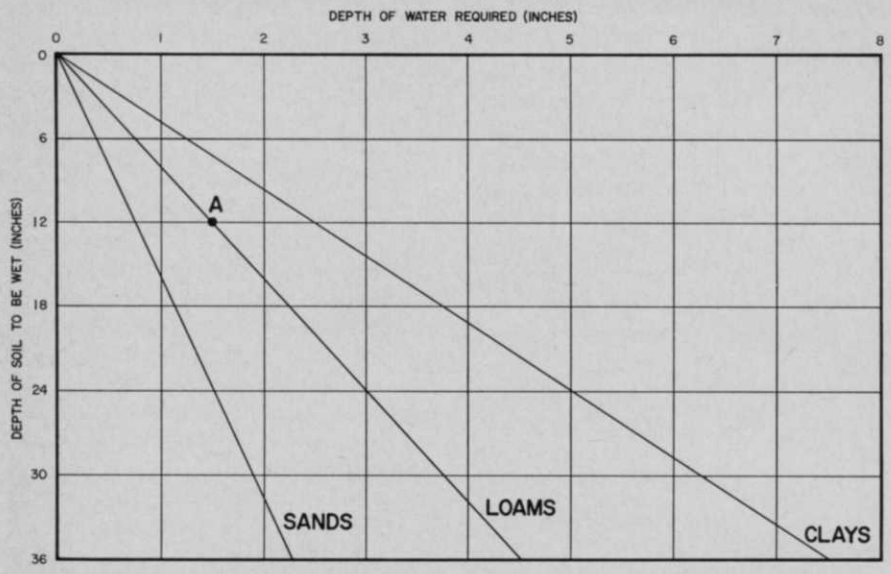
Turfgrass management practices, including mowing, severely limit the number of grasses that may be used to produce satisfactory lawns and playing fields. Only 25 to 30 of the more than 1100 species known to grow in the United States are adapted. Consequently, growth habits and characteristics play an important

Control box for automatic irrigation system permits control of water applications with a minimum expenditure of time. Conservation of water and higher quality turfgrass are additional benefits cited for automatic irrigtion systems.

Underground automatic system permits flexibility required for efficient operation. Watering practices based on grass needs and keyed to existing soil and climatic conditions assure high quality turfgrass, necessary for maintaining green color throughout season.

Surface Inches of Water Required to Wet Soils To Given Depths Assuming No Surface Runoff

(Robert M. Hagan, Dept. of Irrigation, University of California, Davis)



HOW TO READ CHART: If a 12-inch depth of loam soil is to be wet, run down left-hand scale to 12-inch line; then across chart to diagonal line labeled "loam" (at Point A), and then project line vertically up to scale across top of chart. Depth of water required is 1 1/2 inches.

role in selection of a grass for turf purposes.

On the basis of growth type, grasses may be classified into three general groups. Bunch-type grasses, such as ryegrass and chewings fescue, produce new shoots which grow inside the sheaths of the previous stem growth. Stoloniferous grasses, such as bentgrass, spread by runners or stolons which develop from shoots that push through the sheath and run along the surface of the ground rooting at the nodes (joints). Kentucky bluegrass, a rhizomatous type of grass, develops shoots at the underground nodes. Some grasses, such as bermudagrass and zoysia grass, spread by both rhizomes and stolons. There are also intermediate types with decumbent stems which root at the nodes, such as crabgrass and nimblewill.

The grass leaf, because of its shape, intercepts a maximum of sunlight which is essential for photosynthesis (food manufacture). A reduction in the plant leaf area exposed to sunlight reduces the plant's capacity to carry on this vital function.

The ability of grasses to withstand frequent and relatively close cutting is related to certain peculiarities of the grass family. Grasses exhibit basal growth, as opposed to terminal growth found in most other plants. Basal growth means simply that growth initiates at the base rather than at the tip of the blade or stem. From a practical standpoint, this means that normal and frequent mowing does not cut off the growing areas of the grass leaf. Removal of too much leaf surface at any one cutting may, however, destroy some of the growing points. For this reason, as well as from an appearance standpoint, grass should be mowed often enough so as to never remove more than one-third of the leaf surface at any one clipping.

Management Practices Must Be Balanced

To compensate for the reduction in root growth produced or caused by clipping, soil environment and management practices —fertilizing, watering, cultivating and programs of disease, insect and weed control—must be balanced one against the other and applied more intensively and with greater care. Development and maintenance of good soil properties are essential to satisfactory production of turfgrass. Soil properties relate directly to root development and are a major factor in developing watering practices.

Soil as the medium for turfgrass growth must provide support for the plant, serve as a storehouse for nutrients, supply oxygen, and act as a reservoir for moisture. The texture (size of soil particle), structure (arrangement of soil particle), and porosity (percentages of soil volume not occupied by solid particles) of a soil are the basic physical factors which control the movement of water into the soil (infiltration), through the soil (percolation) and out of the soil (drainage).

Texture, structure and porosity, along with organic matter content, determine the water-holding capacity and control the air-water relationships of the soil; hence, have a direct influence on root growth and development.

Texture (size of soil particle) is a most important characteristic of soils because it describes, in part, the physical qualities of soils with respect to porosity, coarseness or fineness of the soil, soil aeration, speed of water movement in the soil, moisture storage capacity and, in a general way, the inherent fertility of the soil. Sandy soils are often loose, porous, droughty and low in fertility; whereas, clay soils may be hard when dry or plastic when wet and poorly aerated, but high in moisture retention and possibly high in fertility. Clays have a higher total porosity than sands. Clays have a large number of small pores which contribute to a high water-holding capacity and slow drainage. Sands, on the other hand, have a small number of small pores with, therefore, a low water-holding capacity and rapid drainage.

Compaction of soil refers to a condition in which aggregation is reduced or absent; hence, the soil is dense (the number of large pores reduced). Degree of compaction at or near the surface is of special importance insofar as infiltration or movement of water into the soil is concerned. A thin layer of compacted soil materially reduces the rate of infiltration, and unless alleviated, often necessitates

a change in watering practices. Fortunately, since most of the compaction on turfgrass areas occurs within the upper two-inch layer of soil, the condition may be temporarily alleviated mechanically.

Drainage, or the removal of excess water from a soil, is of two types—surface and internal. Surface drainage is accomplished through grading and contouring of surface areas. Internal drainage is a function of the physical soil properties and has an important bearing on root growth and development as well as on watering practices.

On most turfgrass areas, one is usually able to apply water if soil moisture becomes limiting. In too many cases during periods of heavy rainfall, rapid percolation with subsequent removal of the excess water, does not take place. This is particularly true of many green and tee areas. Unless soils are adequately drained, many problems associated with saturated soils will arise.

Proper Watering Needed To Keep Grass Green

Supplemental irrigation is always necessary if turfgrass areas are expected to remain green throughout the growing season. The frequency of irrigation is governed by the water-holding capacity of the soil and the rate at which the available water is depleted. For the most vigorous and healthy growth, watering should begin when approximately forty to sixty percent of the available water has been depleted. Most plants show a marked growth response when soil moisture is maintained between this level and field capacity. Assuming equal depth of rooting, sandy type soils will have to be watered more frequently than will loams or clays. Climatic conditions such as high wind movement, intense sunlight, low humidity and temperature all contribute to high water use rates. Such conditions dictate more frequent watering than the reverse set of conditions.

The amount of water to apply at any one time will depend upon how much is present in the soil when irrigation is started, the water-holding capacity and the drainage characteristics of the soil. Enough water should be applied to insure that the entire root zone will be wetted. Too, on natural soils (as opposed to those modified for intensive use) sufficient water should be applied to maintain contact with subsoil moisture and to assure percolation especially in arid and semiarid regions. Continuous contact between the upper and lower levels of moisture will avoid a dry layer through which roots cannot penetrate. Application of too much water at one time (misuse) is serious when the soil is poorly drained and the excess cannot be removed within a reasonable period of time.

Water should never be applied at a rate faster than it can be absorbed by the soil. Sprinklers that do not adequately disperse water, as well as sprinklers that deliver a large volume of water within a concentrated area, cause surface runoff. Whenever water is applied at a rate faster than it can be absorbed by a given soil, the water is being wasted. The sound watering program, then, would call for sprinklers that apply moisture slowly enough to permit ready absorption. When surface conditions such as compaction exist, it should be corrected by cultivation (aerification) or spiking. Such will materially improve the infiltration rate of water.

Once surface runoff is evident, sprinklers should be turned off. If the soil has not been wet to the desired depth—this may be determined by probing and examining the depth of penetration—then the sprinklers may be turned on again at the end of thirty minutes to an hour, depending on the permeability of the soil.

In summary, watering practices are a function of clipping height and frequency because of the relationship between clipping height and root development. Grasses clipped within the generally recommended height of cut range for the given species will produce adequate root growth provided a satisfactory management program can be followed. Sound watering practices are necessary to assure satisfactory growth of roots.

To use water properly requires an understanding of the fundamental role water plays in plant growth; of the effects climate and weather have on growth rates; how they influence water use rates and choice of grass. Good watering practices demand a knowledge of the basic physical and chemical soil properties, how they affect water absorption, storage and drainage as well as the frequency, rate and manner in which water must be applied.

Further, proper use of water means correlating such basic information with the requirements for play and programming a watering schedule to fit the existing irrigation facilities, so as to make the most efficient use of them and the available labor force.

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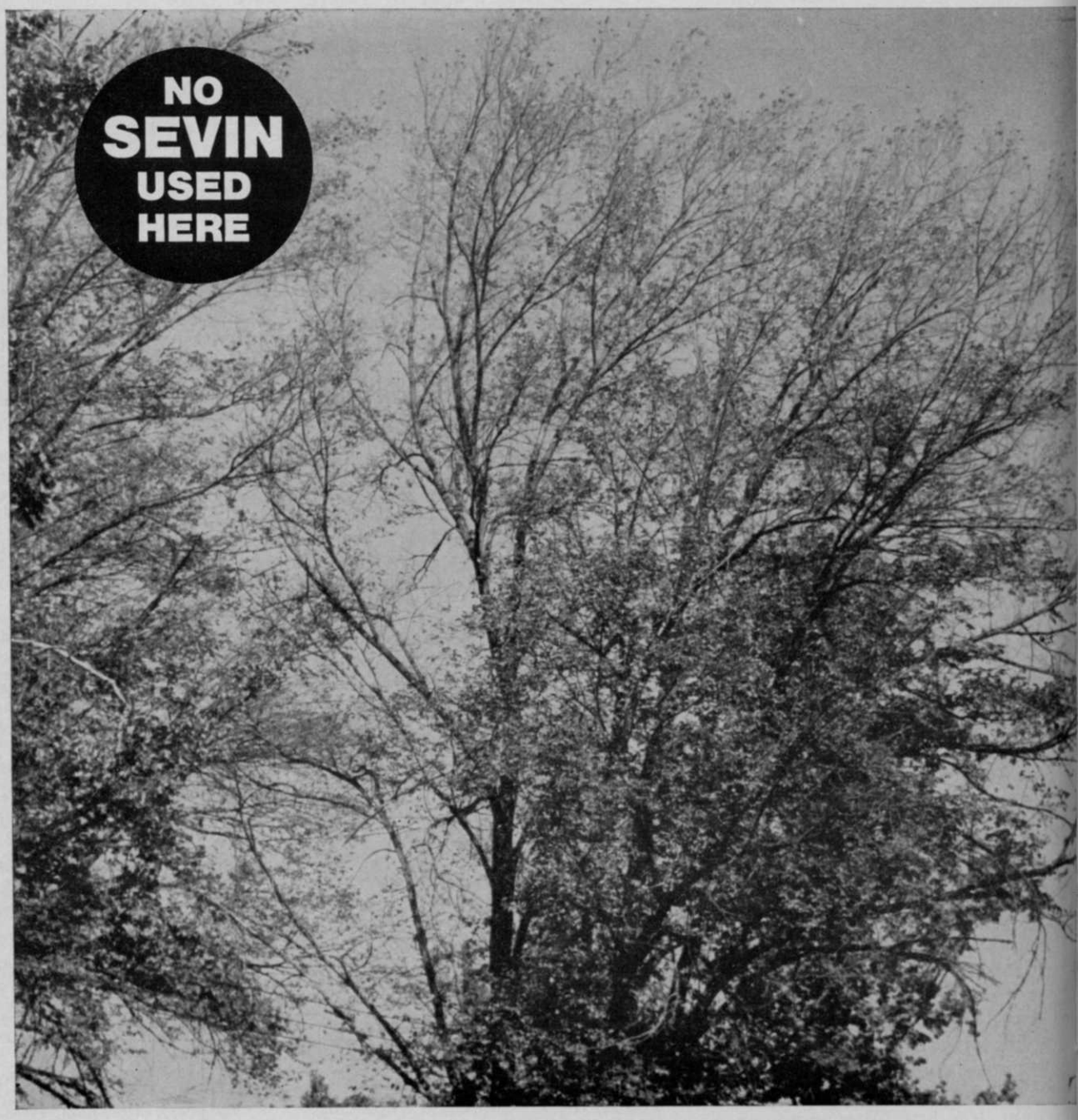
The difference is



Elm leaf beetles ruined the foliage and damaged the growth of the elm tree, shown above, where no SEVIN was used. But where SEVIN carbaryl insecticide was used to protect the foliage, as shown on the opposite page, the tree stayed healthy, damage-free and attractive. SEVIN provides long-lasting and effective control of major insect pests of trees, shrubs, flowers and turf. SEVIN is safer to handle than many other insecticides and its lower toxicity to animals and wild life makes it a wise choice for insect control on ornamental plantings. For better insect control, remember ***the difference is SEVIN.***

Successful stand of sericia lespedeza was seeded on this Union Electric right-of-way after clearing and spraying.

Oak root shows typical sprouting 2 years after clearing and prebasal spraying on Union Electric test plot.

Tordon 10K tends to stimulate grass cover, especially after first year. Plot was treated in 1964 at 80 pound rate.

Right-of-way Brush Control—

Multimillion Dollar Management Problem For Industry

SUPPOSE you had to wear the company hat of a supervisor responsible for brush control and tree clearance on 7000 pole miles of rights-of-way. Your first concern would likely be getting the job done right and keeping costs in line insofar as you were able.

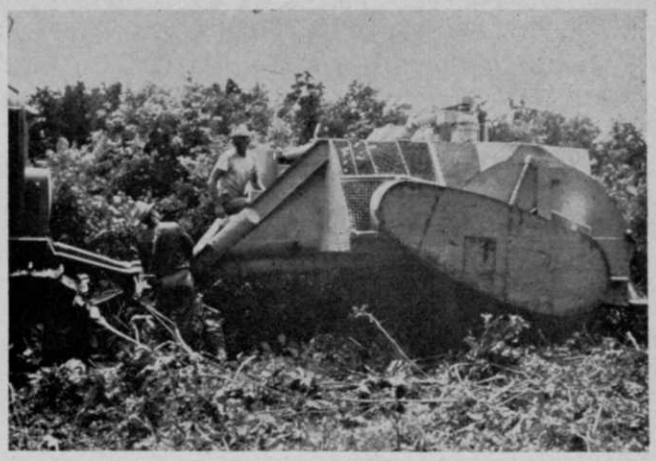
This is the position of Ray Bruns, forester for Union Electric Company at St. Louis, Mo., where he handles clearing and maintenance on the company's distribution lines. These are lines ranging in power from 34KV through 54KV. Six years ago when he joined Union Electric in this position, he questioned the expenditure of $80 to $100 per acre to spray stumps on newly cleared rights-of-way. Complete kill, meaning root kill, was only about 40% and much less in many cases. Methods used consisted of chemical applications to the cut surface and collar area of stumps at the time of initial clearing.

Early tests were based on the established practice of spraying newly cleared areas. A kill of 60% was deemed necessary to justify the cost of stump spraying. Various company products were used, but of the various esters of 2,4,5-T and 2,4-D, none indicated sufficient root kill to justify the cost. Result was that the practice of stump spraying on initial rights-of-way as these were cleared was eliminated. Other methods were explored via a continuing testing program.

Dow Chemical Company's Tordon 10K brush killer pellets proved to be the single chemical tested which met company requirements. All tests were made on newly cleared rights-of-way near Wright City, Mo., which is about 60 miles west of St. Louis. The area tested is rather rough, hilly land with rainfall of 32-34

Donald J. White, left, assistant forester, and Raymond R. Bruns, forester, both of Union Electric Company, discuss latest results on their chemical vegetation control test plots. Now in final phase, they expect to make recommendations to company for broad use this fall.

Dormant broadcast spray has been used on practically all distribution lines. Union Electric Company crew above sprays right-of-way.



Company built flail unit for use by maintenance crew is used to clear right-of-way of brush growth. Unit is pulled by crawler tractor.

inches each year. Foliage is mostly oak and hickory with some elm, mulberry, ash persimmon, maple and sassafras. Other types also crop up in very limited numbers. All Tordon 10K tests, based on twice-a-year recounts over a 3-year period, showed more than 90% kill. Other tests which failed during this period beginning in 1964 included prebasal spraying of trees 6 weeks prior to cutting, prebasal spraying 24 hours prior to cutting, and stump spraying immediately after cutting. Little difference was noted in the different time elements on prebasal spray tests.

Chemical Applied After Clearing Brush

In the successful test, Tordon 10K pellets were applied as a broadcast treatment to control stump and root sprouting. Application was made by a Hurricane seeder on 9 plots. Edges of plots were broadcast by hand for careful control. Three Dow representatives, Hoyt Nation, Hal Dilsworth and Larry Berra, worked with Union Electric representatives on this particular test.

The Tordon 10K pellets which are manufactured by Dow contain 11.6% active ingredient of 4-amino-3,5,6-trichloropicolinic acid as the potassium salt with an acid equivalent of 10%. Six plots using rates of 60, 80, and 100 pounds per acre were treated with Tordon 10K pellets. Each plot comprised about 1/5 acre and all treatments were made April 16, 1964. The right-of-way which was treated had been cleared about 2½ weeks earlier, on March 26.

Tree numbers on the treated plots were estimated at 250 stumps per 1/5 acre plot. An actual count was not made since a series of similar plots comprising four additional test areas were checked by count on either side of the Tordon 10K test area. Actual counts on these plots approximated the 250-tree per plot estimate. Check strips, half the size of each plot, were left untreated as a control check in each instance.

Results of the tests which will be finalized after the 8th recount (due this fall and 3½ years after application) will determine the recommendations to be made to Union Electric engineering and construction administrators. Following the 6th recount, made after 2½ years, root kill results are as follows:

92.2% kill at 60 lbs./acre
93.0% kill at 80 lbs./acre
96.8% kill at 100 lbs./acre

If these results hold after the 8th recount, and Bruns believes they will, then recommendations will be made to treat all newly cleared rights-of-way with Tordon 10K pellets at a rate of 60 pounds per acre. Estimated cost of Tordon 10K at bulk rates will likely be about $1 per pound. Thus, each additional 1% kill over 60 pounds per acre would cost about $10 more for each acre treated. Bruns estimates that kill will be adequate for 10 to 12 years which in effect delays maintenance treatments and also allows more selective handling of tree species.

Each metal tooth or chain which is used for flail unit weighs 75 pounds and literally beats brush crop back.

In this particular area, original line clearing costs have been running $300 to $500 per acre. This includes use of bulldozers, sawing crews and either windrowing alone or windrowing and burning, depending on the area. Also company policy is to remove any standing dead trees adjacent to such rights-of-way. Clearance and spraying on new rights-of-way have been handled by contract on a cost plus man-hour basis. In cases of liability, all claims are the responsibility of the contractor. Seven line clearance foremen administer the contract in the field. The company in previous work where spraying has been done has specified only chemicals and the concentration to be used.

Maintenance work is normally handled by contract crews on the distribution lines which are the responsibility of Bruns. Dormant broadcast spraying for maintenance is also handled by the contract.

Bruns believes that change in

Stump Treatments With Tordon 10K On Union Electric Test Plots Near Wright City, Mo., Showing Results of 6th Recount Made October 4, 1966

Check Strip D-1 (Treated at 60 Pounds Per Acre)

Species	Collar Sprouts by Stump Diameter 0-2	2-4	4-6	6-8	8-10	12+	Total	Root Sprouts	Total Sprouts
Oak	4	2				1	7		7
Hickory	3						3	3	6
Ash		1					1		1
Elm	1						1		1
Wild Cherry								2	2
Total	8	3				1	12	5	17

Check Strip D-6 (Treated at 60 Pounds Per Acre)

Species	Collar Sprouts by Stump Diameter 0-2	2-4	4-6	6-8	8-10	12+	Total	Root Sprouts	Total Sprouts
Oak	3	1				2	6	3	9
Hickory	2		1				3	1	4
Elm	3	1			1		5	1	6
Wild Cherry								3	3
Total	8	2	1		1	2	14	8	22

Check Strip D-2 (Treated at 80 Pounds Per Acre)

Species	Collar Sprouts by Stump Diameter 0-2	2-4	4-6	6-8	8-10	12+	Total	Root Sprouts	Total Sprouts
Oak	3	1				5	9	5	14
Hickory	3						3	3	6
Total	6	1				5	12	8	20

Check Strip D-7 (Treated at 80 Pounds Per Acre)

Species	Collar Sprouts by Stump Diameter 0-2	2-4	4-6	6-8	8-10	12+	Total	Root Sprouts	Total Sprouts
Oak	4	2				1	7	1	8
Elm		1					1	3	4
Hickory	1						1	2	3
Total	5	3				1	9	6	15

Check Strip D-3 (Treated at 100 Pounds Per Acre)

Species	Collar Sprouts by Stump Diameter 0-2	2-4	4-6	6-8	8-10	12+	Total	Root Sprouts	Total Sprouts
Oak		2		1		3	6	3	9
Wild Cherry								3	3
Total		2		1		3	6	6	12

Check Strip D-8 (Treated at 100 Pounds Per Acre)

Species	Collar Sprouts by Stump Diameter 0-2	2-4	4-6	6-8	8-10	12+	Total	Root Sprouts	Total Sprouts
Oak						1	1		1
Elm	2						2		2
Wild Cherry								1	1
Total	2					1	3	1	4

both chemicals and methods will continue to be the rule in the industry. Much has already been learned about kill and more will come. Research is being done by both public institutions and by private industry throughout the nation. Bruns believes this to be necessary. Because of variations in climate, soil, land use, terrain and species, test results with chemicals have not always been reliable in all areas. Bruns points out that these same variables exist within the service area of Union Electric which covers parts of Missouri, Illinois and Iowa. Answers to specific problems, he feels, must be solved sectionally. For example, he personally favors company tests on a field basis rather than those by technical personnel under controlled conditions.

In light of this, he believes it will be necessary for Union Electric and others to continually reappraise vegetation control methods and do considerable experimenting to keep costs in line and at the same time handle the job adequately on their ever-expanding facilities.

A WTT staff report based on vegetation control chemical tests of Union Electric Company, St. Louis, Mo. Supplying data for the company were Raymond R. Bruns, Union Electric Forester, and Donald J. White, Union Electric Assistant Forester.

Fast Herbicide Residue Test

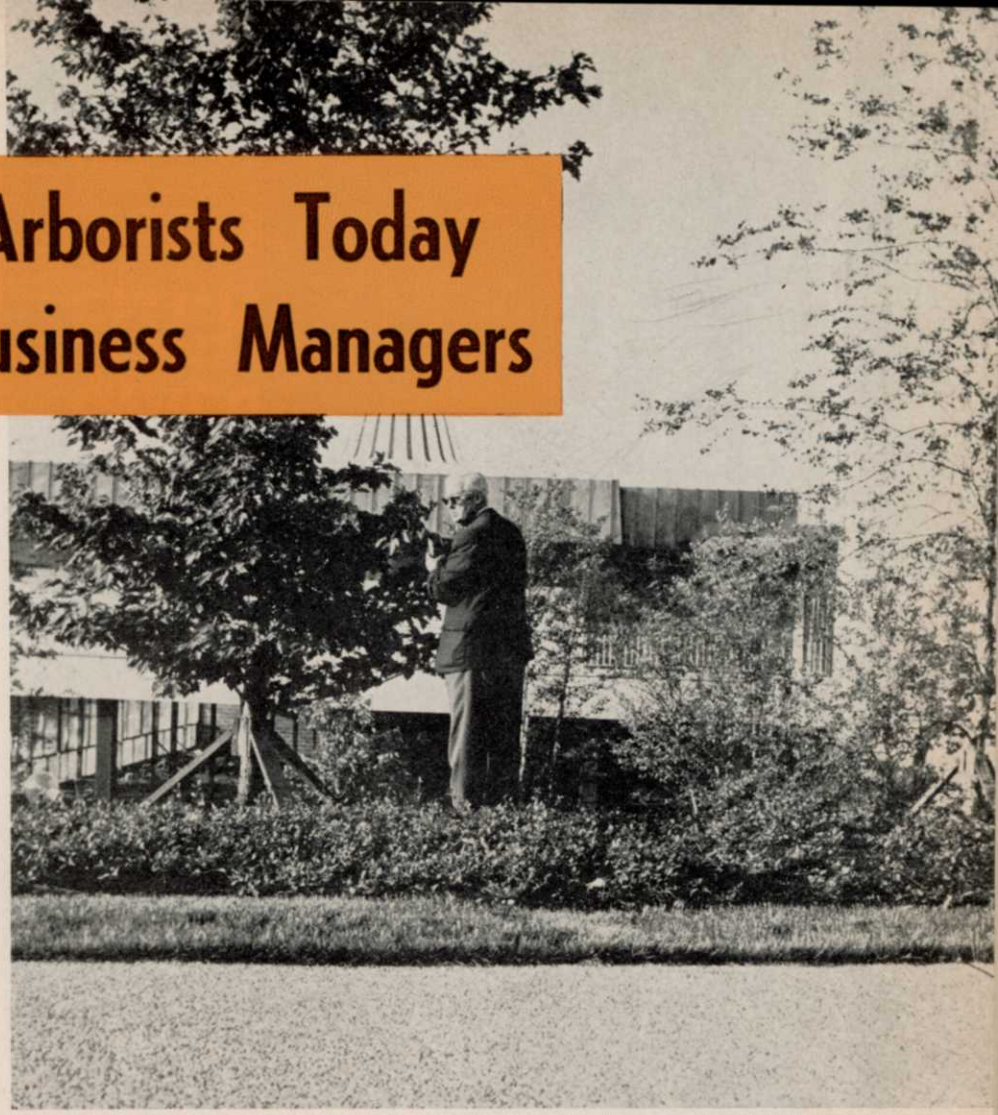
Certain herbicide residues can be measured in only 48 hours.

Purdue University research horticulturists use a new type of buckwheat root-growth test. Called a bio-assay, it involves growth of the roots under controlled temperature. The test is sensitive to 50 parts per billion.

Purdue scientists have used the new method to study rate of decomposition of two weed killers, IPC and CIPC. Their tests showed no evidence of either within 4 weeks following application.

Successful Arborists Today Are Good Business Managers

A WTT staff report based on an interview with F. L. Dinsmore, founder and senior partner of Dinsmore Tree Service Company, St. Louis, Mo.



Planners for Northwest Plaza Shopping Center, St. Louis, Mo., one of world's largest, included 600 trees in the development to enhance its beauty. F. Lewis Dinsmore, checking newly planted tree, was one of 4 Metropolitan St. Louis arborists invited to bid on the planting. Result was that the 4 pooled their bids and handled the job on a partnership basis to the mutual benefit of both developer and tree companies. Partners in the major venture were Teston Tree Treatment Company, Suburban Tree Service, Shield Shade Tree Specialists, Inc., and Dinsmore Tree Service.

Knowing how to grow and care for trees doesn't insure success in the tree business today. The arborist has found he has had to become a businessman, and a good one to survive. Experience in tree culture is still a valuable asset. The same can be said for customer service. But experience and happy customers do not guarantee the income needed to pay labor, maintain a modern office, carry liability insurance, and buy the expensive equipment needed to operate.

These are facts of the business. Successful arborists accept them. Typical among those who represent the operator today is F. Lewis Dinsmore, Dinsmore Tree Service, St. Louis, Mo. Dinsmore has spent 40 years in the business as an employe, as a self-employed lone operator, and as manager and owner of a going concern for the past 35 years. He is a businessman.

Experience coupled with business acumen has paid dividends for Dinsmore. He uses experience to keep shop time to a minimum. Shop time is the unproductive hours when employes are on the payroll and earn time which cannot be assigned to a particular job. This reduction in shop time and a number of business principles combine to make the Dinsmore Tree Service one of the best in the country. Dinsmore's practices are the type which have been used by many arborists, some more successfully than others. Though by some standards Dinsmore's operation, which consists of about 20 employes, is small, it is typical of the vast majority of tree service businesses today.

Take his rules for keeping down shop time hours. They have come as a result of experience and service to longtime customers. Rule No. 1 consists of zoning the St. Louis area. In short, Dinsmore has laid out his own system of zoning to fit the areas he serves. He covers the greater metropolitan St. Louis area but still finds his business concentrated more in some areas than in others. In determining size and scope of zones, the number of customers and the type of business is taken into consideration. Each foreman is assigned a zone for which he becomes responsible. This works especially well for the usual types of spraying, but tree work is also handled in this manner. By having a zone to work, foremen save travel and route time by careful scheduling. They do very little backtracking. "Jobs are not handled as they come in but by where they are located, that is," Dinsmore says, "if people will stand for it." Spray work, for example, is scheduled in advance to take advantage of the zone system. Customers are assured that their work will be done "at the proper time."

Annual service contracts are perhaps as important as any one factor in reducing unproductive

Attractive and modern office headquarters which is located in affluent suburban area has proved a business asset for Dinsmore Tree Service. Formerly, warehouse and tree lot were located at side and behind this building. When the site became a high tax area, Dinsmore purchased outlying land for a new warehouse and built 5 adjacent store buildings which he now leases to retail businesses.

hours. These, coupled with new jobs permit foremen more leeway in scheduling. Summer spraying and dormant oil spraying during late winter or early spring can be scheduled well in advance and an efficient route schedule planned.

Many longtime customers are not on annual service contracts but expect Dinsmore Tree Service to provide them regular service. Dinsmore reaches these people, and others as well, by mail. He uses direct mail service to about 3000 selected customers each month. These mail pieces are reminders to call in for service, aimed at keeping last minute scheduling to a minimum. Just because Dinsmore provides a service to a customer in his prime target area does not qualify that customer for direct mail service. This service is limited to longtime private and commercial customers rather than to the customers who only use a professional arborist for emergency and special jobs. Copy in the direct mail pieces usually concerns spraying, tree moving, and general tree care. He also reminds customers that trees are available.

Direct mail is the only type of advertising which Dinsmore uses on a regular basis. Like other businessmen he supports community ventures such as school yearbooks and the like. But general advertising as such has never been a practice of the company. He has found that regular customers and referrals have combined to keep his crews busy through the years. Much of this must be attributed to providing good service at a fair price.

Dinsmore readily admits that profits in the business today depend on spraying and tree moving. This makes careful scheduling and timely service even more important. Recognizing this, general tree work is planned around these more profitable phases of the business and used to keep men employed. When conditions are unfit for spraying, such as on mildly windy days, men can be deployed to pick up waiting tree work.

Free coffee also cuts unproductive hours. Dinsmore keeps a big coffee urn full of fresh brew for his crews; has it ready along with donuts or cookies a half hour before they leave on jobs. This, he says, eliminates the lost time crews use by stopping for coffee enroute to the job. Further, it boosts employe morale and saves the worker spending out-of-pocket change on the job. The employe thinks the free coffee and donuts are a good deal, and a favor from the company. Dinsmore believes this practice does more than save time. Along with the banter, normal in a coffee session, he finds that the men exchange job experience and gain from the morning sessions.

Foreman Lives At Site of Nursery

Another shop time saver is housing one foreman, Harry Elkins, in a home at the nursery. Elkins does the tree digging with power equipment and is always on hand to help the driver load a tree. This saves sending an extra man along to pick up the usual tree. Also, if the wind is too high for spraying, Elkins stays on the job at the nursery. Here, there is always work filling holes and lining out new seedlings. Besides replacing trees in the nursery lost by sales, Dinsmore has been increasing his nursery tree stock at a rate of about one acre each year. This permits him to keep up with the increased demand.

Power equipment used to dig trees consists primarily of a Da-

Carl Hess, left, will shortly celebrate his 35th anniversary of service with Dinsmore Tree Service. Assisting him in checking scheduling is Mrs. Charlotte Allen who has become a specialist in handling telephone customers.