

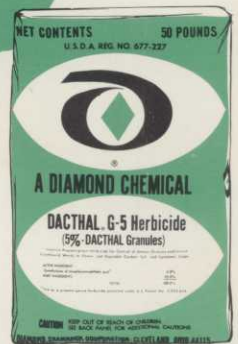
JULY, 1970

WEEDS TREES and TURF

**CHEMICAL SIDE-TRIMMING
CREEPING SPEEDWELL
PREPARE FOR MORE INFLATION**



You don't have to put up with *Poa annua*.



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Chemical Company**

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Mobley Company, Inc., Kilgore, Tex. side-trims trees up to 100 feet high using invert emulsions and a customized applicator built for rugged country.
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- Have Shady Grove — Will Travel** 16
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The Cover

When in rugged tree country, travel as loggers do, Mobley Company right-of-way maintenance contractors discovered. This Kilgore, Tex., firm tried four-wheel drive trucks but had to call on the loggers to pull them out of mudholes once too often. As a result, Mobley Company customized a logging vehicle built by the Franklin Equipment Co., Franklin, Va., to navigate the tough pipeline and utility right-of-way terrain in Southeast Texas. Mobley had to devise a new spraying technique also to reach the tall trees. With invert emulsions, spray can be placed accurately up to 100 feet. The story begins on page 6.



WEEDS TREES and TURF®

Volume 9, No. 7

July, 1970

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The People Who Really Get the Job Done

WHILE TRAVELING in recent months, we've become more aware of a group of people who don't get much public thanks for what they do. Yet their efforts weigh heavily on the success of a business. They're indispensable if we're to improve the environment.

Sure, they get paid for doing a job; and if they don't do it properly, they may not have a job.

Nevertheless, their skills and dependability rate an occasional pat on the back.

We're talking about . . . the mower operator who occasionally must ride at a precarious angle, but constantly be alert to avoid hitting and hurling objects that could injure someone . . . the man who operates howling tools to burnish the soldered seams of a chemical tank . . . the welder, whoever he is, under that hot hood . . . the operator of the sprayer whose accuracy is the difference between new contracts and lawsuits . . . the tree trimmer who maneuvers deftly around high voltage lines . . . the ground man who picks up the last small twig and stuffs it into the chipper . . . the mechanic who keeps cutting blades honed,

vehicles rolling, spray planes flying . . . the men and women who painstakingly compile data . . . the order-taker who gets it right and fills it right now . . . the worker who mixes the chemical *exactly* as recommended . . . the fellow who counts insects, or detects diseases . . . the sod cutter who works in the hot sun all day . . . the pruner who trims nursery stock as though each tree were his own . . .

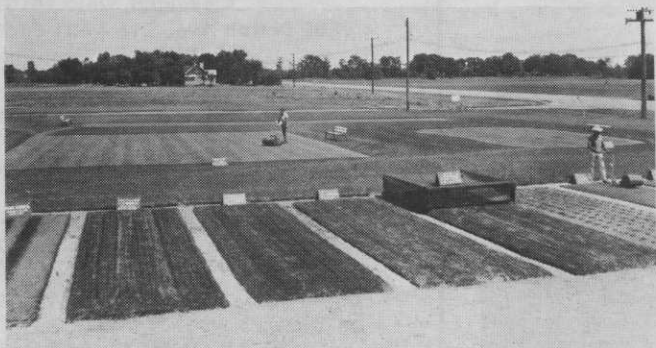
But you get the idea. You can name a hundred more.

Citizens can howl, bosses can order, corporations can finance, government can legislate on this matter of improving the environment. Finally, though, it is the people we've mentioned that get the job done.

So we just thought it would be nice to take a little time and space to say thanks. If some of them work for you, why not second the motion?

Gene Ingalsbe

SOD PRODUCERS



1970 Conference and Field Day, July 28-30

This is your meeting of the year. The place: Ramada Inn, Dolton, Ill. The program begins at 1 p.m. with tours to area sod farms. Next day you'll hear the best in the industry talk about the national sod business as it is today and what it can become in the future.

You'll hear survey results on the industry, generally, on production costs, specifically. Specialists will discuss turf varieties, turf production, turf promotion. You will see successful sod operations, turf research plots, and the latest turf production equipment.

You will see the research plots pictured at left during a tour of Warren's Turf Nursery. The tour, beginning at 1 p.m., July 28, from the Ramada Inn at Dolton, Ill., also visits the Evergreen Sod Farm at Peotone. Field day demonstrations go on all day July 30 at the H & E Sod Farm just off Rt. 114, Momence, Ill. A landing strip for light aircraft will be available at H & E. Contact Dale Habenicht (312-798-2210) if you plan to fly. The equipment lineup is from last year.

For details, call Henry Indyk, Executive Secretary, Area Code 201 247-1766, Extension 1453

American Sod Producers Association

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Asplundh has scheduled regular production on the Forestry or General Service bodies, both complete on GMC chassis. These 45' lifts with a capacity of 350 pounds in all positions are fully insulated and have high pressure hydraulic systems to the baskets. Ready for fast delivery.

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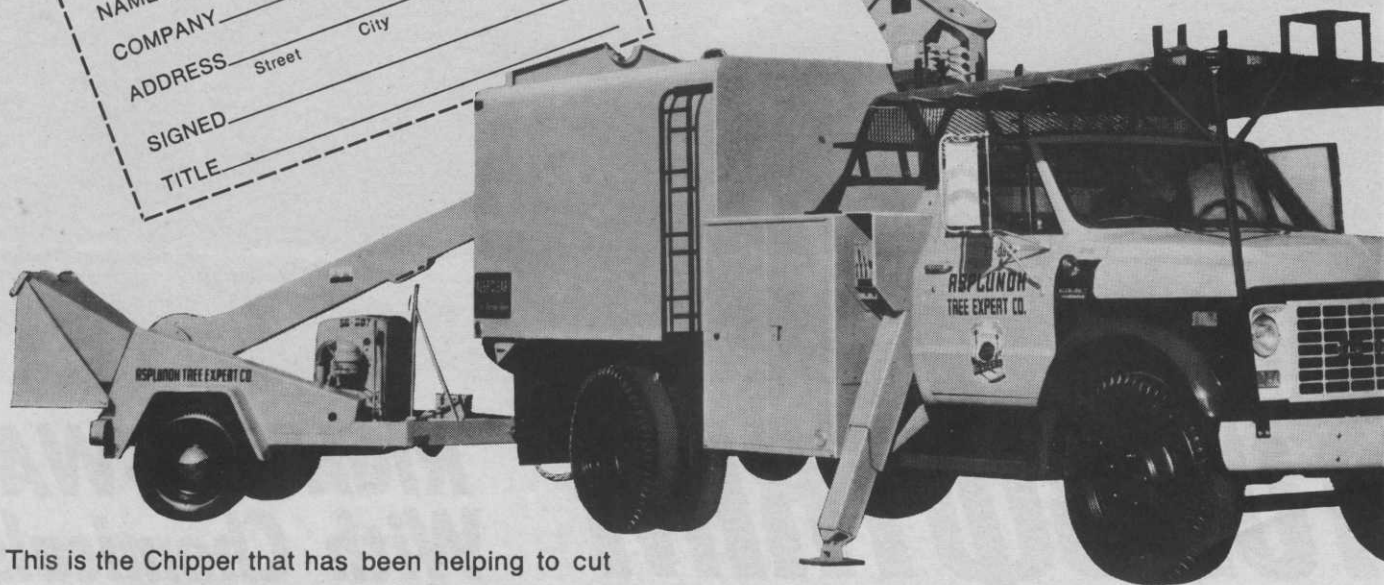
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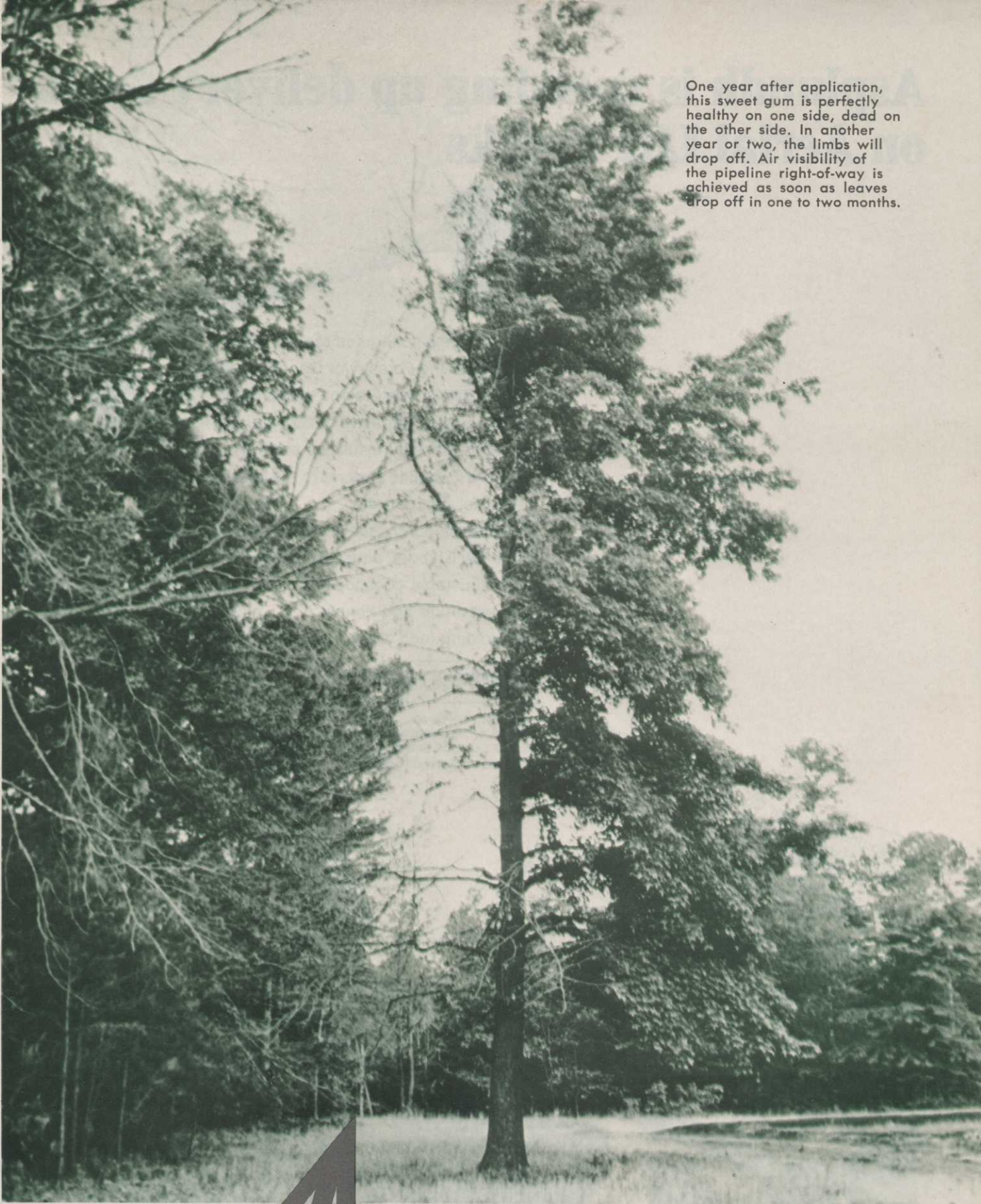
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One year after application, this sweet gum is perfectly healthy on one side, dead on the other side. In another year or two, the limbs will drop off. Air visibility of the pipeline right-of-way is achieved as soon as leaves drop off in one to two months.

TURBO  **TRIM**

RIGHT-OF-WAY
With Chemicals

DEEP IN SOUTHEAST TEXAS, near Kilgore, Tom Mobley and I headed for tall timber.

We had a hard time finding what we were looking for. It weighed 22,000 pounds, stood 10 feet high, stretched 30 feet long, was bright red and yellow, roared like an earth-moving tractor, and spit a mayonaise-like fluid 100 feet into the air.

Except for occasional pauses to analyze the quality of ripened blackberries, we searched diligently. The "putt-putt" of hundreds of oil well pump engines dominated sounds. Trees that had grown from saplings to 60 to 70 feet high after this world-famous oil field was developed three to four decades ago dominated our sight. The height and canopy of the trees, in fact, is the reason we have this particular Texas story to tell.

Though it is the colorful and dramatic symbol, the TurboTrim vehicle is not the subject of this report. The story is about a technique of maintaining rights-of-way by chemical side-trimming.

It's a technique that has developed in three years to a fifth and full-fledged division of the Mobley Company, Inc., Kilgore.

Tom Mobley is one of three brothers who own this Texas "mini-conglomerate." Tom is president of Mobley Company, Inc., and vice-president of the Chemogenics Division. John Mobley III is chairman of the board of Mobley Company, Inc., and president of the Chemogenics Division. David Mobley is president of the Applied Chemicals Division.

Factors that have proved the worth and produced the success of the TurboTrim, said Tom Mobley, are:

1. Height of application.
2. Accuracy of chemical placement.
3. Maximum effectiveness from amount of chemical used.
4. Speed of application and of job completion.

5. Lower cost.

As have many businesses, the Chemogenics Division evolved from the solution of a problem.

Oil pipelines lace the countryside of east and southeast Texas as do streets and freeways in a metropolitan area. But for several decades, oil companies faced no difficulty in policing rights-of-way Mother Nature, appearing almost revengeful at having been drilled into and slashed through during the peak of oil drilling and pipeline

construction, counterattacked, pushing trees higher than the derricks and spreading limbs, brush and weeds over the pipeline trails. Most pipelines have had a moving program to keep the right-of-way clean a ground level. Pipeline walkers patrolled the lines to search for leaks.

Aerial reconnaissance of pipelines became more economical than maintaining linewalkers. The problem was seeing the right-of-way from the air.

"By the early 60s, Tom Mobley be-

Mobley Company's TurboTrim easily hits this tall pine, perhaps between 70 and 80 feet high. It's a two-man operation, R. C. Cloyd is the tractor driver and Ernie Ray is operating the TurboTrim. The modified John Bean blower sends the invert emulsion skyward at a velocity of 100 mph.

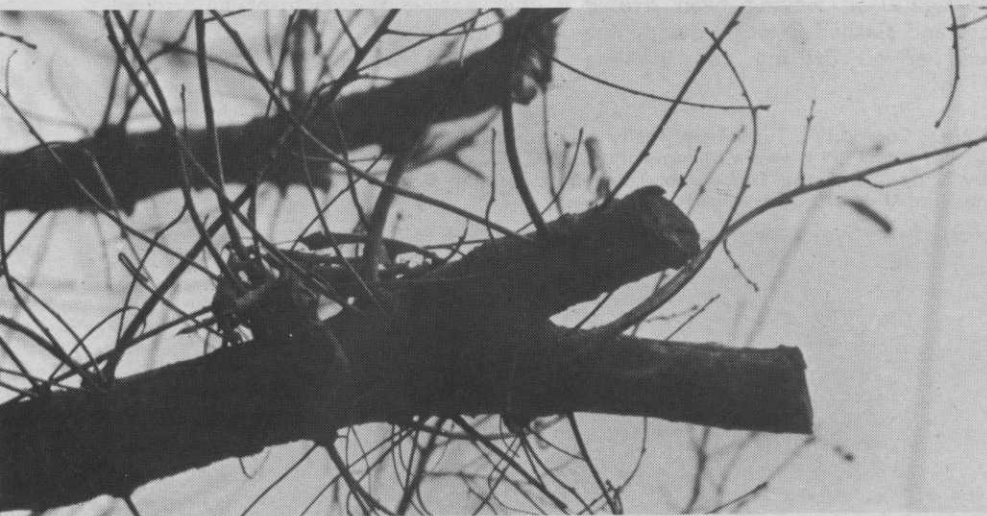


MAINTENANCE

By GENE INGALSBE



This three- to four-foot section of an oak tree shows how fine a line can be drawn with TurboTrim. Maximum coverage on the left dwindles to no coverage on the right. Trimming by hand often resulted in insect infestations and vigorous resprouting. The limbs at left are shown one year after treatment. Sprouts after hand trimming are dead, and no new sprouting has occurred.



The invert emulsion comes out a creamy consistency providing drift control, rain resistance, more surface absorption, less evaporation loss, and placement accuracy.

"One of our pipeline customers agreed to provide a test site," Mobley continued. "We used Ammate plus a proprietary mix and a modification of the Stull bifluid system. Our wind machine was a modified John Bean, although it could be a Myers or somebody else's.

"A seven-mile stretch in deep east Texas was treated in August of 1967. Everything looked fine in the spring of 1968. We treated another 50 miles, still on an experimental basis.

"Upon review, we knew we were on the right track and that the system would do the job."

All Terrain Vehicle

The Mobley Company didn't walk or run into this new venture, rather, it plowed into it. This boldness in taking on the roughest terrain and vegetation conditions produced the TurboTrim applicator.

"The 50 miles we tackled were along the Gulf Coast and during an especially wet summer," recalled Mobley. We were using a four-wheel drive truck, and were constantly getting stuck. Along the way we saw loggers operating with big equipment, and on occasion hired their rig as a tow."

Impressed with the invincibility

gan, "overhanging trees were becoming a problem. Cutting was expensive and regrowth was inevitable. Cutting also brought on insect infestations. I've seen stretches of forest paralleling rights-of-ways killed by the pine beetle that entered the trees through the limb cuts and tree-climber's cleat wounds."

and material could treat the high limbs."

Stull's herbicide emulsion is one in which oil surrounds water droplets, as opposed to the more common emulsion of oil droplets in water. A "multiphase invert" is a Stull emulsion in which oil surrounds water surrounding oil.

New Technique Required

Mobley Company, through one of its older divisions, Applied Chemicals Division (formerly Walker Chem-Spray), had been providing weed control service, treating large industrial sites, tank farms and railroad yards for several years. The peculiar nature of the pipeline vegetation problem called for something different.

"The key problems were height of application and drift control," said Mobley. "In 1967, we tried out a John Bean RotoCast and Stull Chemical's bifluid invert emulsion system. We envisioned that with some modifications, this equipment



Tom Mobley, right, visits with Ernie Ray while the TurboTrim is being restocked. The men on the vehicle are Tim Davis and Dennis Sadler. At this particular stop, water was taken from a pond near the right-of-way.

of the logging vehicle, the Mobleys purchased a four-wheel drive, rubber-tire, articulating, all-terrain vehicle, made by Franklin Equipment, Inc., Franklin, Va.

Mobley engineers mounted a modified John Bean sprayer, a 1,000-gal. tank, a dozer blade in front, and a winch.

"It's great to drive," said R. C. Cloyd. "It can be mired, but not very often."

In 1969, the TurboTrim treated rights-of-way for two rural electric cooperatives, five pipelines and two investor-owned utilities.

"We worked the hardest areas last year," Mobley said, "but a Texas guess is that we'll cover 500 miles this year.

How TurboTrim Works

The TurboTrim program is this:

1. Chemical is applied only to limbs overhanging the right-of-way obscuring the vision of aerial patrolmen or interfering with conductors. The air blast carries the emulsion to every target portion of the tree.

2. Ten days to two weeks after application, the deadening process has begun. The chemical has penetrated each leaf, limb, and twig, and leaves have turned brown. Additional limb and twig growth has been stopped. Most leaves will fall within one or two months.

3. One year after treatment, the deadening process is complete. Each limb and twig treated is dead. The decay process has begun. The smaller twigs at the end of each limb are the first to fall to the ground in small pieces resembling the natural self-pruning of all trees. No additional growth will occur to the treated limbs.

4. Three to four years after treatment, all limbs have self-pruned and have been unnoticeably assimilated into the natural dead fall. No re-sprouting has occurred. The pruning process is complete.

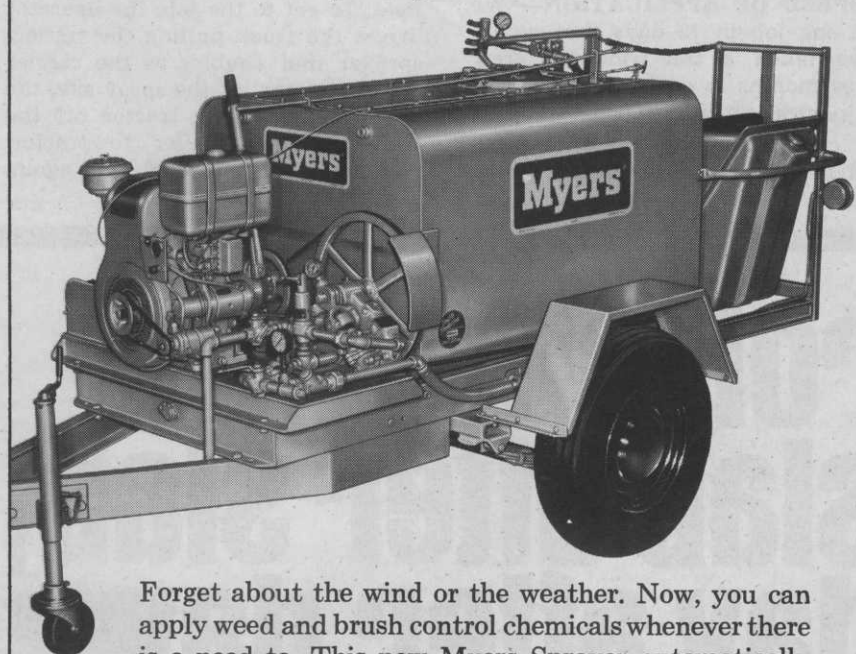
Back to the advantages of the TurboTrim:

HEIGHT—The more common, or conventional, spray equipment reaches 40-50 feet effectively, but much more chemical is necessary for greater heights, Mobley said. "The TurboTrim is effective up to 100 feet, partially due to the invert emulsion, to the equipment we use, and to the ability of the operator," he added.

The day we saw the TurboTrim perform, two trainees, Dennis Sadler and Tim Davis, were working along with Ernie Ray and R. C. Cloyd. By mid-June a second TurboTrim went into operation. One contract is

Keep Herbicide Sprays in the Target Area

...with Myers new Du-All Invert Sprayer!



Forget about the wind or the weather. Now, you can apply weed and brush control chemicals whenever there is a need to. This new Myers Sprayer automatically mixes, meters and applies Visko-Rhap* herbicides in mayonnaise-like, drift resistant droplets. No pre-mixing of heavy, hard-to-handle chemicals. No wind drift. Oily, wash-off resistant droplets are deposited right in the target area. Waste is minimized. You cover more acres per day more effectively with fewer refills. Want details? Just call your local Myers Sprayer Dealer, or write:

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CORPORATION

*Trademark of Hercules, Incorporated, Wilmington, Delaware

in South Carolina.

ACCURACY—"We can hit within two or three feet of an imaginary line," said Mobley. "And because of the drift control we have, we can operate in 10 to 15 mph winds, generally speaking." Conventional rigs would have to shut down if the wind were half that velocity.

EFFICIENCY—"I would say our efficiency is 10 to 20 times that of other systems," Mobley estimated. "We use less material. And once the material hits the target, Mobley continued, it clings longer, allowing the chemical to take effect. "If we get the spray on one to two hours before a rain, we're in good shape," he said. In isolated cases, the chemical has taken effect even though a good rain came just 30 minutes after application, he reported.

An additional benefit in the right conditions, he added, is that we get some brush control from fall-back. We've killed 8-10-foot brush this way."

SPEED OF APPLICATION—"We did one job in 12 days that would have taken a tree-trimming crew three months to do."

LOWER COST—Considering time for completion, less material used, and length of effectiveness, Mobley

estimated that the TurboTrim is from 50% to five times cheaper than hand trimming.

Trailer Spraying Foam On Turf Gets Attention

Where the TurboTrim gets stares of wonderment, another Mobley conceived and constructed spray apparatus gets stares of puzzlement.

With increasing frequency, unenlightened spectators see a tractor pulling a flat-bed trailer over pasture and golf courses spraying a thick white foam that seems to come from nowhere.

"Where's your tank?" they ask," reported Don Telge, manager of the chemical weed and brush control department. On close inspection, the 400-gal. tank is determined to be the box-like structure supporting the flat-bed.

The one-man rig is uniquely practical. To get to the job, the operator drives the truck pulling the trailer-sprayer that doubles as the carrier for the tractor. At the spray site, the operator drives the tractor off the trailer, hitches trailer to tractor, and takes off spraying. But again,

the rig is not the best part of the story.

Herbicides With Foam

"We're using foam to apply 2,4-D and MSMA on golf courses, along fire walls, and pastures," said Telge. "I worked with the developer of the product, Norman Sachnik. I experimented with it when I worked as a ranch manager, then joined Range Engineering Co. to look for sales outlets."

The search also found Telge a job at the Mobley Company. Sachnik has since changed the name of his company to Mano Company and is headquartered in Houston.

The foaming agent is called Foam-wet. A special nozzle sucks in air to create the foam mixture. One gallon of water at 200 psi, said Telge, makes three or more gallons of foam.

"Foam stays on four to five times longer, increasing the effectiveness of the chemical used," said Telge. "It won't run off as water does."

"This means you can use less water—perhaps 50% less."

A veteran sprayman "can just tell a good job from a bad one with water," said Telge. "But it's much

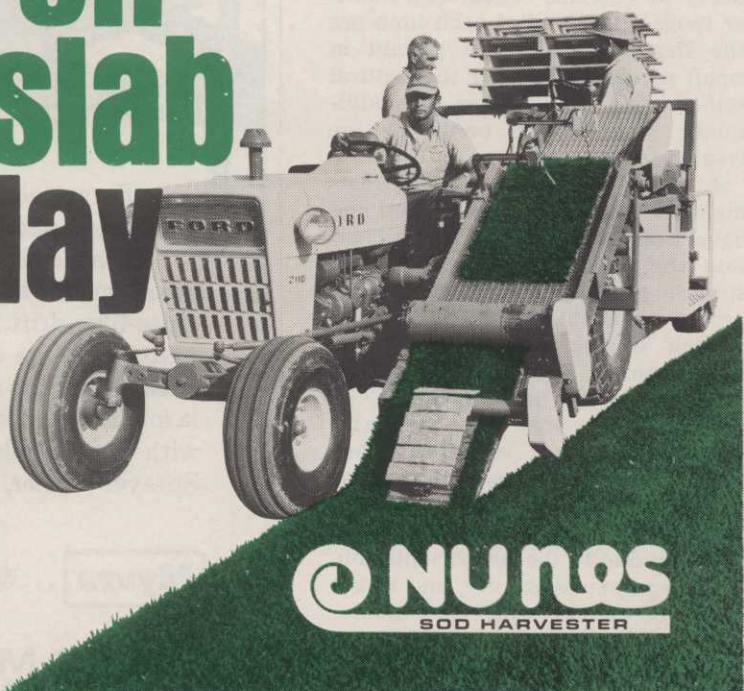
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easier to see coverage with foam. More important, the customer can easily see what kind of coverage he's getting."

Telge has noted that browning comes a little slower, in some cases, than with water—6 to 8 days, instead of 4. "What we are getting, though, is translocation kill instead of dessication kill."

Vegetation Control Work Expanding

TurboTrim and foam spraying are just two of the innovations that come with regularity for the steadily expanding 27-year-old Mobley Company.

The firm that John Mobley, Jr., started in 1943 as an oil tank cleaning and oil hauling business has changed dramatically, as sons John III, Tom and David added their talents.

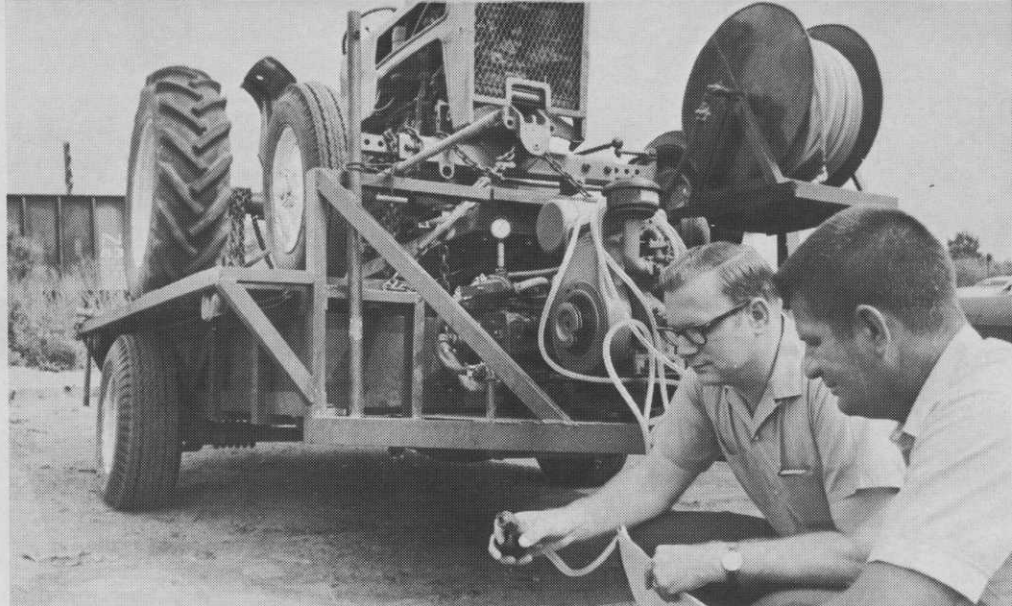
To provide off-season work for employees in the trucking end of the business, Mobley Company entered the weed control field in 1958. Activities were soil sterilization and brush control, primarily for the petrochemical industry.

"Vegetation maintenance is the fastest growing segment of the business," said Tom Mobley, "now accounting for roughly half of annual volume.

All but one of the Mobley divisions operate from Kilgore. Applied Chemicals Division operates from Beaumont. Other divisions are the Transport Division, Mobley Chemicals, Inc., and Southwest Disposal, Inc. Sales offices are maintained in Dallas and Austin.

With the exception of the purchase of the Walker Chem-Spray Company about five years ago, all new operations have been created and developed. From five trucks in 1961, the total at last count was 61 pieces of rolling stock.

A flat-bed trailer, tractor, pump, engine and hose—and Don Telge, right, (with Tom Mobley) is ready to apply foam spray to turf. But that's not quite all of the equipment description. Look closely, and you can see a 400-gallon tank as a part of the flat bed. This specially built trailer has a 6,000 lb. axle and 3,200-lb. carrying capacity tires. Gerald Sossamon directs the foam stream at 200 psi. Foam is achieved with the foaming agent, Foamwet, and a special nozzle attachment with air intakes. Foam application of MSMA and 2,4D is used on golf courses and pastures. Coverage is easily visible as shown below, and chemical stays on the leaf four to five times longer. One gallon of solution makes about three to four gallons of foam, says Telge.



PREPARE FOR MORE INFLATION

By David L. Markstein*
New Orleans, La.

THERE IS AN OLD TALE told of the Duke of Wellington. The great man, fresh from his Waterloo victory over Napoleon, was strolling down a London street when a nondescript passerby stopped him. "Mr. Brown, I believe?" said the little man, raising his hat. "If you believe that, you'll believe anything," sniffed Wellington.

Today we are told soothingly from Washington: "The inflationary psychology is being beaten. Price increases have slowed up. Inflation is on the run and will no longer be a part of American life."

If you believe that, you'll believe anything. Instead of believing, ask yourself: "Has there been a single week recently when some cost has not gone up?"

Inflation may be contained—briefly—but it is going to flare out again, and again. It is something you should prepare to live with for a long time because the classic steps now being taken to meet inflation aren't succeeding. They are old medicine. They worked with a classic set of inflation germs. Now inflation is germinated by another set of causes. There may be no cure for this particular inflation.

The idea is frightening, but not necessarily the end of the world if you plan. It is instructive to look at the causes of inflation and at things that have been done to avoid being eaten alive during past inflationary binges.

Classic currency depreciation proceeds first from monetary causes. When the government (through the Federal Reserve central bank) pumps more money into our economy than increases in productivity can mop up, then the additional

money bids for the same volume of goods and services. Prices move higher.

There are many ways monetary authorities can expand or contract money supply. They can do this through "open market" activities based upon purchases and sales of government bonds.

(Simplified example: The Federal Reserve decides to pump another \$10 billion into the economy. It buys \$10 billion in Treasury bonds in the open market. These are purchased from a dealer named Philip Phinance. To pay for the bonds, the Fed credits the account of the bank in which Phinance and Company maintains its account. The bank, in turn, applies \$10 billion credit to Phinance and Company's account. Suddenly, there is a \$10 billion credit in the economy which, before this action, did not exist.)

The Fed also exercises control over money growth and contraction by governing the amount of reserves that banks must maintain.

(Simplified example: Moneybags National Bank has deposits of \$5 billion. It must maintain reserves of \$1 billion, or 20%. If the Federal Reserve changes that requirement to permit retention of only 15% reserves, the Moneybags National suddenly has \$500 million which it can lend, and those lent dollars flood out through the economy. They are an increase. These dollars may have existed before the change, but did not have the capacity to make purchases before people borrowed the freed \$500 million.)

Father of Our Money

In 1969, anxious to cool off inflation and convinced that a tightening of money with an increase in interest rates would bring off the job, Federal Reserve authorities clamped a ceiling on Regulation Q. This regulation sets the top interest rate which banks are allowed to pay for money they borrow. Unable to borrow additional funds to lend, the banks' activities tended to slow.

Thus, the central bank has become the father of our money. No longer do banks merely hold it in

safekeeping. Led by the top bank of all, the Fed, they make and withdraw the money. Darryl R. Francis, president of the Federal Reserve Bank of St. Louis, noted this fact in a speech May 12, 1969, before a convention of the Arkansas Bankers Association:

"The Federal Reserve System, through its power to create and destroy bank reserves, can control the money supply . . . there are close causal links between changes in the money supply and changes in spending," he said.

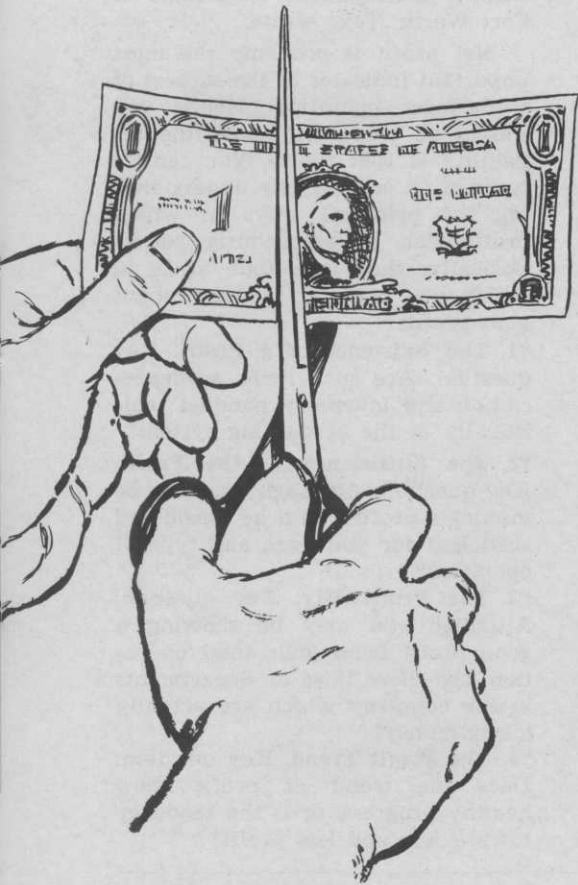
Cost-Push Theory

Starting with the middle years of the Sixties, the Federal Reserve expanded money supply at a frightening rate. Money was being pushed into our collective hands at a rate exceeding 6% per year by the end of 1968. Then the monetary authorities became alarmed and turned the spigot to a slower rate. Later, as 1969 moved along, they stopped expanding money supply altogether. And so came the massive money crunch. However, it didn't stop inflation because the cause was no longer monetary. In the second phase of a big inflation, cost-push becomes predominant. That is where we are at present.

The Federal Reserve Bank of Philadelphia had this to say in a study on inflation ("Henry VIII Revisited") reported in its **Business Review**:

"The cost-push theory of inflation rests on the premise that fundamental changes have taken place in our economy during the Twentieth Century. The theory points out that business firms have expanded in size and influence. Labor unions have grown in strength and bargaining power. Indeed, according to the cost-push thesis, labor today is so powerful at the bargaining table that it can push up wages faster than productivity (output per man-hour). Consequently, costs per unit of output increase. And rising costs are a source of great concern to management. "As costs rise, management has two choices. It can absorb the increased cost and thus experience

* David L. Markstein is author of "How to Make Money with Mutual Funds," "Six Steps to Successful Investing," "Practical Ways to Build a Fortune in the Stock Market," "Nine Roads to Wealth," "How to Make Your Money Do More," "How to Chart Your Way to Stock Market Profits," "How You Can Beat Inflation;" past-president, Financial Analysts in New Orleans.



Financial Writer Lists Principles to Insure Your Business Continues to Be Profitable

state must take steps to increase the amount of money available for spending. In short, it would be forced to manufacture money."

Thus in the United States, the inflation which at first had monetary causes grew a different set of causes. Today's inflation becomes the cause of tomorrow's increased inflation which, in its turn, begets a still greater inflation to come.

Why isn't something being done about all of this?

Throughout the troubled year of 1969, the Nixon Administration grappled with inflation. The Federal Reserve came to its assistance. Yet despite the size, power and prestige of the two mighty forces, inflation seemed to flip aside their best efforts as easily as a judo black-belt would shrug off efforts of a pair of untrained opponents.

Price-Wage Controls Fail

So there may be no permanent cure for inflation in this complicated, welfare-minded, austerity-hating world. A generation has enjoyed an increasing prosperity. People believe that more leisure with less work, and abolition of poverty from the earth, are achievable goals. The effort to achieve that aim can bring about a new breakout of inflation even if the present rounds of it are stopped.

"Sure," say some thinkers, "cost-push is not as easy a force to stop as the direct monetary cause of inflation. But we can bottle up its effects at the source with wage and price controls." Both of these controls have been tried and have failed. Ancient Babylonian kings and Egyptian Pharaohs attempted price-wage controls; the emperors of long-ago Rome tried them. As a result, economic activity of Babylon, Egypt and the Roman Empire stagnated.

Price and wage controls tend to turn men's energies and assets into channels which are not controlled. If rents are covered by a ceiling, people invest in stocks instead of rental property. Next, nobody tends the real estate store and soon prop-

erties deteriorate; owners cannot afford to fix them up at fixed prices. Good quarters grow scarce. It works that way with buildings, butter, neckties, automobiles or button hooks. Clamp on a price lid and suddenly—no service or merchandise at any price.

Said Mr. Francis: "Direct controls, like a new paint job over a termite-infested house, hide the evidence but do nothing to eliminate the cause of the problem."

How Others Survived Inflation

It is instructive to look at ways in which smart people survived severe inflations of the past. In France during revolutionary times, the government had to supply troops fighting on all fronts against combined foes who were determined to eradicate the infant democracy from monarchist Europe. It did so by printing paper money called **assignats**. These were backed by nothing except the hope of loot gained from foes not yet beaten.

Assignats declined in purchasing power. Every month it took more to buy the same goods, then every week. Finally, assignats declined almost daily. But people who used dwindling assignats to buy **things** prospered. They purchased whatever assignats would buy at the time—land, castles, cattle, jewelry, furniture — and found that when Revolutionary France awakened from its funny money binge their things were worth much more in real value than the assignats used to purchase them.

In defeated Germany during the Twenties, a story was told of two brothers who divided an inheritance. One was thrifty. He put all of his money into interest-bearing bank notes. The other liked to whoop it up. He had an idiosyncrasy: To keep track of his drinking, he saved the old bottles from which his joy water had been poured. When marks of the Weimer Republic were at length repudiated, the thrifty brother found himself with worthless paper in his safe deposit box. The drunken brother was able to sell empty bot-

falling profit margins; or it can pass costs on to the consumer in the form of higher prices if in a market position to do so. Since business has grown in influence and market power, there is a tendency to choose the latter alternative — to raise prices rather than lose profits.

"But what does this have to do with money? Plenty, say the cost-push theorists.

"In 1946, Congress passed a law—the Employment Act of 1946—which, among other things, calls upon the federal government to help maintain maximum employment. To achieve this objective, it is necessary for virtually all goods produced to be purchased, even at higher price levels generated by cost-push pressures. If some goods are not bought, business will lay off workers. There will be unemployment.

"But where will we get the additional money to purchase the same amount of goods at higher prices? Not every salary of every worker will be raised . . . there is a limit to the extent people will spend their hard-earned savings and part with cash. At this point they will decrease their consumption. Then, conclude the cost-push theorists, the federal government is forced to step in. To maintain employment, the

ties. The brother with **things** instead of money survived.

Plan to Co-Exist

It is not likely that we will reach the sad financial plight of the Weimar Republic—not soon, at any rate. But it is not likely, either, that inflation will be stopped, no matter how sincere the efforts or how stringent the monetary steps. Sound planning at this point should take into account inflation's probable continuation.

A Bureau of Labor Statistics release shows that from January, 1967, to January, 1969, the consumer price index for urban wage earners rose from 114.7 to 124.1. Ten years ago, using the same months (January, 1957, compared with January, 1959) the rise was from 99.7 to 102.2. In two years during the decades of the Fifties, inflation, measured by the BLS Consumer Price Index, went up to 4.8%. But in two comparable years of the decade of the Sixties, it went up 8.2%. Inflation is indeed picking up its rate of increase.

Consider where extrapolation of these basically conservative cost of living figures might carry us in another ten years, assuming that inflation won't abate but might accelerate its pace. Say that the rate

doubles in ten years as it did in the last decade and the rate of every two-years' increase will stay at 8.2% for the next four years. For the four years that follow, it will be at 1.5 times that rate (12.3%) and for the final two-year period will be at double the 1967-1969 rate.

That would raise the Consumer Price Index to a lofty 213.4. At that level, the dollar would have depreciated in purchasing power by a further 72%.

Invest in Your Own Business

Probably the most resultful "thing" in which you can invest to counter the probability of this devastating further inflation is your own business. But the problem in an inflationary era will be to keep it profitable and not merely tinkle cash register bells. If you keep in mind that you seek only contracts and orders that will pay off on the last line of the profit-loss statement; that you are in business to generate lettuce of the kind that goes into a bank account and not merely to serve people with produce — then you have the key to keeping on the top side of further inflation.

In a Small Business Administration **Small Marketers Aid** of August,

1962, reprinted January, 1967, and as valid in 1972 as 1962, Frederick G. Disney, management consultant of Fort Worth, Tex., wrote:

"Net profit is probably the most important indicator of the success of a business operation. Hence you should be concerned about the reliability of that figure. You can be surer of its accuracy by understanding the principal ways in which profits can be erroneously stated. Basically, there are four areas in which you can kid yourself about your profits.

"1. The Existence of a Profit. Key question: Are such items as depreciation and inventory handled realistically in the accounting system?"

"2. The Sufficiency of the Profit. Key question: Although you may be making a profit, can it be considered sufficient for your size and type of operation?"

"3. The Profit Mix. Key question: Although you may be showing a good profit from your total operation, are there lines or departments in the company which are actually losing money?"

"4. The Profit Trend. Key question: Does the trend of profit show healthy progress, or is the tendency toward less and less profit?"

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6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Ohio Chapter, International Shade Tree Conference, at the USDA Shade Tree and Ornamental Plants Laboratory at Delaware, Ohio, July 8.

University of Minnesota West Central Experiment Station open house at Morris, for persons interested in ornamentals for home use. July 9.

Hyacinth Control Society at the Sheraton Motor Inn, Huntsville, Ala., July 12-15.

American Association of Nurserymen, 95th Convention, San Francisco Hilton, July 18-22

University of Minnesota Northwest Experiment Station open house at Crookston, for persons interested in ornamentals for home use. July 22.

University of Minnesota North Central Experiment Station open house. Includes ornamentals and forest tours. July 23.

American Sod Producers Association 4th annual conference and field day, Ramada Dorchester Inn, Dolton, Ill., and the H & E Sod Farm, Momence, Ill., July 28-30.

Turfgrass Research Field Day, Rutgers University, New Brunswick, N.J. Aug. 5.

Indiana Association of Nurserymen summer meeting, Executive Inn, Evansville, Ind., Aug. 9-11.

46th International Shade Tree Conference, Hotel Flagship-Rochester, N.Y., Aug. 9-14.

Sixth Annual Turfgrass Management Conference, Hawaii Turfgrass Association, Punahou School, Honolulu, Oahu, Aug. 26-28.

39th Annual Turfgrass Research Field Days, University of Rhode Island, turfgrass fieldhouse, College of Resource Development, Kingston. Golf Course Superintendents Field Day, Aug. 26; Lawn and Utility Turf Field Day, Aug. 27.

Virginia Polytechnic Institute Turfgrass Field Day at Blacksburg, Va., Sept. 9 and 10.

Helicopter Association of America eastern operators management seminar at the Holiday Inn, Media, Pa., Sept. 9-12.

Sprayorama '70 Pacific Northwest Pesticide Applicators, Inc., annual meeting, Thunderbird Motel, 1401 N. Hayden Island Dr., Portland, Ore., Sept. 10-12.

1970 Illinois Turfgrass Field Day and open house at the turf plots of Lincoln Avenue one mile south of Florida Avenue in Urbana, Sept. 11.

Turf and Ornamentals Day, Ohio Agricultural Research and Development Center at Wooster, Sept. 15.

University of Minnesota Technical College Fall Horticultural Day, Waseca, Sept. 20.

60th Convention, California Association of Nurserymen, Yosemite, Sept. 22-24.

Roadside Development 29th Annual Short Course, Department of State Building, 65 South Front St., Columbus, Ohio. Oct. 5-9.

10th Annual Southern California Turfgrass Equipment and Materials Educational Exposition at Brookside Park, Pasadena, Oct. 14-15.

Texas A&M University 5th annual Industrial Weed Control Conference, on campus at College Station, Tex., Oct. 19-21.

JULY, 1970

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This is an open meeting especially for commercial, municipal and utility arborists, but also for all others interested in the tree care industry. Four days of educational sessions; scores of speakers. Entertainment for the family; special programs for the women and children. Post convention tours. Equipment displays and demonstrations. See detailed report on page 15. For more information, contact E. C. Bundy, executive secretary, P.O. Box 71, Urbana, Ill., 61801. Phone AC 217 365-2032.

AUG. 9-14, ROCHESTER, N.Y.

Hotel Flagship — Rochester



John Brailsford turned a "swamp farm" into a profitable nursery business featuring big trees.

Have Shady Grove—Will Travel

By BILL GENTRY
Orlando, Fla.

SHADY GROVE Plantation and Nursery, Orangeburg, S.C., is making a solid reputation for being able to supply, haul and plant large

trees of 2½- to six-inch caliber in most of the southeastern states.

For example, in planting the home offices of Blue Cross-Blue Shield, Columbia, S.C., owner John Brailsford reports he furnished 32 truckloads of trees.

The firm grows red maples, sycamores, cherry laurels, magnolias, tulip poplars, several varieties of hollies, willow oaks, chestnut oaks, and white oaks as well as large screening shrubs on some 100 acres of flat farmland near Orangeburg. This acreage is presently being expanded to 250. The nursery has a unique system of drainage tiles and dams that control the water table and has turned a previous disadvantage of flat farm land into a strong asset.

Brailsford says that for many years he accepted the fact that he had a low, wet farm. Soil conservation engineers, however, told him the area wasn't low — just flat.

Armed with this information, Brailsford organized a community drainage project. With the help of the Soil Conservation Service and the agricultural stabilization and conservation people, a main canal

was dug, which increased the fall from the area by five feet.

In the flat lands around Orangeburg, that's a lot of fall!

The canal made it possible to install an extensive system for water table control. Several miles of drainage tile have been laid in such a way that it can also serve as a subsurface irrigation system.

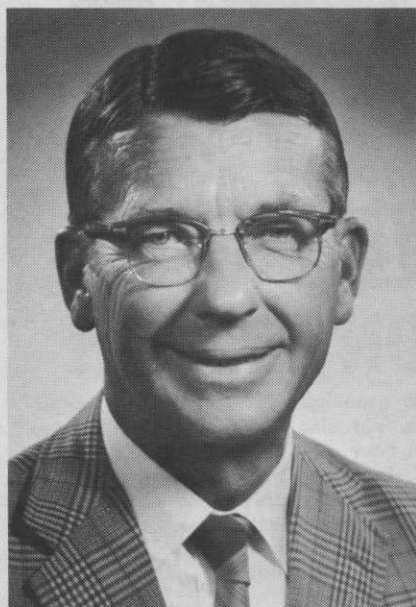
Control dams are being installed in all open lateral ditches so the water table can be raised to promote top growth and discourage deep rooting.

During the winter months, workers simply remove drop boards from the dams and the tile system provides rapid drainage.

This reduces down time from wet conditions to a minimum, allows a longer selling period, and full utilization of labor.

Digging the large trees is mostly a mechanized affair. Recently the firm dug 23 trees of 4-4½-inch caliber in a day with a Davis 300 trencher.

The firm digs year round. During the growing season, a tree is dug and held in a staging and mist area for seven days to harden up. This area is partially shaded. When ready to be shipped, the top is cov-



John Brailsford



Big Vermeer tree spade cuts a clean package.

ered with a black shade material to prevent windburn. All trees are balled and burlapped and bound with #9 soft twine.

Prior to shipping in the summer, the tree is sprayed with an anti-desiccant to prevent moisture loss.

The chief work horse around Shady Grove Plantation and Nursery is a large truck with a 16-foot bed called "Big John" — and you

can tell who the truck was named after.

Big John is equipped with a boom that will handle up to six-inch caliber trees. It also has a panel built over the cab to hold tree tops and keep them from bending.

A sign on the truck reads, "We're equipped to put you in the shade with big trees."

Big John is one of the firm's best

salesmen. The contractor-customers appreciate the truck because it takes the labor out of planting large trees.

Holes are usually dug before delivery and the crane on the truck places the tree in the hole. The contractor needs very little labor and no additional handling equipment on the job.

Another form of advertising the big trees is color photos on display at the nursery and taken to meetings, trade shows and conventions.

A large four-leaf "photo album" is mounted on a stand and each leaf holds more than 20 pictures, both front and back.

These pictures show the firm's trees at the South Carolina Coliseum, on the campus at Columbia College and at many business locations.

All of the trees shown in the photos are labeled and some of the pictures include shots of Big John in action and shots of the drainage tile being installed.

Brailsford recently took the photo stand to the trade show at the Associated Landscape Contractors of America convention in Orlando, Fla.

A loose leaf notebook with 24, 8x10 black and white photos is also used in describing and showing customers what certain trees look like.

Years ago John Brailsford saw the trend toward large trees and plants and began to specialize in finished materials. It must have been a good decision. The only thing bigger than the trees Brailsford sells is his South Carolina smile.




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In Canada: Sabre Saw Chain (1983) Ltd., Burlington, Ontario



The R60 Ditch Witch with vibratory plow attachment installs plastic pipe for underground sprinkler system without digging a trench. The procedure begins by digging a hole in the ground.

Underground Sprinkler System

KNIFED-IN



Pipe is attached to plow blade with cable pulling grip. The plow is then lowered into the hole and laying begins.

A SEATTLE, WASH., LANDSCAPING firm has found a way to speed the installation of underground sprinkler systems.

It used a Ditch Witch trencher with vibratory plow attachment to "pull" rigid plastic pipe into the ground without trenching.

The technique is particularly well-adapted to existing golf courses or other already-landscaped areas because there is little damage to the turf. Olympic Landscaping has installed five underground sprinkler systems on golf courses in the past year, although the company does any kind of landscaping work — both commercial and residential.

The latest golf course job was at the Peninsula Golf and Country Club, Port Angeles, Wash. The club already was in operation and, in fact, golfers continued to use the nine-hole course while the sprinkler system was being installed.

Olympic superintendents are Darwin Bean and Tom Opstad with Bean in charge of work at the Port Angeles course.

Olympic has a 60-horsepower R60

Ditch Witch Trencher, with vibratory plow attachment. He describes pulling pipe this way:

Holes to start the pull and for sprinkler heads are pre-bored with a post-hole auger. Pipe is then laid out in sections. It is pulled into the ground with the plow from hole to hole. Length of pulls depend on soil and terrain.

With the help of Bert Merritt and Jim Hutchinson, Ditch Witch dealers in Washington, Olympic modified the standard vibratory plow blade for the pulling operation.

Assembled pipe is attached to the blade with a pulling grip. The plow unit is started at pre-bored starting holes and lowered into the ground as the plow begins to move forward.

All that remains after a section of pipe is pulled in is to attach the sprinkler heads and fill in the small hole around them. Little restoration is required because no trench was made.

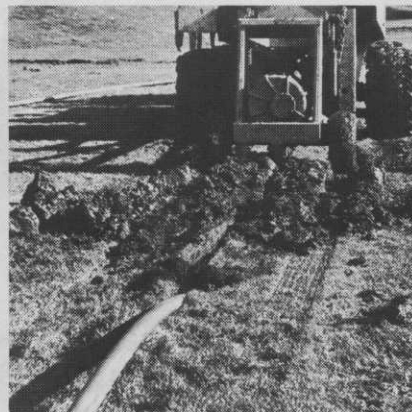
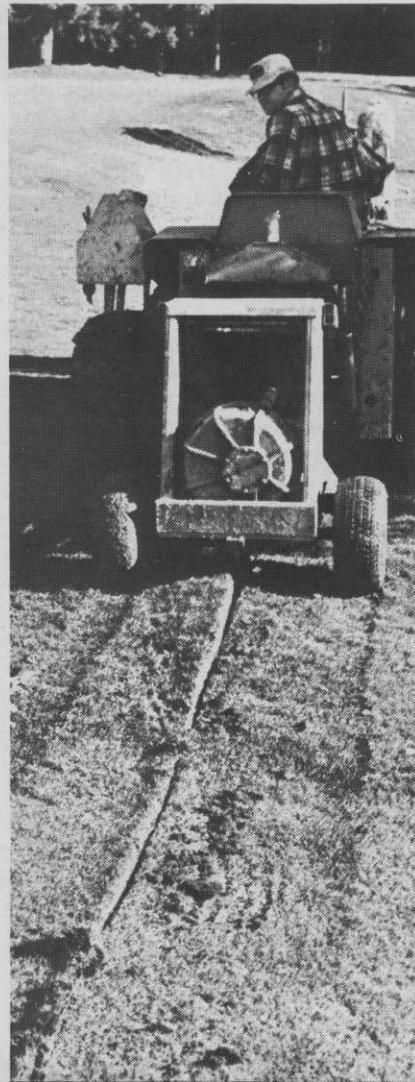
"There is no doubt that using the Ditch Witch and vibratory plow has greatly speeded our installation operation," said Bean. "We get the pipe in quicker and save many hours of restoration time. The method is particularly suited to the damp soil conditions we have in this area."

Olympic used the technique on the 18-hole Championship Olympia Brewery course, also.

The Peninsula Golf and Country Club job consisted of 32,000 feet of pipe ranging from half-inch to four-inches in diameter. Half-inch pipe was plowed in in 600-ft. lengths.

All pipe was installed with the plow except for 100 feet of four-inch pipe for which trench was dug.

Olympic owns the R60 trencher and plow and an M-Series Ditch Witch, a compact handlebar model. Ditch Witch equipment is manufactured by Charles Machines Works, Inc., Perry, Okla.



As Ditch Witch moves forward, pipe is pulled into starting hole and under surface of ground. Note lack of turf damage. Golfers continue to play during installation.

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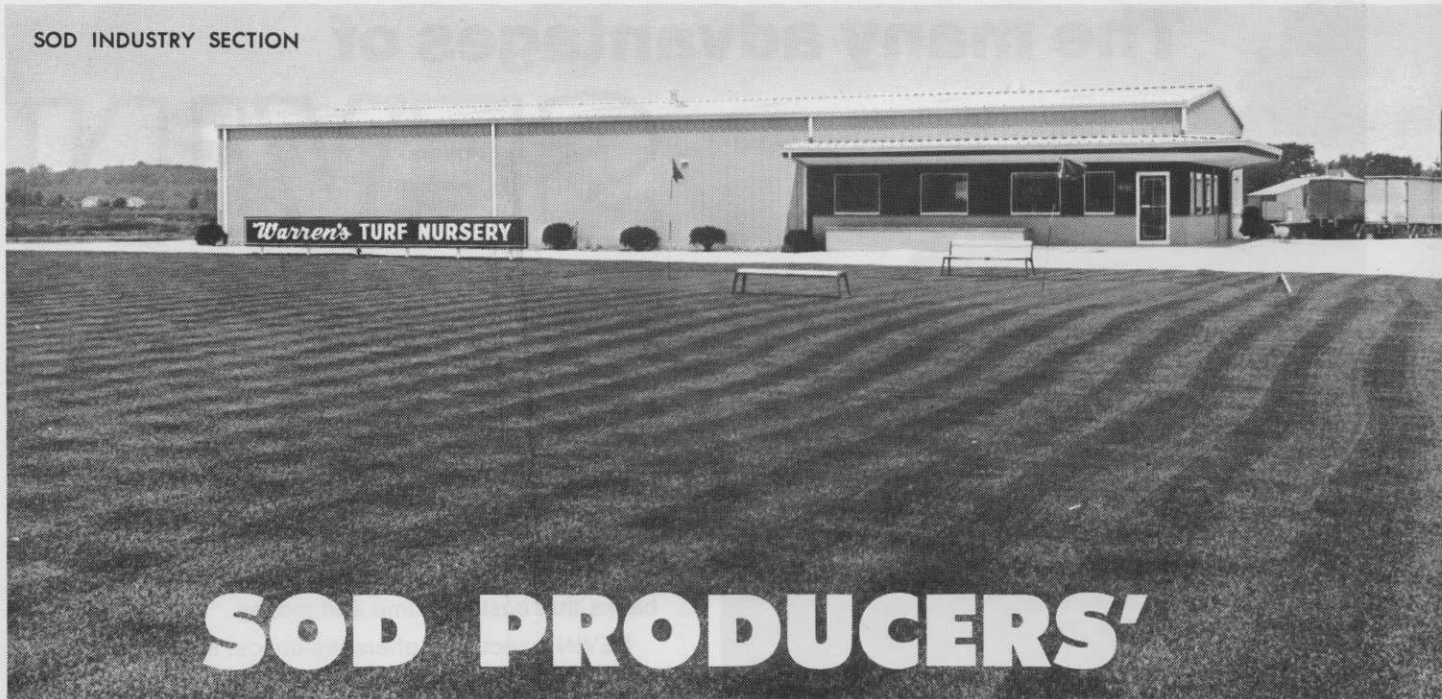
SEVIN also presents low hazards to birds, pets and humans, and avoids many residue problems. Write for a free copy of the new, six-page brochure on "The many advantages of SEVIN for custom applicators"—F-42924. Union Carbide Agricultural Products, P.O. Box 1906, Salinas, California 93901.

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SOD PRODUCERS'

Meeting of the Year Is July 28-30

Sod producers will hear reports of the most comprehensive — and intensive—look at their industry thus far at the fourth annual Conference and Field Day of the American Sod Producers Association.

The lengthened event is July 28-30, with activities taking place at, and branching from, the Ramada Inn at Dolton, Ill.

Summed up, the three-day event consists of tours the first day, educational sessions the second, and demonstrations of equipment the third.

Tours are from 1-6 p.m., beginning from the Ramada Inn. Destinations are the turfgrass research plots of Warren's Turf Nursery at Palos Park and the Evergreen Sod Farm

at Peotone.

Ben Warren, president of Warren's Turf Nursery, is chairman of the program committee.

Wiley Miner, president of Princeton Turf Farms and of the American Sod Producers Association opens the education conference at 8:45 a.m. Registration begins at 8 a.m. Although this conference is an official ASPA event, non-members are welcome. There is no registration fee for ASPA members. Non-members registering by July 15 pay \$25. Otherwise the fee is \$30 at the door.

Drawing on fresh statistics, Arthur V. Edwards, editorial director of WEEDS TREES and TURF magazine, will size up the sod industry nationally. His findings are

based on questionnaires returned within the past 60 days. The survey updates the first in-depth nationwide study of the sod industry, published in March, 1969.

Donald D. Juchartz, Wayne County extension director, follows Edward's presentation with report on the status of the Michigan sod industry.

After a break, the session goes nationally again with a survey report on production costs, compiled by Harry Kallick and Jack Richter of Becker, Blackman, Kallick and Company, Certified Public Accountants, Chicago. The CPA firm, auditors for Warren's Turf Nursery, conducted the survey.

"Our objective," Kallick said,



ASPA tours take in Warren's Turf Nursery, Palos Park, and Evergreen Sod Farm, Peotone. W. Dean Hupe and an unidentified gentleman are looking at what an estimated 750 to 1,000 turf specialists will see, July 28.



Dale, left, and Carl Habenicht host the field demonstrations.

tivities begin at 9 a.m. and continue all day. A catered lunch will be served at noon.

A landing strip for light aircraft will be available at H & E Sod Farm. If you wish to use the strip, contact Dale Habenicht, H & E Sod Nursery, 4301 West Flossmoor Rd., Tinley Park, Ill. 60477, or phone AC 312 798-2210.

Poa Annua Control Plans

A booklet has been published by Diamond Shamrock Chemicals detailing three programs by which Dacthal preemergence herbicide may be used in turf to control *Poa annua*.

Plan 1 is used when no reseeding is anticipated for an entire season, or where mature *Poa annua* survives the summer. The second plan is designed for use where mid-summer reseeding is planned. For serious *Poa annua* infestations, Plan 3 includes directions for a complete spring renovation program, plus instructions for a yearly preventive program to protect against reinfestation, and a section how to apply Dacthal herbicide. For copies, circle (719) on the reply card.

"will be to analyze the results, pointing out apparent trouble areas, and focusing, if possible, on improvement of profitability."

Evan Lemley, program coordinator of management services at Rutgers University, winds up the morning agenda with the topic: "Management—Speaking Objectively."

Afternoon sessions, with William Huber, president of Mid-America Sod Growers Association, presiding, shape up like this:

1:30—Promoting and Merchandising Your Product, Miss Margaret Herbst, director of information, Merion Bluegrass Association, New York City.

2:00—New Developments in Turfgrass Varieties, Dr. Robert Miller, associate professor in turf, Ohio State University.

2:45—Production of High Quality Seed, Doyle Jacklin, president of Jacklin Seed Company, Dishman, Wash.

3:15—Salt Tolerance of Highway Turf, Dr. J. D. Butler, assistant professor in turf, University of Illinois.

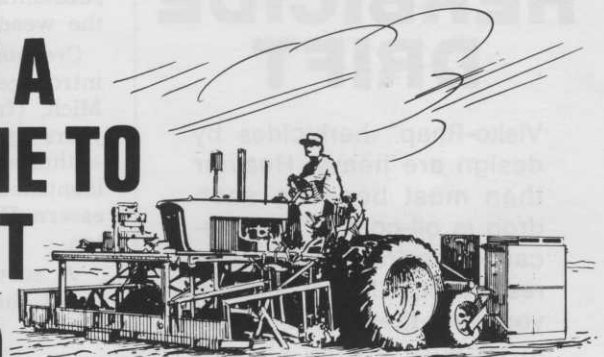
4:00—Business meeting.

A cocktail hour, courtesy of Mid-America Sod Producers, beginning at 6:30, precedes the banquet session in Viking Hall. Dr. Fred Grau, Grasslyn, Inc., is banquet speaker, on the topic of "The Future of the Turfgrass Industry." Joseph McDermott, Loveland Lawns and president

of the Midwest Turfgrass Growers Association, is toastmaster.

Field demonstrations will be conducted at the H & E Sod Farm, just off Route 114, at Momence, Ill. Ac-

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SP70-4

Chemical Control for Creeping Speedwell

By A. J. TURGEON*
and W. F. METTITT**

Department of Crop and Soil Sciences
Michigan State University

CREEPING SPEEDWELL (*Veronica filiformis* Sm.) is a many-stemmed creeping perennial that invades lawns growing under cool, moist conditions. It reproduces vegetatively by creeping stems, and its spread is enhanced by soils of high fertility. Its flowers are borne singly on pedicels and in mid-June give a heavily infested lawn the appearance of a bluish-white carpet. Its yellow-green leaves are small and hairy, and appear to completely crowd out turfgrasses in an infested lawn. Closer examination of the lawn reveals the coexistence of a substantial percentage of grass with the weed.

Creeping speedwell was reportedly introduced into Grand Rapids, Mich. (from England more than 40 years ago by a wealthy rock garden enthusiast. To date it has been identified throughout the northeastern United States and Washington.

A survey of the literature indicated that selective control of this



weed could be achieved with endothall or DCPA, at normal rates of application. Initial greenhouse tests on speedwell-infested turfgrass plugs indicated that conventional broad-leaved-weed herbicides were ineffective against this weed. The herbicide treatments include: 2,4-D (2 lb/A), silvex (1.5 lb/A), dicamba (1 lb/A) and picloram + 2,4-D (.5 and 1 lb/A, respectively). When endothall (3 lb/A) was applied to the plugs, complete kill of the weed resulted and the turf recovered after three weeks.

Field tests were initiated July 11, 1969, on a Grand Rapids estate lawn, with the following treatments: endothall (2 lb/A); endothall (2 lb/A) plus vertical mowing; and vertical mowing without herbicide treatment. Nearly complete control of speedwell resulted from the herbicide treatments, while vertical mowing did not give weed control nor significantly enhance the effectiveness of the herbicide.

On Aug. 20, 1969, additional treatments were applied using endothall at 1/2 lb. and 1 lb/A. This was dur-

Table 1. Evaluation of Treatments on Creeping Speedwell (*Veronica filiformis*) in a Kentucky Bluegrass Lawn.

Trmt. No.	Treatment	Rate lb/A	Date Applied	Weed Control
1	Endothall	2	July 11	95%
2	Endothall + vertical mowing	2	July 11	95%
3	Vertical mowing	--	July 11	0%
4	Endothall	1	Aug 20	95%
5	Endothall	1/2	Aug 20	70%
6	DCPA	15	Aug 20	0%
7	Endothall	1	Sept 22	95%
8	Endothall + oil	1	Sept 22	95%
9	Endothall	1/2	Sept 22	40%
10	Endothall + oil	1/2	Sept 22	95%
11	Endothall	1/4	Sept 22	20%
12	Endothall + oil	1/4	Sept 22	20%



ing a hot, dry period and the lawn was not receiving any artificial irrigation. The 1 lb application rate gave nearly complete weed control, while the ½ lb rate gave fair control averaging about 70%. DCPA was also applied at 15 lb/A. This produced no observable effects on either the weeds or the turf.

On Sept. 22, 1969, endothall was applied at ¼, ½ and 1 lb/A alone and in combination with (1 gal/A) non-phytotoxic oil. Both 1 lb/A rates and the ½ lb/A plus oil treatments gave nearly complete control. The ½ lb/A endothall treatment (without oil) gave only about 40% control and both ¼ lb/A treatments resulted



in poor weed control. The weather during this period was cool and soil moisture was high.

In all tests where the herbicide was effective, weed kill was rapid, resulting in an open turf highly susceptible to invasion by other weeds, including knotweed (*Polygonum aviculare*) and dandelion (*Taraxacum officinale*).

The results of these tests illustrate several factors which must be considered when attempting to control severe speedwell infestations:

1. Kill of speedwell with endothall is more effective during warm weather than under cool conditions. The desiccating effects of hot, dry

weather appear to enhance the contact activity of the herbicide.

2. Vertical mowing is a laborious cultural practice that does not significantly improve the control of this weed when performed in combination with endothall application.

3. The 2 lb/A and 1 lb/A rates of endothall give nearly complete weed control, while the ½ lb/A rate is not satisfactory unless 1 gal/A of non-phytotoxic oil is added to the herbicide solution.

4. Artificial irrigation of the turf several days after chemical treatment with endothall, greatly aids turf recovery.

5. The occurrence of knotweed and dandelions in areas left void by chemical treatment of speedwell illustrates the necessity for a follow-up program. This might include overseeding with desirable lawn grasses about two weeks after endothall treatment; an intensive management program of watering, fertilizing and mowing to encourage rapid spread of the existing turf; and subsequent treatment with appropriate herbicides to control new weeds that may appear.

* Graduate Research Assistant, Department of Crop and Soil Sciences, M.S.U.
** Professor, Department of Crop and Soil Sciences, M.S.U., East Lansing, Mich.

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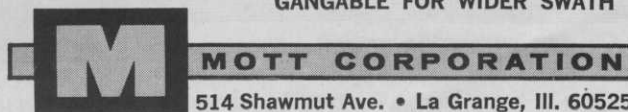
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GANGABLE FOR WIDER SWATH



AMERICAN Association of Nurserymen is doing its thing for the 95th time, July 18-22. The pad is the San Francisco Hilton. The program looks like a smash.

The 86-booth trade show is filled to capacity, according to exhibit chairman Jim Meadows. The booths, he says, will display almost every kind of equipment, chemical, plant material, supplies, and printing on the market that are valuable to the wholesaler and retailer of nursery stock.

Although the trade show area has been filled, Meadows said a trading area is being made available to late-comers. The area is adjacent to the main exhibit area and will contain a limited number of card tables and chairs for company sales representatives.

A "trading table" sells for \$100 and will include the table draped in green, two chairs and a company sign.

An amendment to the bylaws will draw a lot of attention at two of the business sessions. The change would permit firms receiving less than half of their gross income from sale of nursery stock to become AAN members.

According to AAN President William Flemer, III, "A bylaw amendment proposal should involve the participation of all AAN members. Caucuses will be held Monday morning, July 20, from 9 a.m. to noon and members are urged to attend their regional caucuses. It is here that opinions may be expressed and regional decisions made on this important proposal."

The first general business session is 2:30 p.m. Monday in the Continental Ballroom. In addition to discussion of the proposed bylaw amendment, the annual President's Address will be delivered, staff slide and tape presentation to the Board

In San Francisco, July 18-22

Membership Rule Change Tickler for AAN's 95th

of Governors highlighting the year's activities will be made, the proposed budget and treasurer's report will be given, and nomination of officers for the coming year will be heard.

The second business session will be held on Wednesday, July 22, at 2 p.m. in the Imperial Ballroom. At this meeting, votes will be taken on the bylaw amendments, officers will be elected, and approval of the fiscal budget will be made.

Wholesale Nursery Program

William R. Callen of Associated Farmers of California, Inc., will speak on "Agriculture Labor Relations and the Grape Boycott." Callen will discuss the controversial developments to unionize California grape pickers and analyze the meaning of unionization to the nursery industry.

"Profits Through Applied Machinery Systems" will be discussed by Peter J. Clifford of Venture Systems, Inc., Fresno, Calif. Venture Systems is having a great impact on the growing business through its "systems approach" to nursery mechanization problems through an overall "production line" approach.

A slide presentation and discussion of the sophisticated European nursery production machinery will be presented by Otto Timm, Timm Enterprises, Ltd., Canada.

Following a two-hour lunch break, William W. Wood, Jr., of the University of California, will discuss "Big Business Looks at the Nursery Business" and analyze the grower's place in the coming decade of "conglomerates," "chain outlets," and "franchises."

Latest strides in horticultural research will be explored by Richard D. Lane, USDA Forest Service.

"New Plants for the Seventies" will be discussed by Don Shadow, Tennessee Valley Nursey, McMinnville, Tenn. He will introduce some new and unknown plant materials which may be factors in the nursery industry's inventory of the future.

To wrap up Wholesaler's Day, Tokuji Furuta of the University of California will present a "picture tour" of California Production Nurseries.

Retail Nurserymen's Agenda

"How to Manage the Cost of Labor in a Retail Garden Center" will be discussed by Lawrence W. Bachman of Bachman's, Inc., Minneapolis, Minnesota.

"How to Use Opinion Surveys to Discover What Your Best Friends Won't Tell You" is an enlightening discussion on the value of knowing the garden center's customers, their attitudes and motivations for buying (or not buying) nursery products. Daniel S. Capper, Capper's Nursery, McLean, Va., is a leading retailer ably used the Horticultural Research Institute's Retail Nursery Customer Survey Kit.

A photo slide review and critiques of the 1970 Retail Advertising Award winning ads will be shown and discussed in "Guidelines for Effective Retail Advertising." As ads are shown on the screen, professional guidelines for producing "selling" ads will be discussed. The 1970 Retail Advertising Awards will be presented immediately following the slide preview.

Following a leisurely lunch break, the afternoon session will lead off with "Here's How to Run a Sales Meeting to Build Loyalty and Sales

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Arboretum, Inc., retail garden center division of Environmental Industries, Encino, Calif., has purchased Better Gardens, a 28-year-old, service-oriented garden store firm with outlets in San Marino and Arcadia. Don Stockard, left, general manager of Arboretum, Inc., welcomes Kerby Lesh into the EII family of companies. Lesh, former owner, continues with EII in a management capacity.

Enthusiasm," presented by Itsuo Uenaka, chairman of the AAN Garden Center Retail Committee, Cupertino Nursery, Cupertino, California. The basis for Uenaka's presentation will be the newly created "Sales Meeting Tapes" now available to AAN members.

To wrap up Retailer's Day, the National Association of Credit Management will conduct an information-packed 40-minute session on "How to Manage Credit to Build Sales and Increase Profits." Topics to be covered include reasons for using credit, how to make money on credit plans, and how credit stimulates impulse buying.

For the Family

Women attending the convention will be treated to a special Ladies Day Tuesday, July 21. They will tour the M. H. DeYoung Memorial Museum, a Japanese Tea Garden, the Strybing Arboretum, and other historical sites.

Youngsters, too, have a program outlined for them. Juniors have a get-acquainted party Sunday with dancing to today's popular tunes. On Monday, they will tour Marine World; Tuesday, Angel Island; and Wednesday, engage in a splash party in the hotel pool.

The annual landscape tour, sponsored by the National Landscape Association, will feature many of the outstanding landscape designs in the San Francisco Bay area. The tour

is Sunday, July 19. Special taxi tours will be conducted on the same route Monday and Tuesday mornings.

DED Losses Drop 50% In Milwaukee County, Wis.

Dutch Elm Disease killed only half as many trees in 1969 in Milwaukee County, Wis., as it did in '68.

The decline is no assurance, however, that losses won't increase again in 1970, said county agri-business agent Stanley Rynearson. He attributed the decline to three factors: decreasing number of elms; thinning of thick stands, thereby reducing the possibility of transmitting the disease by root graft; and loss of most of the rural elms in the county, which could have reduced in-migration of elm beetles.

Control programs costs did not fall proportionately. Though tree deaths dropped from 34,323 to 17,245, money spent on control programs dipped from \$132,490 to \$128,344. Removal costs decreased \$34,000 to \$1,184,449.

DDT has not been used to control the elm bark beetle since 1968.

To be exact, Rynearson said that 237,346 elms remain in the county.

Municipalities planted 26,724 trees in 1969. Diversification of varieties planted continues to get emphasis, he said. Maples, accounting for 90% of the plantings in 1965, last year comprise only 55%.



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Costs, Training, Chemicals

(Fun, Also) on 45th ISTC Agenda, Aug. 9-14

Chemical research and usage, business management, employee training, operating costs, shade tree evaluation, beautification techniques—these are subject areas for the 46th convention of the International Shade Tree Conference.

The week-long event, designed for business, education and pleasure is Aug. 9-14. The site is the Hotel Flagship-Rochester, Rochester, N.Y. Judging from past conventions, anywhere from 700 to 1,000 persons from several countries are expected.

"We especially want to emphasize that this convention is not limited to ISTC members; it's open to anyone," said E. C. Bundy, ISTC executive secretary. There is a nominal registration fee, he added.

General chairman of this year's convention is Frederick R. Micha, sales manager and consulting arbor-

ist for Monroe Tree Surgeons, Inc. Mrs. Micha is responsible for the ladies' program.

This year's theme is: "The World's Heritage—Trees."

Program organization will be similar to past conventions. Committee meetings, board sessions, caucuses and early registration take place on Saturday and Sunday. General sessions are all day Monday. Three separate but concurrent sessions run all day Tuesday for municipal, utility and commercial arborists.

Wednesday is the big day for tree industry equipment and products. Field demonstrations will be conducted all morning in Genesee Valley Park. However, more than 50 exhibit booths will be operating throughout the convention. The booths surround the main meeting

and banquet room. Exhibits open at 10 a.m. Sunday. A generous amount of time is scheduled for visiting the exhibits each day.

General sessions are again planned for Wednesday afternoon and Thursday. Post convention tours are planned for Friday and Saturday.

Gov. Nelson A. Rockefeller is scheduled to speak on environmental quality at the keynote luncheon, Wednesday, Aug. 12.

Opening speaker is Dr. H. M. Cathey, leader of ornamentals investigations, at USDA's Beltsville, Md., research center. He is followed by Dr. L. C. Chadwick, executive director emeritus of ISTC.

It is difficult to summarize or even give a brief idea of the wealth of information that will be presented. At any rate, here are the

insect report



TURF INSECTS

BLUEGRASS WEBWORM (*Cranbus teterrellus*)

INDIANA: First adult of season taken by blacklight trap at Lafayette, Tippecanoe County, on May 22.

TREE INSECTS

WHITE-PINE APHID (*Cinara strobi*)

TENNESSEE: Very heavy on nursery and forest-grown white pine in east area.

ELM LEAF BEETLE (*Pyrrhalta luteola*)

ARIZONA: Infesting Chinese elms at Cherry, Yavapai County. UTAH: Damaged about 20 percent of elm leaf surface at Moab, Grand County. KANSAS: Larvae lightly damaged Siberian elm in Sedgwick County. Feeding by first-generation larvae heavy in Barton County.

SOUTHERN PINE BEETLE (*Dendroctonus frontalis*)

VIRGINIA: Damage localized in several counties. Low temperatures killed up to 90% of overwintering broods in January in central and southern Piedmont but not along Coastal Plain. Some problems on Eastern Shore along state line.

FOREST TENT CATERPILLAR (*Malacosoma disstria*)

WEST VIRGINIA: Larva collected in Greenbrier Coun-

ty, 4 larvae in Upshur County, and larva in Summers County for new county records.

SALT-MARSH CATERPILLAR (*Estigmene acrea*)

ALABAMA: Larvae very heavy, emerged from marsh areas near Prichard, Chickasaw, and Plateau in Mobile County. Devoured willows, weeds, and garden crops.

LINDEN LOOPER (*Erannis tiliaria*)

PENNSYLVANIA: Heavy defoliation will occur again in Cornwall area, Lebanon and Lancaster Counties, and near Pine Grove Furnace, southern Cumberland County. May increase substantially in other areas. Hatched in late April.

GEOMETRID MOTHS

MINNESOTA: *Alsophila pometaria* (fall cankerworm) and *Paleacrita vernata* (spring cankerworm) caused defoliation where populations heavy in Minneapolis and St. Paul area. More widespread than in 1969. Defoliation not severe except in several spots in St. Paul.

CONIFER SAWFLIES (*Neodiprion* spp.)

MISSOURI: *N. sertifer* (European pine sawfly) moderate to heavy on Scotch pine in Adair County. TENNESSEE: Probably *N. taedae linearis* caused major outbreak in central and west areas. Damage moderate to very heavy. Almost complete defoliation in some areas. Infestations more general and damage heavier than in 1969. Probably *N. pratti pratti* extensively damaged pines at Highland Rim. VIRGINIA: *N. pratti pratti* larval damage medium in some areas of Essex County.

BLACK-HEADED SAWFLY (*Tethida cordigera*)

MISSOURI: Heavy in nursery in Texas County; acre of green ash completely defoliated.

subject titles as they have been announced so far:

MONDAY, Aug. 10—Experimental work with polyurethane filler for tree cavities; systemic fungicides for controlling vascular diseases of shade trees; the beneficial relationship between tree roots and mycorrhizal fungi; pictorial review of shade tree evaluation; along the Woodland Trail; and green thumb tips for home gardeners.

TUESDAY, Aug. 11, Commercial Arborists — Davey Tree Company training methods; Bartlett Tree Company training methods; standards and practices of arboriculture in the British Isles; legislation affecting arborists' business; to bid or not to bid on landscaping; and chemical control of water sprouts on landscape trees.

TUESDAY, Aug. 11, Municipal Arborists—Waste wood disposal, incineration vs. utilization; highway beautification; downtown tree planting; beautification of parks; urban forestry as it applies to the municipal arborist; and urban forestry in Canada.

TUESDAY, Aug. 11, Utility Arborists—Right-of-way utilization by wildlife; future of herbicides; utilization of knapsack mistblower for chemical brush control; picloram basally applied for brush control on utility rights-of-way; the Microfoil boom, a three-year progress report; charting the course for the 70s; cost-sharing of trees involving overhead lines; arboricultural training in a public utility; and growth inhibitor developments.

WEDNESDAY (afternoon), Aug. 12—Street tree evaluation research; investigations on healing of tree wounds; outlook for progress in pesticide research; and an in-depth study of tree trimming.

THURSDAY, Aug. 13 — Urbana forestry, interface between man and environment; growth factors in trunk development of young trees; symptom circus; Connecticut's environmental policy; and Dutch Elm Disease vector research at the Delaware research laboratory.

The annual business session, with Richard E. Abbott, ISTC president, presiding, will be conducted Thursday morning from 11 until noon. The annual banquet, with the introduction of international officers, awards and entertainment, is Thursday evening beginning at 7:30.

A number of side trips and tours are planned during and after the convention. Two concurrent tours are scheduled Tuesday, beginning at 3 p.m. One is to visit Monroe Tree Surgeons, Inc.; the other is to High-



California Park and Recreation Society has presented its Citation Award to Dr. Richard W. Harris (second from left) of the Environmental Horticulture Department at the University of California, Davis. Pictured are, from the left, Palmer Slack, second vice-president of the organization; Harris; G. P. Robinson, park section past president; and Jack S. Duke, regional representative.

land Park. At 8 p.m., a water ballet will be performed by the Perkins Swim Club and East Ridge High School.

On Friday, a bus tour will be available to the Canadian Niagara Falls. Saturday's tour is by private cars of Monroe County Parks.

Plant Hormone Boosts Tree Seedling Growth

Wisconsin researchers have succeeded in boosting the growth of certain tree seedlings with the use of a plant hormone known as gibberellic acid.

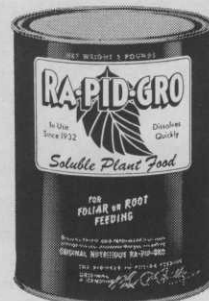
O. J. Attoe and F. L. Rasson, University of Wisconsin soil scientists, worked on cottonwood, silver maple and white ash, and found that the addition of up to 23 parts per million gibberellic acid in the nutrient solution under greenhouse conditions caused a considerable growth increase. This amount, however, has some side effects. It reduced the average weight of the leaves and roots of the cottonwood plants.

Applying two perforated polyethylene packets—about one-third ounce each—of 20-10-20 fertilizer with 0.1 and 0.5% gibberellic acid increased both height and weight of cottonwood plants in Kellner loamy sand in pots. Application of only one packet did not show an increase.

On Lapeer fine sandy loam soil in the field, application of 2-ounce packets of fertilizer with gibberellic acid did not show a significant increase in height and weight of cottonwood and silver maple.

The fertilizer packets have been developed to give a slow release of plant foods in the soil. Slow release of gibberellic acid is desirable because the hormone is destroyed rapidly by soil organisms.

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Honored by American Horticultural Council "for demonstrating in a practical way that plants could be fertilized through their leaves; for being the first to develop and market an effective plant food for foliar feeding; and for opening the way to a new cultural practice in horticulture."

RAPID-GRO

For More Details Circle (119) on Reply Card

At Myers' 100-Mark, Spraying 'Looks Exciting'

"An area that has been very exciting is the power sprayer business," William J. Barnes, vice-president, sales, F. E. Myers & Bro. Co., Ashland, Ohio, told his listeners.

"The advent of new materials is going to cause some changes in the way of doing things. We see a trend of acceptance and use on good, small equipment. There will be less persistent materials, and we must find new and better ways to apply them."

Barnes' statements and predictions are weighed with the significance of the occasion at which he spoke.

"The F. E. Myers & Bro. Co. of Ashland, Ohio, is 100 years old in 1970."

This direct, no-fanfare announcement was among material handed to business press editors at a conference June 1. The editors met in a spanking new training center, an engineering marvel itself, across the street from a spanking new 200,000 sq. ft. factory. The buildings are two of five steps to move the company to this 140-acre tract of land from its downtown location where it has been since 1870. The oldest building still standing dates from 1884.

The emphasis on newness and of product innovation at this occasion fashioned the impression that the

William J. Barnes, left, vice-president, sales, and Milton G. Moses, president, display a commemorative coin replica calling attention to the centennial year of F. E. Myers & Bro. Company, Ashland, Ohio. Coins and wall plaques are being distributed to draw attention to the milestone.



centennial had slipped up on Myers catching it looking-ahead.

Material distributed carried some enlargement on what Myers prognosticators see in the power sprayer industry.

An article, "A Look into the 70s," in Myers' publication, *Waterway*, forecasts more effective techniques, for applying more chemicals more efficiently while using less water.

With concentrations of 33 times already a reality, the result, stated the article, will be "smaller, more compact equipment that will be easier to operate and could eventually become self-propelled. It could greatly influence the use of more right-of-way sprayers for automating roadside beautification and maintenance.

"Electrostatics' are on the way, too. This application technique consists of electrically charged spray

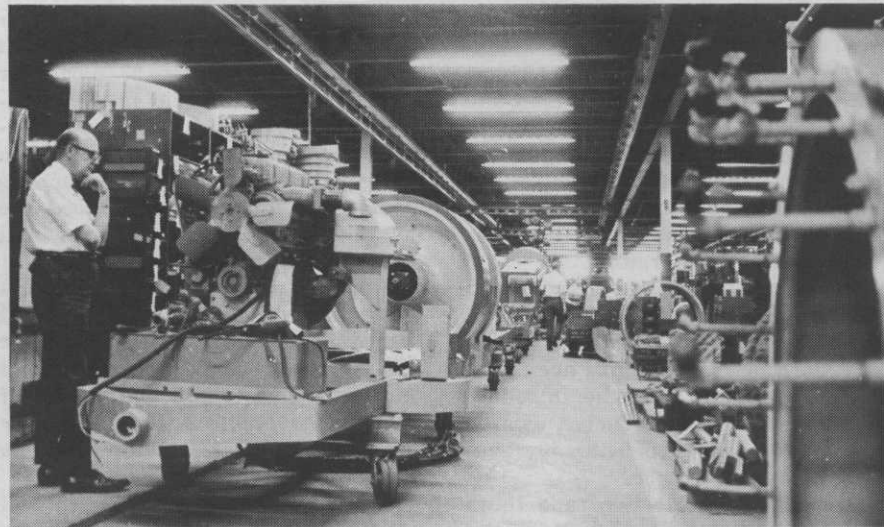
particles with a potential higher than that of the tree or object being sprayed. Thus, the particles will be attracted to all parts of the tree, even those surfaces opposite the spray source.

"In addition, new devices are in development to improve the placement of chemicals and controlling drift with heavy sticky spray droplets or globules in the form of foam.

"Nutritional sprays are also coming into use which could expand the business potential of today's sprayer dealer many times over."

Editors were given a history and orientation of present activities from top Myers officials.

"For American companies, the 100th anniversary is still a relatively rare occasion," said Milton G. Moses, president. "We have prospered because we have been able to offer a better product. And we



No, Myers doesn't make tubas. The picture at left is in the fiberglass section of the power sprayer factory. The picture above is the sprayer assembly line. These areas represent only a fraction of the 200,000 sq. ft. new factory that business press editors toured June 1. In addition to sprayers, the factory turns out pumps, water systems and hydraulic cleaners. Orders come from all parts of the world.



Business editors watch the hook-up of the new Myers tractor-mounted "Mitey-Mist" PTO air sprayer. It's designed for orchards, high density plantings, vineyards, turf, and field crops. Both dilute and concentrate sprays can be handled in either liquid or wettable powder form.

Myers' progress. The company, in addition to selling in every state, "services 50 countries monthly and 85 yearly," reported Bob Casciani, director of the international department. "At one time or another, we've served every country in the world."

In addition to its century of pump innovating and production of power sprayers, since 1890, Myers other product lines are water conditioning, water systems and hydraulic cleaners.

"We're looking forward to a bright future; we don't see a 'dog' in the bunch," said Barnes. "We've doubled sales in the past 10 years. We had better double sales in the next 10—or there will be someone else up here saying hello."

still do."

Though the latest of eight Myers trademarks has dropped it, a Jack-and-Jill drawing of the first "better product" is still used. The drawing shows Jill knocking off Jack's hat with a continuous stream of water. The symbolism is tied to the double-acting pump that P. A. Myers (brother of F. E.) invented that

revolutionized the pump industry.

P. A. Myers' pump delivered water in a solid steady stream, whereas previous pumps delivered in spurts. This invention brought the first of more than 1,000 Myers patents. More than 100 are still in force, 84 are active, and 10 more are pending.

The continuous stream of that first patent is symbolic also of

Leonard S. Mailloux has been named national representative for American Bio-Turf, a new soil treatment product from the Farm Builders division of American Bioculture, Inc. Mailloux has been associated with golfing management for many years, most recently as grounds manager at Nassau Country Club, Glen Cove, N. Y. American Bio-Turf is a soil treatment using biochemical solution which stimulates microbial activity and works for biological control of the soil environment. Son, Ltd., landscape contractors of Slough, England.

* * *

Dr. Bryson L. James has joined the horticulture department staff of Callaway Gardens, Pine Mountain, Ga. Dr. James had been with Hercules, Inc., most recently as supervisor of the agricultural chemicals department, international department. His work took him to more than 27 other countries. Active in numerous trade associations, Dr. James has been for the past several years chairman of the education and promotion committee of the Southern Nurserymen's Association. Last August, he was the recipient of the Slater Wight Memorial Award, the South's most distinguished award in the nursery industry. He also has received SNA's Award of Merit.

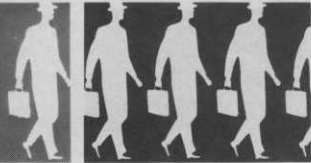
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Milton Waldinger heads up a new line of products now being offered by Valley Crest Tree Co., a division of Environmental Industries, Inc., Van Nuys, Calif. The product line is redwood specialties, such as redwood rounds, headerboard, tree stakes and ties.

* * *

Edward A. Hunnicutt has assumed the newly created post of manager, special projects, for Toro Manufacturing Corp., Minneapolis. Hunnicutt joined Toro a year ago as marketing representative for turf products, then was in charge of government sales before his promotion.

industry people on the move



Thomas C. Edgren has been named manager of a newly established agronomic marketing department within Conwed Corporation, St. Paul, Minn. Sales specialists are John W. Keener, Chicago region; William K. Lerfald, Southern region; Henry W. Vollendorf, Eastern region; and Walter A. Kowalski, Western region. These men will be actively involved in the market development of Conwed Hydro Mulch, Turf Establishment Blanket, and Erosion Control Netting.

* * *

David Lyons of Maidenhead, England, has been named department manager of an expanded commercial sales department for Gustin Garden's, Inc., Gaithersburg, Md. Lyons had been divisional head of the northern areas of England, Scotland and Ireland for the William Wood & Son Ltd., landscape contractors of Slough, England. Lyons will specialize in landscape advisory service and sales to governmental and private business interested in the execution of complete landscape installations. The service is said to be the first such offering to commercial clientele undertaken in the Washington area.

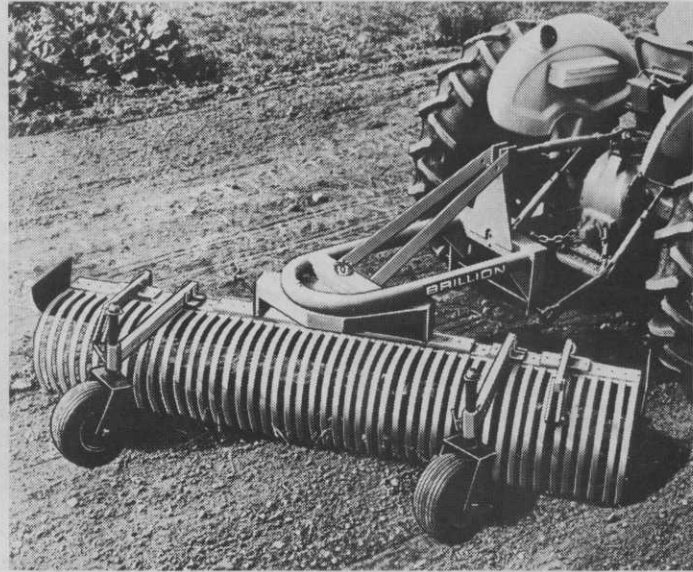
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Dr. Harold Davidson, associate professor of horticulture at Michigan State University, has received a special citation for publication excellence. The award was given by Keep Michigan Beautiful, Inc., for Davidson's booklet, "Your Community Can Be Beautiful." The publication was edited by Donald E. Gregg, MSU extension publications editor, and designed by Barbara Brown, staff artist for the University Editor's office.



FIVE-GANG RIDING MOWER, Jacobsen Mfg. Co., Racine, Wis.

A new self-contained five-gang riding reel mower designed for mowing commercial turf areas features rugged economy. The 18 hp Jacobsen Model F 133 cuts an 11-ft. swath and features height adjustment without tools. Outfront cutting leaves no wheel streaks. It has hydrostatic, foot-controlled variable mowing speeds and cutting frequencies. The unit is ideal for mowing parks, schools, institutions, and golf courses, as well as semi-rough areas. For more details, circle (701) on the reply card.



TERRA-SCRAPER LANDSCAPE TOOL, Brillion Iron Works, Inc., Brillion, Wis.

Landscape rake works soil, grades, levels and finishes. Rugged steel frame and teeth can spread stone, gravel and top soil. Optional gauge wheels with 360-degree caster, can be mounted in three positions for regulating working depth and easier maneuverability. They can be mounted in the rear and away to permit backing up; mounted close; or in front of rake to eliminate tire marks. For more details, circle (702) on the reply card.



HYDRAULIC IMPACT WRENCH, Ackley Mfg. Co., Clackamas, Ore.

This wrench delivers enough power and impact to handle 1½- and 2-inch bolt sizes at 1,000 impacts per minute and delivering 4,000 to 6,000 foot-pounds of torque. Has 1½" square drive, is reversible, and has full range speed control. Total weight of wrench is 80 pounds, believed to be the lightest in the industry for a wrench of this size and capability. The Ackley 23H operates on 12 to 14 gpm at 1,300 to 2,000 psi. For more details, circle (704) on the reply card.

Showers of Diamonds
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APPLY DESCRIBED AS THE FIRST ENTIRELY NEW CONCEPT IN OVER 2000 YEARS OF FORMING WATER INTO SCULPTURED SHAPES. ONLY THE RAIN JET PATENTED ROTATING PRINCIPLE CAN PRODUCE THE MYRIAD DROPLETS, EACH DROPLET A REFLECTING PRISM, WHICH CREATES THE BREATHTAKING BEAUTY OF THE RAIN JET FOUNTAIN.

WHETHER YOUR FOUNTAIN WILL BE A DRAMATIC FOCAL POINT OR A DELIGHTFUL ACCENT, ITS SCINTILLATING PRESENCE WILL ADD TO ANY SETTING A NEW LIVING DIMENSION OF MOTION, COLOR AND SOUND IN ITS MOST REFINED, ELEGANT AND ENJOYABLE FORM.

YOUR EVERY FOUNTAIN NEED CAN BE SATISFIED FROM OUR LARGE ASSORTMENT OF FOUNTAIN PATTERNS AND INFINITE DESIGN POSSIBILITIES.

Bursting Stars *Dancing Jewels* *Crystal Cone*

FOUNTAINS BY RAIN JET, Rainjet Corporation, Burbank, Calif.

This four-page, full-color summarized catalog describes patented fountains by Rain Jet. It's free. The catalog features Rain Jet's line of complete fountain and bowl assemblies. The self-contained units are easy to install as they require no plumbing. The owner simply fills the bowl with water and makes the necessary electrical connections for underwater lights and pump. Also described is the line of massive aerated fountains for day and night use, of particular interest for parks. For details, circle (705) on reply card.



COMMERCIAL MOWER, Bunton Co., Louisville, Ky.

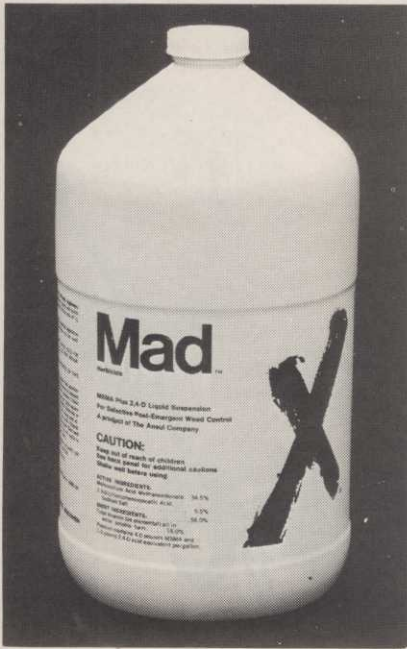
The new Bunton "G-Twenty" 20-inch cut is especially designed for commercial mowing. Will mow steeper grades, deeper ditches and rougher areas than other push-type rotary mowers. Balanced on two extra large 10"x2.50" tires. Front guard wheels prevent scalping. Quick height adjustment from 2 to 4½ inches. Unit shown is 3.5 hp with 1½ qt. extra oil base, 5 qt. fuel tank. Line includes 5 hp. model. Snorkel air cleaner mounted on handle. For more details, circle (706) on reply card.



PORTABLE STUMP CUTTER, Valmont Industries, Valley, Neb.

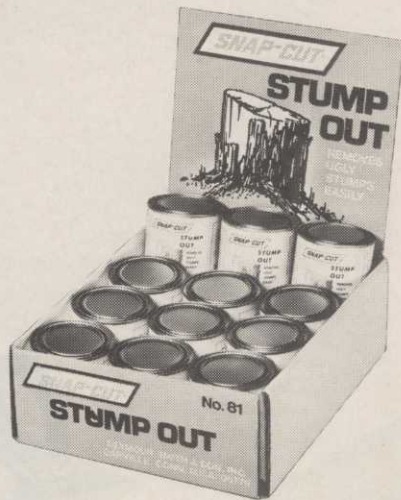
A new low-cost concept for stump removal has been introduced by Valmont. The cutter is designed to meet the special needs of municipalities, parks, cemeteries, utilities, landscapers, tree surgeons and service firms. The compact, light-weight (440 lbs.) unit features fast and easy transport behind car or truck. It's a simple one-man operation to haul the unit in a pickup. Valmont stump cutter is especially desirable for hard-to-reach places like backyards, cemeteries,

or other tight quarters where the unit must go through gates, work next to buildings, fences, shrubs, or sidewalks. Stump removal is fast—an average 24-inch stump can be reduced to six inches below ground in just 20 minutes. The unit can be self-propelled in either direction as an option. Powered by 23 hp Kohler engine. Five-inch diameter carbide cutting bit removes stump to a 6-inch depth on each pass. The unit is 65" long, 35" wide and 25" high. Safety curtains keep chips under the machine, and provide protection to the operator. For details, circle (703) on the reply card.



**"MAD" HERBICIDE, Ansul Co., Mari-
nette, Wis.**

MAD is designed for selective post-emergent control of common lawn weeds without harming desirable lawn grasses. Controls wide variety of both broadleaf and grassy weeds. It is a special combination of MSMA, 2,4-D and surfactant. Provides quick burn-down; also translocated to weed roots to prevent regrowth. Applied 1/2 to 1 1/2 gallons of MAD to 100 gallons of water. For more details, circle (707) on the reply card.



**CHEMICAL STUMP REMOVER, Seymour
Smith & Son, Inc., Oakville, Conn.**

This new chemical stump remover, when applied as directed, makes it possible to economically and easily remove unsightly tree stumps in six to eight weeks. Stump Out may also be used to remove large roots. Packed one dozen 8 oz. cans to the box. Also available in 16 oz. cans. For more details, circle (708) on reply card.



**FAIRWAY BROADLEAF HERBICIDE, Gor-
don Corp. Kansas City, Kan.**

TRIMEC is a synergistic mixture of 2,4-D, MCPP and Dicamba. A unique feature is the flexibility to change the ratio of ingredients to best suit the weed control requirements. For general broadleaf weed control, for example, with maximum safety to shallow-rooted ornamentals, FAIRWAY brand TRIMEC, a combination high in 2,4-D and low in Dicamba, is recommended. For more details, circle (709) on the reply card.

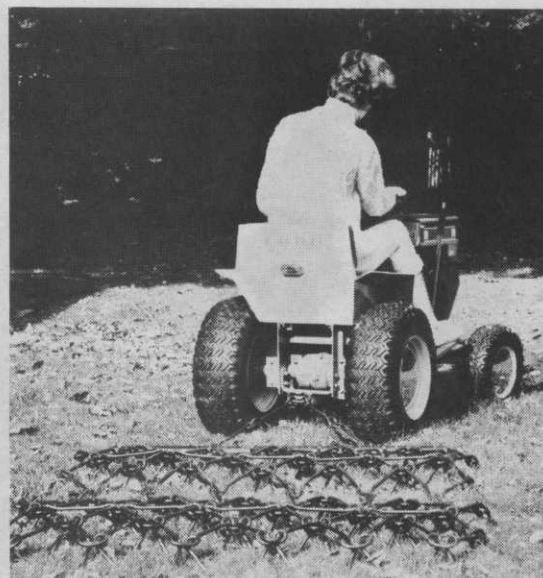


New Products



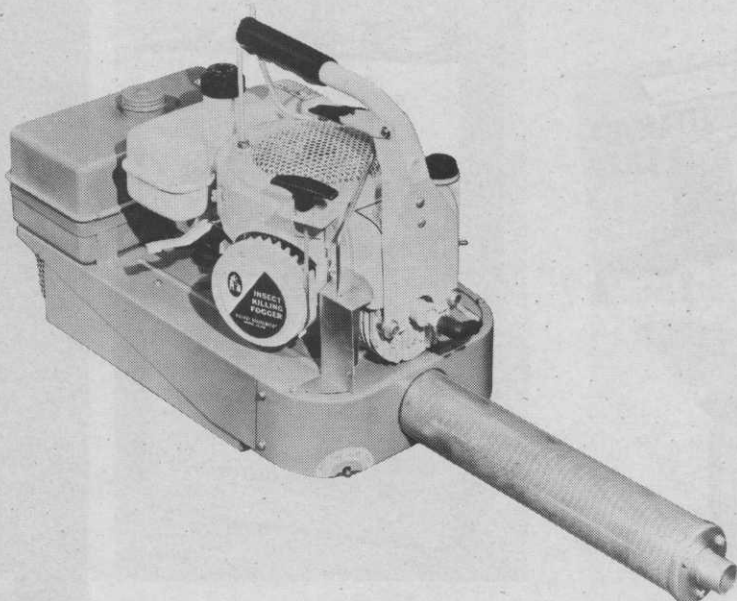
816 BACKHOE-LOADER, Allis-Chalmers, Milwaukee, Wis.

AC's 816, with a 16-ft. digging depth is said to be the only pure integral frame unit of its type built by a major tractor manufacturer. It claims more than six tons of breakout. The 816's 1¼ cu. yd. front loader bucket breaks out at 11,000 lb. force and features a 5,000 lb. lift capacity at full height. The backhoe-loader is powered by a 248 cu. in. direct injection diesel engine that produces 83 hp at 2,500 rpm. A four-speed, power shift transmission with torque converter allows the engine to operate at peak horsepower without lugging or stalling. Three loader buckets and five backhoe buckets are available. Automatic hydraulic cushions slow backhoe swing at each end of 185-degree work arc. For more details, circle (710) on the reply card.



MINI HARROW, Fuerst Brothers, Rhinebeck, N.Y.

The Mini-Harrow, 4½ feet wide, also can be used to prepare seed beds, athletic fields, cemeteries, beaches, and small or hard-to-get-at areas in parks, golf courses, parkways, and so on. Mini-Harrow's 7/16" diameter by 3½" long tines of high carbon steel are interlocked in a manner that provides utmost flexibility, allowing tines to follow contours and cover every inch of ground. Six settings—deep penetration, light penetration, smoothing drag mat. Weighs 114 lbs. For more details, circle (711) on the reply card.



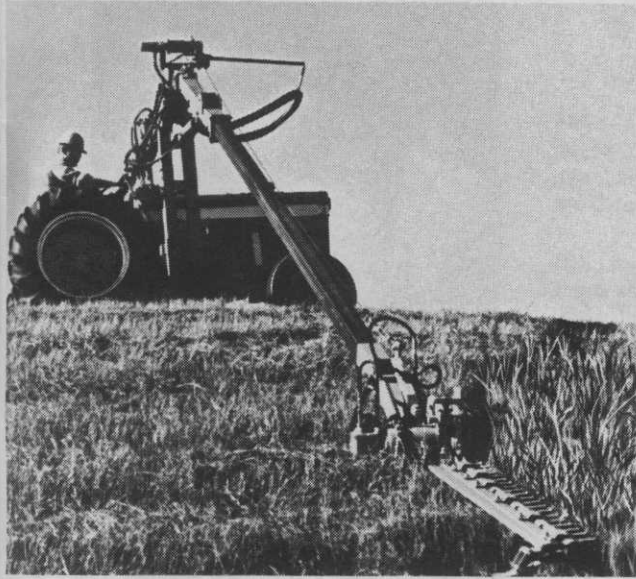
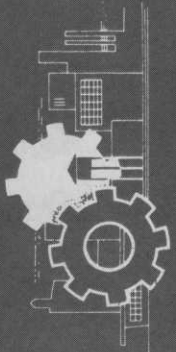
DRY FOG INSECT KILLER, Village Blacksmith, Watertown, Wis.

Now on the market, a new portable engine-powered DRY FOG insect killer. Unique in this product is that the DRY FOG product leaves no harmful residue—an absolute essential for the protection of plants, shrubs, foliage, pets and wildlife. DRY FOG is created by thoroughly converting liquid insecticide to gas, killing mosquitoes, flies and gnats on contact. Operates with 3 hp from 2-cycle gasoline engine. Output is 3½ gallons per hour. Weight is 36 pounds and complete portability is achieved by means of a comfortable shoulder harness, or a lightweight cart. The unit measures 10¼" wide, 15" high and 32" in length. For more details, circle (714) on the reply card.



LIGHTWEIGHT VACUUM, Billy Goat Industries, Kansas City, Mo.

This lightweight 4 hp model picks up and pulverizes leaves, clippings, twigs, thatch, paper and litter, reducing it to one-tenth or less of original bulk. Four 12" wire wheels roll easily on any turf and eliminate scalping on irregular surface. Operator can change five height settings at will, without tools, simply by pulling remote lever and dropping or lifting handles. 4 hp gasoline engine has a remote throttle control. An optional four-inch diameter flexible hose can be used to clean shrubbery or other problem areas. For more details, circle (715) on the reply card.

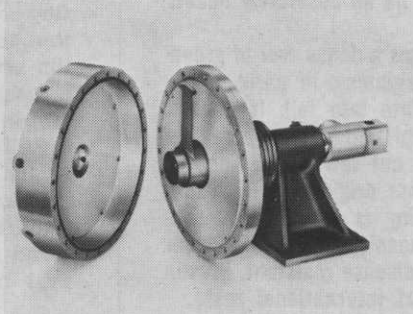
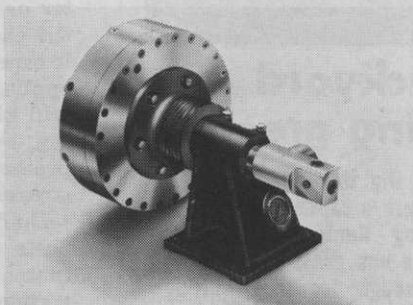
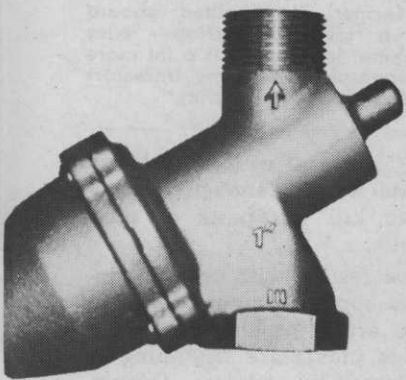


SICKLE-BAR SLOPEMOWER, Engler Mfg. Corp., Houston, Tex.

POWER SWEEPER, Rental Equipment Co., Englewood, Colo.

This five-foot sickle-bar attachment is new for the Slope-mower. It's interchangeable with rotary cutter heads, 36" and 60" and flail cutter, since it bolts on the end of the boom. Highly effective in mosquito and flood control, through efficient cutting of weeds and small brush even under water. Tractor stays safely on shoulder, eliminating turf damage (and later erosion damage) while cutter works at end of 31-ft. boom. Sickle bar, which can be raised 90 degrees to boom, swings back when meeting an obstruction. For more details, circle (712) on the reply card.

Self-propelled "Blue Bird" Power Sweeper gobbles up thatch leaves, pine needles, acorns, pine cones, paper and just about everything encountered on grass. Operator moves at speed he wishes, while maintaining engine speed and power. Unit travels up to three miles per hour. Brush of spiral-bound polypropylene bristles sweeps a 30-inch swath. Overall width is 35 inches. Engine is 3 hp Briggs & Stratton with 6 to 1 speed reducer. Wheels are 10"x3.50 Turf Tred. All chain drive, sealed differential, eight sealed bearings, no bushings. For more details, circle (713) on reply card.



STOPOMATIC VALVE, Febco, Inc., Sun Valley, Calif.

FINNED TUBING, Chase Brass & Cop- per Co., Cleveland, Ohio.

PRESSURE PUMP, Challenge-Cook Bros., Inc., Industry, Calif.

All-brass stopomatic valve is installed between the pop-up sprinkler and the lateral water line to prevent drainage through the line when the water is turned off. When sprinklers are installed on sloping ground, drainage through the sprinkler head is eliminated. The valve closes automatically when water pressure drops below 20 pounds per square inch. Diaphragm is fabric reinforced to withstand 600 psi. For details, circle (716) on reply card.

New line of integral low fin tubing has applications for a wide range in the field of heat exchangers, intercoolers and aftercoolers, condensers, evaporators, and heater units used in the chemical and petro-chemical fields, power generation, and process applications. Offered in four diameters: 3/8, 3/4, 7/8 and one inch. Straight lengths from 40 inches to 45 feet. Made in Copper No. 122, annealed or as-finned. For more details, circle (717) on reply card.

Unique type of high-pressure pump, called the Challenge Roto-Jet pump, has no internal moving parts, and only two working parts, a rotating case and stationary pickup tube. Outer case of Roto-Jet rotates imparting velocity to liquid, which is introduced through center of pump shaft. Delivers capacities to 50 gpm and develops pressures to 800 psi. For details, circle (718) on the reply card.

New Products

Sod Growers!

Golfers'

Dream

Come

True



backyard putting green

Sod growers! Dig this great opportunity. Golfers are a captive market for 0217® Fylking Kentucky bluegrass lawn. It is the one grass that can be cut close enough for true putting practice, and be an absolutely beautiful lawn, too.

Fylking forms a dense turf of greenest green, beginning in early spring and lasting into late fall. It doesn't require special golf course care, yet thrives when cut low as 1/2 inch. A hardy bluegrass originating in Svalof, Sweden, Fylking is drought and winter tough, doesn't show traffic wear and is highly disease resistant. Proven in 12 years of international tests.

Sod growers, tell all golfers about putting greens at home and you will sell 0217® Fylking Kentucky bluegrass (U.S. Plant Patent 2887) sod and seed.



**FYLKING
KENTUCKY
BLUEGRASS**

Jacklin Seed Co., Dishman, WA. 99213

For More Details Circle (112) on Reply Card

Systemics Not Cure-Alls, Says New Mexico's Durkin

Systemic insecticides are valuable in protecting ornamentals from pests, but they have their limitations, says John J. Durkin, entomologist at New Mexico State University.

Systemic insecticides do not kill as broad a spectrum of pests as most contact insecticides. In general, they only control sucking pests such as aphids, leafhoppers, spider mites, and some scales. Systemics will kill few chewing insects, unless by contact, but not by systemic action. Read the label for a list of pests the material will kill.

The three systemic insecticides available for home garden use are Di-Syston for soil application and Cygon and Meta-Systox-R for foliar application. Di-Syston is sold as a granular material and in various fertilizer formulations. Cygon and Meta-Systox-R are liquid concentrates that should be mixed with water and applied as sprays.

A plant must be growing well to take full advantage of the systemic activity of a chemical, says Durkin. Plants stressed by heavy insect or mite populations, or by lack of water or nutrients, will not translocate the chemical. Vigorous plant growth is especially necessary with the soil-applied systemic. Cygon and MSR will kill on contact at time of spraying, but may not give the length of protection desired if the plant is stressed.

Don't expect systemics to control pests on flowering parts, he adds. In most treated plants, the concentration of insecticide is too low in flower petals to be effective. Although a soil application of Di-Syston will kill thrips on the leaves of a rose, it will not give adequate control in open flowers.

Soil-applied systemics are relatively slow in killing an established infestation, Durkin continued. The materials must be thoroughly watered into the root zone. Then, several hours to a few days may be



During a recent visit to Amsterdam's annual Agricultural Exhibition, Prince Claus, the husband of Crown Princess Beatrix of The Netherlands, spied Toro's 8 hp lawn tractor. Like the average homeowner, he couldn't resist playing farmer. He climbed aboard and took a ride. His reaction — "Nice little machine. It certainly is a lot more efficient than the sheep my ancestors had to keep the grass in trim."

required for the plant to absorb and translocate a high enough concentration to kill the pests at their feeding site.

For best results with systemic insecticides, apply them before sucking pests are a problem and at a time when plants are beginning to grow vigorously, advises Durkin. Plants that produce an abundance of foliage during the summer may require periodic treatments.



Red Ewald, Inc., Karnes City, Tex., is operating from this new centralized location. A manufacturer of equipment for the chemical, petroleum and food industries, Ewald held open house this spring. The main building, 8,400 sq. ft., houses offices, parts, shipping, and repair. Manufacturing of fiberglass products, such as spray tanks, is housed in two buildings totaling 12,600 sq. ft. The steel division makes trailers in a 7,500 sq. ft. building.

WEEDS TREES and TURF

Ohio State Gets \$51,000 For Elm Disease Research

The Forest Service, USDA, has awarded a \$51,000 research grant to Ohio State University, hoping to find an effective control of the elm bark beetle carrier of deadly Dutch Elm Disease.

DED, the Forest Service says, is killing 400,000 elms each year.

Forest Service Chief Edward P. Cliff describes the new grant as a logical follow-up to earlier findings by the principal investigator, Dr. Raymond W. Duskotch, associate professor of natural products chemistry in the University's College of Pharmacy.

The earlier study led to the identification of two stimulants which whet the appetite of the smaller European elm bark beetle to feed on the elm bark. This suggested a means by which this vector of the elm disease may be controlled.

Dr. Duskotch plans to synthesize chemically a variety of the feeding stimulants. These are being tested on the beetles at the Forest Service's Delaware, Ohio, laboratory to determine properties which either



Midwest Turfgrass Growers Association has taken in an honorary member with a long name—the University of Missouri-Columbia College of Agriculture. Charles W. Lobenstein, center, associate professor of horticulture, receives the plaque. Making the presentation for the Association are Elmer R. Kiehl, right, College of Agriculture dean and Schell H. Bodenhamer, College of Agriculture associate dean for Extension.

stimulate or inhibit the appetite of the beetle. The results could lead to development of an effective feeding repellent, Chief Cliff said.

In addition to these tests, the research will involve the screening of other plant materials which might be used as feeding deterrents.

The study will also involve a search for factors in the elm extract that step up the feeding responses of the beetle. Chief Cliff said work with fractions and combinations of fractions from the extract already have shown that certain combinations intensify feeding stimulation.

Of Course, We Still Have Them!



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Keep 12 issues of Weeds Trees and Turf in one neat package • Magazine can be easily inserted as it arrives. • Binder protects, gives bookshelf a neat appearance.

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**2 men can plug or sprig
three acres of grass a day
with the revolutionary
BECK LAWN-O-MATIC**



Two men can plug or sprig three acres a day of Zoysia, Bermuda, Centipede, or St. Augustine grass. The self-propelled Lawn-O-Matic automatically digs three furrows, cuts 1½" x 2" plugs from 1' x 2' sod blocks, inserts them in the furrow, and then closes the soil around the planted grass with the heavy duty roller.

The three-row Lawn-O-Matic places the grass plugs or sprigs 8" apart in rows 7½" apart.

Planting grass at the rate of 300 square feet per minute, five average lawns, front and back, can be planted in one day with two men.

Your first ten days of full operation will pay for the Lawn-O-Matic; labor-saving is over 90%.

The Lawn-O-Matic creates profits for you whether you offer a lawn plugged or sprigged, or whether you rent the Lawn-O-Matic.

The Lawn-O-Matic is available in 1, 2, or 3 row machines and is priced at only \$895.00.

Inquiries from manufacturers representatives and distributors invited. BECK MANUFACTURING CO. Box 752 • Auburn, Alabama 36830 • Phone 205/887-3730 — 821-0969

BECK
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ORANGE BOWL OFFICIALS overlooked one stadium use when they decided to install artificial turf. Fireworks. The extent of the dilemma came to light as planning began for the Fourth of July display. The insurance policy on the artificial turf excludes fireworks from coverage. What to do. Officials are faced with elimination not only of displays in connection with football games but also such special events as the annual King Orange Fireworks Pageant. Even if the insurance snag is worked out, one official expressed a reluctance to use fireworks because of possible damage to the turf. The question has now arisen over whether the Orange Bowl Parade will have to be restaged to avoid possible damage from moving the big floats over the turf.

* * *

THREE MANUFACTURERS have appealed USDA's cancellation of the federal registration of 2,4,5-T for certain uses on food crops. They are Hercules Corp., Wilmington, Del; Dow Chemical Co., Midland, Mich.; and Amchem Corp., Ambler Pa.

* * *

EMORY C. POPE of New Glarus, Wisc., says he gave \$2,000 to Morey Goldfield for the right to cut all trees in a tract of land that were 16 inches in diameter or more. Morey Goldfield wasn't the man's real name. The trees weren't his either. They were on county property, the Root River Parkway, in Franklin. Some of the trees were 200 years old. As you can imagine, Goldfield (an interesting chosen name, considering the incident) (his real name is Morris Stanley Brown) is not on good terms with county park officials, area citizens, and the sheriff's department. A deputy U.S. marshal in Des Moines, Ia., wants him, though—for parole violation.

* * *

WISCONSIN LANDSCAPE INSTITUTE, we're positive, is going to have a large turnout at its first meeting. The Institute is an umbrella organization to coordinate the efforts of several associations with similar interests — Wisconsin Nurserymen Association, Wisconsin Arborists Association, and the Wisconsin Landscapers Association. Why are we so sure the meeting shapes up as a success? It just figures. The meeting is Dec. 10 and 11 at the Lake Geneva Play Boy Club.

Cities Cited For Poor Tree Usage

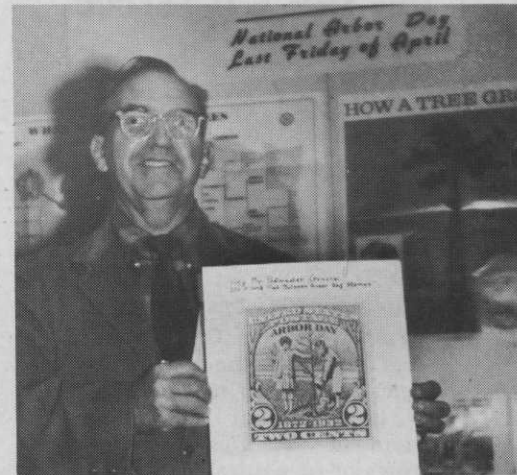
The present environmental situation set the theme for the 37th annual meeting of the Western Chapter, International Shade Tree Conference recently in Pasadena, Calif.

To combat air pollution, plant more trees, suggested a spokesman for the Los Angeles Board of Supervisors, who readily admitted pollution stood at a crisis level in the L.A. area. Associate Professor E. F. Reimschuessel, Brigham Young University, says in theory: as the ozone count goes up so must the oxygen content.

Concern over the best use of green space was expressed by Landscape Architect Francis Dean. One of the more vigorous speakers, Dean stated that society's current multi-purpose programs in regard to public land may not be the best thing. He suggested it might be wiser to leave open land alone—especially in park areas. He called for a reevaluation of priorities where multiple usage is concerned. He added the key to the future is to "think quality" rather than dollars.

Dr. Lewis Chadwick, Columbus, Ohio, past president of the International Shade Tree Conference stated that environmental control comes down to promotion of education and research at both organizational and individual levels.

Concerning urban forestry, Chadwick scolded city planners for not doing a better job in planning an-



When another Arbor Day stamp? asks George Hood, Jr., of Palo Alto, Calif.

nexed properties. Little thought is given to open space, he claimed, or how much will be devoted to parks.

Director of Public Works ("space referee"), Edward Tufts, Beverly Hills, related that streets and alleys comprise about one-fourth of any city. He termed these rights-of-way "modern wonders of the world," but regretted that in the use hassel beautification by tree planting has been neglected.

The major success factor in this issue, Tufts said, is that those persons responsible should notify developers of new subdivisions, as soon as possible, that street trees are required. This action will negate obvious "tack on" of these "harshness relieving features." He warned also of allowing developers to plant "buggy whip" trees. Quality should be insisted upon here, too.

In the matter of older subdivi-



Two long-time golf course superintendents were honored recently at retirement by the Mississippi Valley Golf Course Superintendents Association. They are Oscar Bowman, who supervised the construction of Old Warson Country Club, and Walter Ragan, who counted 37 years' service, the last 28 at Greenbriar Country Club. Presentations were by Ken Ragan, new superintendent at Greenbriar, and Ralph Guyer, superintendent at Westborough Country Club. From the left are K. Ragan, Bowman, W. Ragan and Guyer.



Mr. and Mrs. Roy Hudson look at training material for a tree surgery course in North Hollywood.

sions and commercial areas, where street trees and lighting conflict, Park Superintendent, C. J. Pilkerton, Whittier, suggested a somewhat revolutionary idea:

"It is not dishonorable to me to admit some older plantings can be improved aesthetically by staggered removal of older trees," he said.

He explained the dense older plantings hide the beauty of individual trees. Also, staggered removal would "allow illuminaries to do the job they are supposed to do."

Ralph Weston, Electrical Engineer, Culver City, suggested higher trimming of street trees would aid, too, in better light distribution.

In the business meeting following the first day's sessions, new officers for the coming year were elected. Unanimously approved were: Brian Fewer, San Francisco, president; William Bell, Long Beach, president-elect; Larry Rowse, vice president; C. Elmer Lee, secretary-treasurer; Clark O. Eads, editor; Joe Witt, director.

Board of Governors: Robert Berlin, Dr. E. F. Reimschuessel, Clark O. Eads, Alpine Chadburn, Gene Cox. William Bell is Western Chapter representative to ISTC Board.

George Hood, Jr., Palo Alto, expressed pleasure in the 1970 California Arbor Day Proclamation. Informational Arbor Day programs are now required in California schools.

Hood grinned also over President Nixon's Declaration of a National Arbor Day. Hood thinks the time is now ripe to petition the Postmaster General to issue another Arbor Day stamp. The last stamp—and only one—came out in 1932.

classifieds

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

Rates: "Position Wanted" 10¢ per word, minimum \$3.00. All other classifications 20¢ per word, minimum \$4.00. 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. Bold-face rule box: \$25.00 per column inch.

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AUSTRALIAN BUSINESS — Agricultural Chemicals — Custom Applicators. This firm specializes in Agricultural and Industrial Weed Control. It is firmly established in three eastern States and there is potential for expansion to the remaining States and New Zealand. Opportunities in allied fields are excellent. An ideal proposition for a chemical or pest control company seeking a comprehensive introduction to the Australian Market. Any reasonable proposition will be confidentially considered by the Founder-Manager who is anxious to ensure the future of this unique organization before retiring. Address all inquiries to: "Chemicals," P.O. Box 767 G, G.P.O. Melbourne, 3001, Vic., Australia.

FOR SALE—Established and going tree business in Westchester County, New York. Full line of tree equipment. Existing work contracts. Owner planning to retire. For particulars write to P. O. Box 366, Mt. Kisco, New York 10549.

APPROXIMATELY 20 acres cultured park Kentucky Blue Grass sod. 12 cents per square yard. You cut and haul. Clayton J. Hogie, 12965 Buchanan St., N.E. Anoka, Minnesota 55303. Phone 612 755-3144.

REAL ESTATE

160 ACRE SOD FARM for sale. 90 acres of peat sod ready to cut. Call Whitmore Lake, Michigan. 313 665-9290.

POSITIONS WANTED

B. S. DEGREE in entomology and plant pathology. Experience includes developing and maintaining various gardens and turf areas at one of the national historic sites, and working in experimental pesticide formulations. Desire position in the turf or arboriculture field where background education and experience can be fully utilized, and where there is opportunity for advancement. Will to relocate. Box 56, Weeds, Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102

LANDSCAPE SUPERVISOR, spray applicator—Young, ambitious, quality conscious, wants to relocate. Particular interest and knowledge in pesticides. Willing to travel. Presently landscape supervisor, excellent references and background. Write to Box 57, Weeds, Trees and Turf, 9800

Detroit Avenue, Cleveland, Ohio 44102.

THIRTEEN YEARS diversified experience sod, maintenance, services, sales, seek association with progressive organization as salesman, supervisor or management position. Capable of accepting and positively discharging responsibility. Bondable, adaptable. Box 38, Weeds, Trees & Turf, 9800 Detroit Avenue, Cleveland, Ohio 44102.

GREENS SUPERINTENDENT — 20 years — bent, blue and bermuda grasses, desires to change locality. Country club, park, experimental research farm or related fields. Florida coast preferred. Resume sent on request. Box 55, Weed, Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102

USED EQUIPMENT

HI RANGER 1967 fiberglass boom, 2 men basket, 53 ft. working height, excellent condition, \$11,500.00 Bichler & Son, Inc., 1250 Alpine, NW, Grand Rapids, Michigan 49504. Phone 616 458-1263

MYERS-SHERMAN tree stump cutter, A-1 condition, \$775.00 Also wanted—top soil or gravel screener, any condition, reasonably priced. Herb Nimmer, 2845 Carlos St., Napa, California 94558. Phone 255-1988

SEEDS

SOD QUALITY Merion Seed for discriminating growers. Also Fylking, Delta Park, Newport and Prato blue-grasses as well as fine fescues. We will custom mix to your specifications. Michigan State Seed Company, Grand Ledge, Michigan 48837.

SOD

GRASS SOD and Sprigs, Tifway 419 and Tifdwarf. 100 acres of clean sod. Hybrid Bermuda 419 — 328 No-Mow, Tif Dwarf and other varieties. 7¢ per Sq. ft. F.O.B. We will arrange for truck. Bayou Pierre Turf Grass Farms, Inc., Carpenter, Mississippi 39050. Phone AC 601 922-3213.

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Hens and DDT; More on Weldon

The other day, while watching an NBC-TV program on the subject of DDT, it occurred to me that manufacturers have overlooked an important source of data that may well be compiled at minimum expense to refute some of the wild guesses on the harmfulness of DDT in the human environment.

Toward the end of the TV program, a film clip showed men in a chemical plant stacking hundreds of pounds of DDT in a warehouse. They wore no special protective clothing; they were in clouds of dust particles. And they seemed quite healthy.

How many men in the chemical factories have been doing this sort of work with DDT for more than two decades? How many chemists in the laboratories have been working with it? How many field men on farms, in the forests and on town and private properties have been spraying and dusting with DDT for many years? How many federal, state and other scientists have been experimenting with DDT all these years?

Let us go to the second generation of men working closely with DDT along with their older compatriots and poll them. Take a look at the third generation at home with their mothers and sisters and brothers.

I have worked with a fair sample of these people and do not know of one even remotely incapacitated by DDT.

While we're at it, let's take a look at another dormant pile of interesting data. How many bil-

lions of hen eggs have been produced with quite normal shells since 1945? How many of the hens laying these eggs have spent their entire lives in areas sprayed and dusted with DDT? How much of the poultry food—corn, grain, greens, etc., that they have consumed has been raised in the same or similar environment?

Of course, hens got balanced diets. Their feathered relatives in the wild seldom get de-loused and fed as well. Do they? They aren't usually exposed to as much DDT, either!

I look forward to the development of pesticides that are harmless to all life forms save the one that make up the target. Let's put the Ban Wagons back in the barn and get politicians to work raising taxes to support chemical and biological research, integrating the races, eliminating poverty, increasing the value of the dollar and winning the war to end war.

DDT might possibly hurt somebody sometime. The acorn that hit Chicken Little might possibly have been the sky falling. Science, however, deals in **probabilities** and not possibilities. **PHILIP L. RUSDEN**, editor, Connecticut Tree Protective Association.

More About Lyle Weldon

Lyle Weldon's enthusiasm for his field of work always impressed me. His dedication and hard work was reflected in similar outputs by his colleagues and assistants. He was highly regarded

by his scientific peers, because of his knowledge of aquatic weed control and his scientific contributions. Dr. Weldon's death leaves a large gap in our research program that will be most difficult to fill.—**W. B. ENNIS, JR.**, Chief, Crops Protection, Research Branch, USDA's Agricultural Research Center, Beltsville, Md.

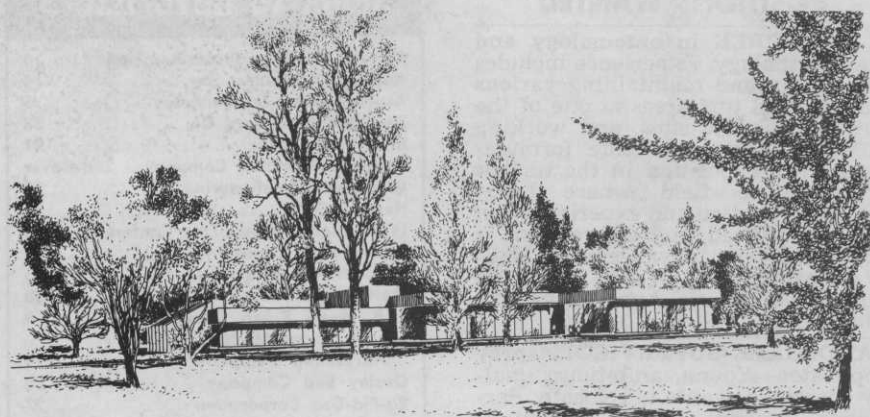
* * *

Dr. Lyle Weldon will be long remembered for his many major contributions to the field of aquatic weed control. He was the author or co-author of about 90 publications.

He continuously contributed unselfishly to assist drainage districts, municipalities, the State of Florida, and individuals in solving troublesome problems (with aquatic weeds).

The Central & Southern Florida Flood Control District benefited directly from Dr. Weldon's knowledge. From his experimental work, it was determined that diquat would kill water lettuce. Nothing else used by the F.C.D. previously would accomplish this. The district recognized that he was also an important part of the research team working to control hydrilla.

It has been reported that \$17 in benefits are being realized in returns for every dollar invested in the work of the Plantation Field Laboratory. Dr. Weldon was one of the outstanding scientists there.—**R. P. BLAKELEY**, chairman, Central & Southern Florida Flood Control District.



Missouri Botanical Garden's twin centers complex is the first of the projects made possible by the successful \$3 million fund campaign this year. The Library-Herbarium is at right; the educational center at left. The 50,000 sq. ft. two-level building was designed by Hellmuth, Obata, and Kassabaum.

DuBois Chemicals Announces DuIN for Non-Crop Areas

A new efficacious liquid weed and grass killer named DuIN has been announced by DuBois Chemicals, division of W. R. Grace & Co.

DuIN is a soil sterilant suited for non-cropland areas, such as industrial sites, school, parking lots, cemeteries, bridges, along fence and pipelines.

DuIN has a no-drift additive, says DuBois, to safeguard nearby grass or ornamentals. Weeds turn brown in two to five hours. Dosage is one to four gallons per 1,000 sq. ft. For more details, circle (720) on the reply card.

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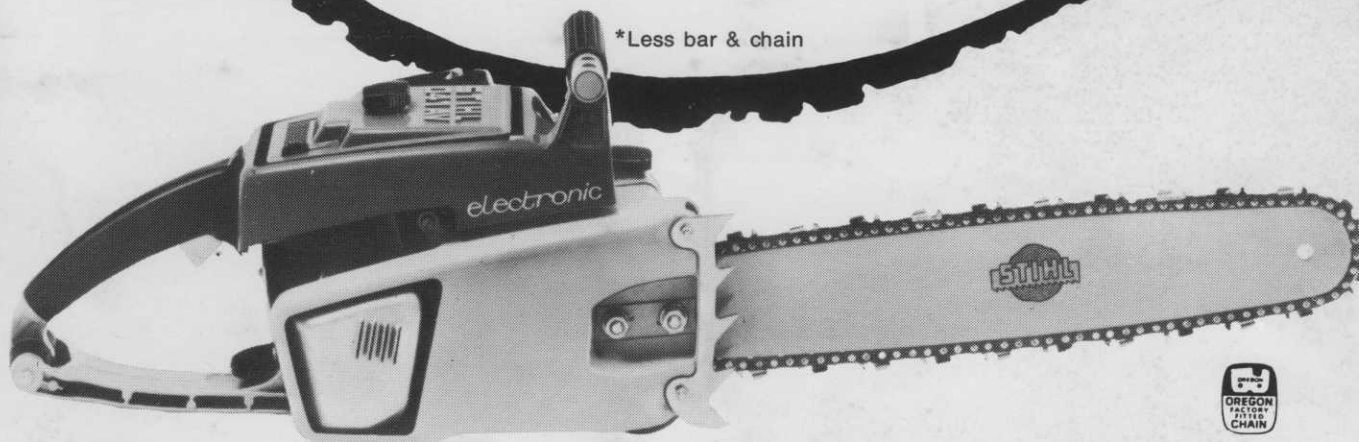


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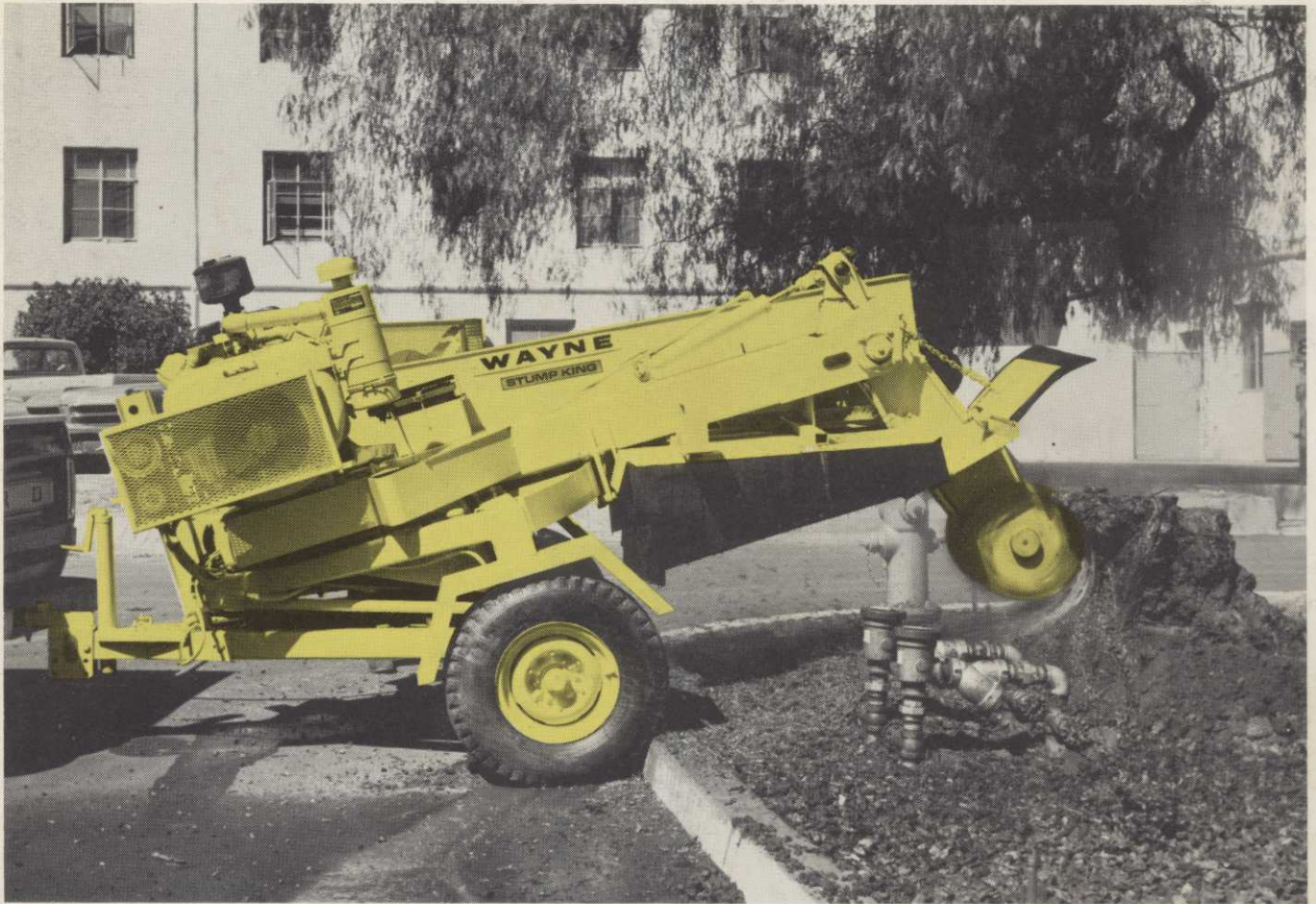
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