

very bad in your fairway? Now remember, the government and certification instructions say to list **ONLY THE WEED SEEDS SPECIFIED**. Well, the analyst ignores the other weeds—that's what he is instructed to do.

How many crop seeds will the analyst list as he examines this 25 grams? The answer is **NONE**.

The 25 gram examination is for certain weeds only, and that is precisely how the test is conducted. Weed seeds not on the list, and all crop seeds are ignored in the 25-gram test.

We at Seed Technology, Inc., have recognized for a long time that standard tests and simple compliance with government and certification regulations is inadequate. Professional turfmen need more information than this from a Seed Laboratory.

#### **Turf Analysis Test**

From this philosophy and to give precise information, we developed the **TURF ANALYSIS TEST**. This Turf Analysis test is designed especially for the professional turfman in the golf and sod areas. It is not structured to meet government (either state or federal) specifications, neither is it designed for the farmer or any certification group.

The upper one-third of the Turf Analysis test report sheet is the standard purity test, meeting government requirements. The information given in this section is no better (or no worse) than the information you get on every tag. The **BOTTOM TWO THIRDS** lists 49 of the most troublesome crop and weed seeds to the professional turfman, for whom the analysis test was designed.

But, even more significant than the crop and weed seeds listed, is the fact that we *examine 25 grams of seed when making this analysis*, in order to improve the chances of finding crop and weed seeds.

For a comparison of a standard test and a Turf Analysis test, made of the same lot of seed,

see Example I and Example II.

The standard report shows a purity of 98.43; Crop .16; Inert 1.41 and .00 weeds, based on 1 gram sample. True, we did not find any weeds in the 1 gram purity test, so none is listed. On the standard test we then examined the large 25 grams of seed for the noxious or prohibitive weeds on the Certification list and again we did not find any so "none found" is typed on the report. The standard test requires the examination of 1 gram for "other weeds and crop." This we did and reported "none found" under other weeds and .16% Kentucky bluegrass under crop. This from the surface looks like very acceptable lot of seed. Certainly no one would hesitate to seed it.

Now let's take a look at the same seed when subjected to the Turf Analysis test. The 1 gram purity remains the same. The percentage of pure seed, crop and weeds does not change.

However, when we examine the large amount for everything present, the true picture comes to light. When we examined the 25 gram for crop we found 91 bentgrass, 72 ryegrass, 18 timothy for a total of 181 per pound of obnoxious crop seed. When we examine the 25 grams for all weeds and not just the few in the states or certification list, note what happened. Instead of reporting "none found," we list 7 different kinds of weeds for a total of 797 weed seeds per pound. Included in the 797 weeds per pound are such things as 109 seeds of chickweed, and the presence of *Poa annua* at the rate of 91 per pound.

#### **Poa Seldom Wanted**

*Poa annua* is not considered prohibitive for certification and is considered noxious in only a few state seed laws. But we know what a bug-a-boo it is to most turf professionals.

*Poa annua* is a member of the bluegrass genera, and to the naked eye or under low magnifi-

cation, it is literally impossible to distinguish it from other bluegrass. Put this same seed under a microscope and the difference is easy to spot.

Here's the problem: The total viewing area under the microscope is about the size of the head of a thumb tack. Now, how do you glue 48,000 seeds to the head of tacks, and then place all of these tacks, one by one, under the scope?

Obviously, this is impossible. At Seed Tech, we search for *Poa annua* under a microscope. We have combined special vibrators with a microscope, and march the seeds in a single layer under the scope. This enables our analyst to look at more seeds under higher magnification in much, much less time.

A special microscope check is made on approximately 40,000 seeds to tell you how much *Poa annua* is present in every pound of seed. And, we know we're right!

Another interesting operation made in every Turf Analysis test at our lab is the bentgrass check. Bentgrass is an extremely small seed, and has the tendency to lodge or stick to larger seeds and ride over the screens during the cleaning operation.

The bentgrass seed is still riding "piggyback" on the larger seed when it comes into the laboratory. This means the larger seed could, and in many instances does, hide the bentgrass from the analyst's view. You just can't turn over 120,000 seeds to see what's hiding underneath.

We solved this problem at Seed Tech by developing a special piece of equipment that literally shakes the bentgrass seed out of the larger seed. Since the bentgrass seed is smaller, it passes through special screens and is easily collected, and examined under a microscope. We are the only laboratory in the country making this kind of a check.

In the Turf Analysis test, you get the name (and number per



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For More Details Circle (102) on Reply Card

pound) of every weed seed and every crop seed found in a 25 gram sample! This includes a special 10 gram *Poa annua* and bentgrass check.

**New for the Industry**

If you went to your family doctor for an examination along about the time the government set up the first standards for the seed industry, here is about what the good ol' doc would have done: Looked down your throat, checked your pulse and listened to your heartbeat through his stethoscope. And, that's about it.

Since that time the medical profession has developed techniques, instruments and equipment that staggers the imagination. But, the seed industry has not made similar strides which are necessary.

What will tomorrow bring? What are we experimenting with today that will make your profession more efficient and more useful tomorrow? We can list three projects. One is available now. The other two could make exciting news—maybe next year, maybe five years from today.

In the future we see first the use of chemicals to learn if a seed is dead or alive, weak or strong. Second, the use of electronic eyes to count the seeds that germinate and measure the rate of growth. Third, micro photography will enable us to make a fingerprint of a plant or single leaf and identify it's variety or trueness to type.

The chemical triphenyl tetrazolium chloride is now being used by Seed Tech to quickly determine the germination potential of a lot of seed. At Seed Tech in 24 hours and for the cost of a carton of cigarettes you can get the known germination. This is our Tetrazolium test. The live embryo shows red, the dead seed remains white. At the present time about all we can give you in germination is the total percentage that will grow. Two lots of seed each germinating 90% can

be quite different. One could be a vigorous fast growing lot and at 10 days 80 plants out of a 100 would have grown to an inch height with an inch long root. In the same 10 days, the other lot might have only 30 plants of equal height and root length. With the use of electric eyes and counters we will soon be giving a germination percentage plus an A, B, or C rating depending on how many and how fast the seeds grow. This could mean cutting the critical time required to establish turf by days through choosing a fast growing lot.

The trend is for more and new varieties of grasses to become available to you. As this continues it will become increasingly important to make certain that the variety is not some old one with a new name and secondly that when you pay a premium price that you get what you're paying for. There is good promise that by making a fingerprint of the leaf surface and then photographing it through a microscope, it will some day be possible to identify a single plant or possibly a single leaf, making certain that you are getting that highly desirable grass that you want. This service will no doubt be forthcoming in the future.

The Turf Analysis test is a break-through in giving information, and more insight into what to expect when you buy a lot of seed. But, no one recognizes more than we at Seed Tech that we must offer more comprehensive tests and analysis in the months and the years, to come.

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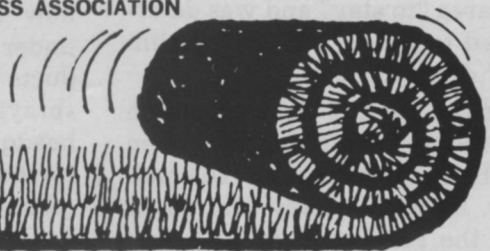
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## Professional Image and Service Build

# Lawn Care Business

By Edward G. Dickson

THE day that Astronaut John H. Glenn, Jr., became the first American in orbit, Feb. 20, 1962, was the day that Ronald W. Collins started in the lawn spraying business in the area around Cape Canaveral, now Cape Kennedy.

Space-age engineers and other technicians employed in this Florida missile center were "crying for" service to halt chinch bug inroads on their St. Augustine lawns. R. W. Collins Lawn Spraying, Inc., was in demand from that first day. The business thrived almost immediately.

But Collins was interested in more than just the ready money to be earned. He was in the missile area "to stay" and was determined to sell a "professional image" of his firm.

He put shining-clean trucks on the roads. He put his sprayers in white uniforms, with red headgear. He put low-key canvassers into the residential areas to explain his services and answer

questions about lawn care, with no quick signing of contracts.

Most significant, Collins believes, was the professional role which the company assumed. A concrete spraying program was offered, and with it, an attitude that "we are the specialists in this field, the professionals—we'll tell you what you need in a spray program."

Most of the homeowners in the Cape area were engineers or in some other professional type of work, and Collins feels that they respected his organization for its professional approach.

He has continued to stress the professional image during the growth of the company, which now has some 8000 customers under yearly contract and conducts up to 3000 single custom sprayings in a year. From the headquarters in little Indian Harbour Beach — one of the coastal missile communities—R. W. Collins Lawn Spraying, Inc., has spread in a band across

central Florida to the west coast around St. Petersburg. Some of this expansion has come through purchases of existing spray companies; part of it has been by development of new branches. Collins says frankly that he hopes to become statewide in his operations.

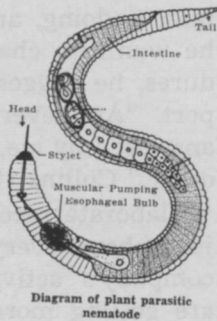
### Varied Contracts

Already, he has been able to meld different types of spraying operations into an organization which can oversee and control these differences. For example, the primary business around Cape Kennedy is in yearly \$60

Owner Ronald W. Collins spends considerable time on telephone and in travel in managing business.



## Some Facts On Turf Nematodes



R. W. COLLINS LAWN SPRAYING, INC.

Booklet produced by Collins explains nematode problem and helps in selling nematode control accounts.



Collins horticulturist Ron Wetzel inspects drainage ditch preparatory to making contract bid.

contracts for chinch bug control in the summer and fertilizing in the winter. The standard contract calls for three chinch bug sprays and three fertilizer applications. But, in the St. Petersburg branch (one acquired by purchase)) almost all of the sprayings are custom applications. Lawns in this area are mostly Bahia, and are chinch-bug free. But they need fertilizing and other pesticides, and Collins provides them as required for maintenance.

Treatment of nematodes in lawns, and various types of weed control, both in residential lawns and in industrial areas, are becoming increasingly prominent in the Collins program. Other specialized applications are available, such as fungus control; for mole crickets, army worms, sod web worm; tree and shrub spraying; and citrus spraying.

On weed control, for example, Collins recently handled a \$13,000 contract for the city of Rockledge for clearing drainage ditches of weeds. Another \$13,000 contract with a public utility company was for a soil sterilization program at the utility's distributing stations.

Nematode control has been built up by distribution of a special pamphlet explaining nematodes and the damage they do. Collins uses this pamphlet as a

stuffer in bills to his regular customers, since all contract customers could be prospects for this special treatment. In addition, the pamphlet goes to other prospects on his direct mail list—names which have been acquired by canvassing and from other sources.

Collins feels that the company's internal policies have had much to do with the success in building a professional image in the communities served.

### Good Communications

Communications is emphasized. For every employee, there is a written definition of what his job is, what he is supposed to do and how to do it, and what the company wants to do for him. Every situation which can be anticipated is considered and written instructions are provided.

"I want every decision in this company to be made at the lowest possible effective level," Collins explains. "And I want no overlapping of responsibilities. You have to have faith in the people who are doing the work and expect them to make the right decisions."

The series of manuals, which starts with an employees' handbook and works upward in the management to include operations and training manuals which

spell out all policies and procedures, is the product of the company's experiences over more than six years.

All employees are expected to follow their manuals to the letter. But they are not shut out from suggesting change. Suggestions are encouraged as part of an "open door policy," Collins says. A lot of the regulations and policies included in the various manuals have come about as a result of such suggestions, he explains.

An illustration of how this system of manuals works: in developing a training program, Collins and the men who instruct new employees found, by experience, that if a man in training for spray work is exposed to his duties four times on each subject, he will have absorbed it. Thus, the training program calls for four sessions of instruction on any particular subject, and detailed records are kept to be certain this new man has had his proper allotment of instruction.

### Manuals for Instructions

By outlining duties and procedures, the manuals represent Collins' communication of instructions to his men. His men, in turn, communicate to him on how things are going with a series of reports.



**Ron Wetzel, firm horticulturist discusses spray needs with customer at Indian Harbour Beach, Fla.**



**Evidence of chinch bugs is found by route man Roy Bickey and fertilizer and insecticide mixed.**



**Branch Manager Tom Mincey, left, works with Less Saterwhite in on-the-job training program.**

Each branch manager and each supervisor compiles a monthly report covering his jurisdiction. In it he tells what each man is doing, and how well. If he wants to change any procedures, he suggests it in the report. "And every suggestion is answered by me, one way or another," Collins states.

Elaborate records are kept of just about every phase of the company's activities and these are getting more involved and, Collins believes, more important to effective management as the company expands.

The company now has six distinct operations, or branches, including the headquarters at Indian Harbour Beach. Two of these branches were acquired by purchase of existing firms, and Collins hopes to expand into other parts of the state through more purchases. At the same time, he is advancing his experienced men to develop new territories for him as part of the expansion. One, for example, is Ken Hudson. He started as a sprayman. He built a territory up to 1500 customers. Now he has been put in charge of developing a branch in the Winter Park area.

With the exception of Ron Wentzel, all the Collins people in key positions today have been advanced from the ranks. Wentzel, a graduate horticulturist, came to the firm as a professional. He is in charge of the weed control program, both in sales and in procedures. Some of his other duties are training men to take the state's licensing exam for pest control operator certificate, and keeping supervisors abreast of new developments in the insect control field.

Collins has incentive programs for both spraymen and branch managers.

#### **Bonuses for Associates**

One sprayman, Dick Osborne, has earned more than \$1000 in bonuses in four years, with an

over-all average during that time of having to re-spray less than half of one percent of the lawns he had serviced. Each month, the company awards \$50 to the sprayman with the lowest percent of re-sprays during the month. For the year there are additional awards ranging from \$150 down to \$25 for the best percentages. Collins is planning to replace this incentive system with one giving an award every month to each sprayman achieving a certain record on re-sprays. This system would not restrict the bonus to the best performer, but to any sprayman making a commendable record.

Branch managers and area supervisors are eligible for bonus payments based on the gross business they handle. In the formula by which this is calculated, there is provision for a penalty for each re-spray required in that man's territory.

Collins uses canvassing in building new business, but these men are not paid on a commission basis. They are paid either by the hour or by salary. Often it is the area supervisor or the branch manager who conducts this low-key selling, Collins said.

The canvassers answer questions, suggest possible services, give home-owners tips on how to maintain their lawns, and almost never sign up a customer on that first call.

"We want these prospects to seriously think about the spray service before they sign a contract for \$60," Collins says. If they really want the service, they will call and ask for it.

#### Advertising Used

Collins uses newspaper and radio advertising to build business, and once a month has a direct mail distribution. Some of the direct mail pieces are news-letters type, telling the home-owner how to care for his lawn. When Collins decided to go after a big volume of business in the Winter Park area recently, he arranged

for a special newspaper supplement of eight pages, and color on front and back pages, to be distributed by the Orlando SENTINEL-STAR in that part of its territory which Collins was most interested in. The supplement and its distribution, as part of the Sunday edition, cost about \$1100.

In the territory he serves, Collins has an average of 12 percent of the homes as his customers. He says he can ride through an area and come out with an estimate, which later proves accurate, of the amount of business he can develop in the area.

One of the phases on which the

Collins has standardized on 1000-gallon tank trucks, with 225-gallon drop tanks. The pumps are 25-gallon per minute, driven by the power take-off. Bodies for the trucks are custom built, mostly because each one is changed or improved in some respect, Collins explains.

Two men handle the scheduling for the routes immediately around Indian Harbour Beach. They make up the routings at night, to be able to incorporate the orders for special sprayings which have come in during the day. Thus, most of the special applications are taken care of within 24 hours. Wednesday is



Typical contract spraying application by R. W. Collins unit at Eau Gallie, Fla. Because of weight, trucks are always parked on street rather than using driveways.

Collins company places much stress is complaints. No sprayman is permitted to handle a complaint by himself. His supervisor must be notified and is responsible for taking care of the complaint. Remedial action must be taken quickly. "A complaint honestly handled right away probably will cause no great problem," Collins states. "But if it's not quickly handled, it may become a real problem." He follows the same principal in handling complaints within the company.

weed control application day. This work is concentrated into one day so that tanks need to be flushed out only at the end of the day. As many trucks as are required can be earmarked for the Wednesday assignments.

Regular employees receive two weeks paid vacations, five paid holidays, twice-daily coffee breaks. The company is soon to go into a group insurance plan, covering life insurance, hospitalization and major medical, for its 40 employees.

Kaspar Burgi, Inc. successful with

# Massive Tree Transplant

By Lou Speer

**L**ANDSCAPING history was made recently when a 60-ton oak tree, a specimen *Quercus Lobata* (Valley Oak), estimated to be over 300 years old, was systematically transplanted.

Declared a "first" by landscape professionals, the massive transplant typifies the latest in land planning and architectural designing.

The transplant took place in early March, 1968, in Westlake Village, California, site of a 12,000-acre master-planned community.

The village, formerly one of California's oldest ranchos where colorfully garbed vaqueros once tended the great cattle herds of Spanish dons, straddles the Ventura-Los Angeles county line, north of Los Angeles in the Malibu Mountains.

The move, part of an overall plan to retain the rural atmosphere of Westlake's "city in the country" by saving as many of the Lobata, Agrifolia, sycamores, and other trees dotting the development, is the project of American-Hawaiian Land Co., a subsidiary of American-Hawaiian Steamship Lines.

The moving of the 60-ton oak fell under the direction of Bill Peterson, Westlake's landscape director, and Kaspar Burgi Co., Inc., big tree movers, Los Angeles.

Because of increasing sizes of modern buildings, the growing

trend in the landscaping industry is to get as many trees, and as large ones as possible into the landscape. Parallel with this trend, architects obtain ideas for building textures, and general forms from the trees that are to surround it. This way, the building is pleasantly compatible with its environment.

This being the case, it became the major objective of Westlake's consulting architect, George McLean, to save as many of the development's own trees as possible. To do so would be to preserve the rustic charm, while creating an ultra urban neighborhood.

## Land Planning

Land planning played a highly important role here—fitting the buildings into the existing topography, keeping the grading in as near the same condition as the dons had once known, where possible, providing tree wells and making transplants.

The first Lobata selected for the massive transplant was picked by McLean chiefly because of its particular form. The chosen oak stood ½-mile distant from Westlake Village Inn, where at that time, it was intended to go into the restaurant's planter. Then, too, it was chosen because of the challenge: Could such a large tree as this be moved successfully?

Into the pre-planning went all the knowledge American-Ha-





Six shielded steel cables are used to guy this California massive transplant in place. Tree appears highly successful and limbs have now leafed out. Entire moving preparation and operation required 28 months. Cost was less than \$10,000.

waiian could obtain from tree movers, from putting the hole into the ground, to use of hormones to stimulate bud production. Intermediate steps along the way would call for the usual pruning, boxing, moving of the tree, and backfilling. In addition, there would be the unusual steps necessary because of the size of everything—the tree, box, equipment to move the tree.

The transplanting contract, totaling less than \$10,000 was carefully coordinated between Peterson, and Kaspar Burgi Co. The major equipment supplier for the transportation was Owl

Crane Co., of Compton, California.

The moving procedure began in February 1966. Jim Cowan, Kaspar Burgi Co., was put in charge of boxing. Cowan constructed a 12 ft. x 12 ft. box to house the tree's root system during the transplanting process. He used 2 x 12's, banded on the sides with rods and tighteners.

The tree, which is 50-foot tall, and 50 feet wide, with a trunk exceeding 4-feet in diameter, was thoroughly pruned before the root boxing process began, thus preventing loss of moisture when the roots were cut back.

### Dormant Stage

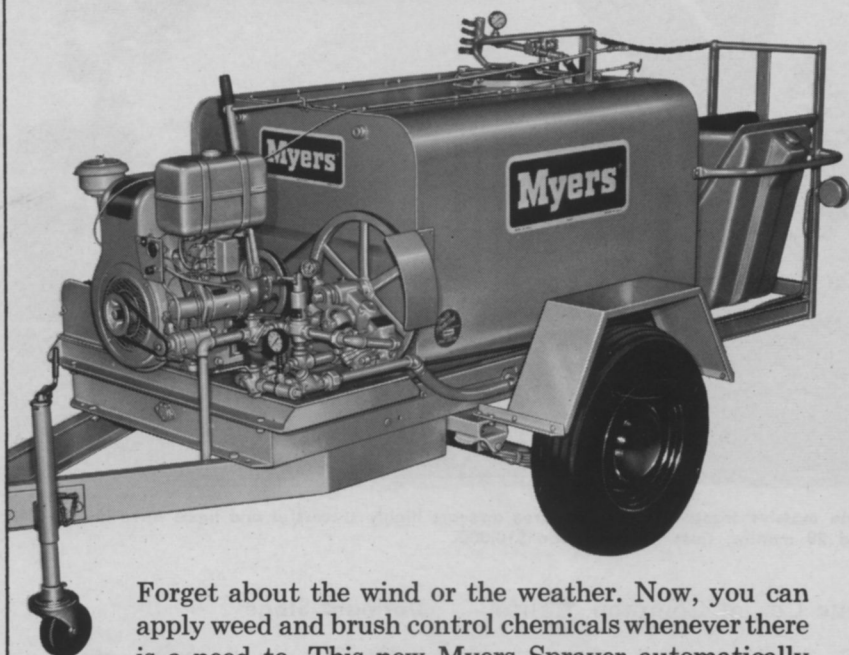
During its dormant stage in early 1966, the roots of the giant oak were partially cut, and two sides of the 12-foot square box put around it. To avoid as much shock as possible, a year's wait ensued before the other sides were added.

Of constant concern to Peterson and Cowan were the tree's transpiration rate, shock effects, and prevention of any disease resulting from the root cutting operation. They discussed the tree much the same as doctors around the bedside of a patient.

The gravest moment came just

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after the tree was side boxed completely, and began to leaf out. A few of the limbs were late in budding. Some did not leaf at all. Concern grew. When the bottom boxing took place, further shocking the tree, even more limbs might be lost.

During the waiting period before bottom boxing, the tree was watered on a monthly interval and with approximately 200 gallons of water. In addition, it was still getting plenty from the tap root. To insure the health of the tree, Norton's Soil Drench and vitamin B<sub>1</sub> also were supplied bi-monthly.

Characteristically, the Lobata is susceptible to twig gertler. In combating this, all Westlake trees are helicopter sprayed once a year with DDT over a 2-year program.

"We feel," Peterson said, "this gives us 90 percent control over the disease."

#### Water Problem

Bottom boxing of the massive oak began in January 1968. Immediately, another unusual problem popped up. Grading had filled in around the Lobata 6 feet. By the time the diggers cut thru the filling and natural grading, they had a 20-foot deep hole dug, and found themselves down to the lateral water level.

Water seeped into the hole and container. Operations halted. Cowan sent for a pump, and set it up in the hole.

With the pump chugging, the diggers began work again. Carefully, they hacked, with pick and shovel, cutting away piece by piece, ever mindful of hitting the tap root.

"But there was no tap root!" Peterson said. "The largest root cut from the bottom of that 50-foot giant was only 3 inches in diameter. This is one of the valuable things we found out, that the Lobata oak—at least those here—do not have large tap roots."

Peterson says this condition