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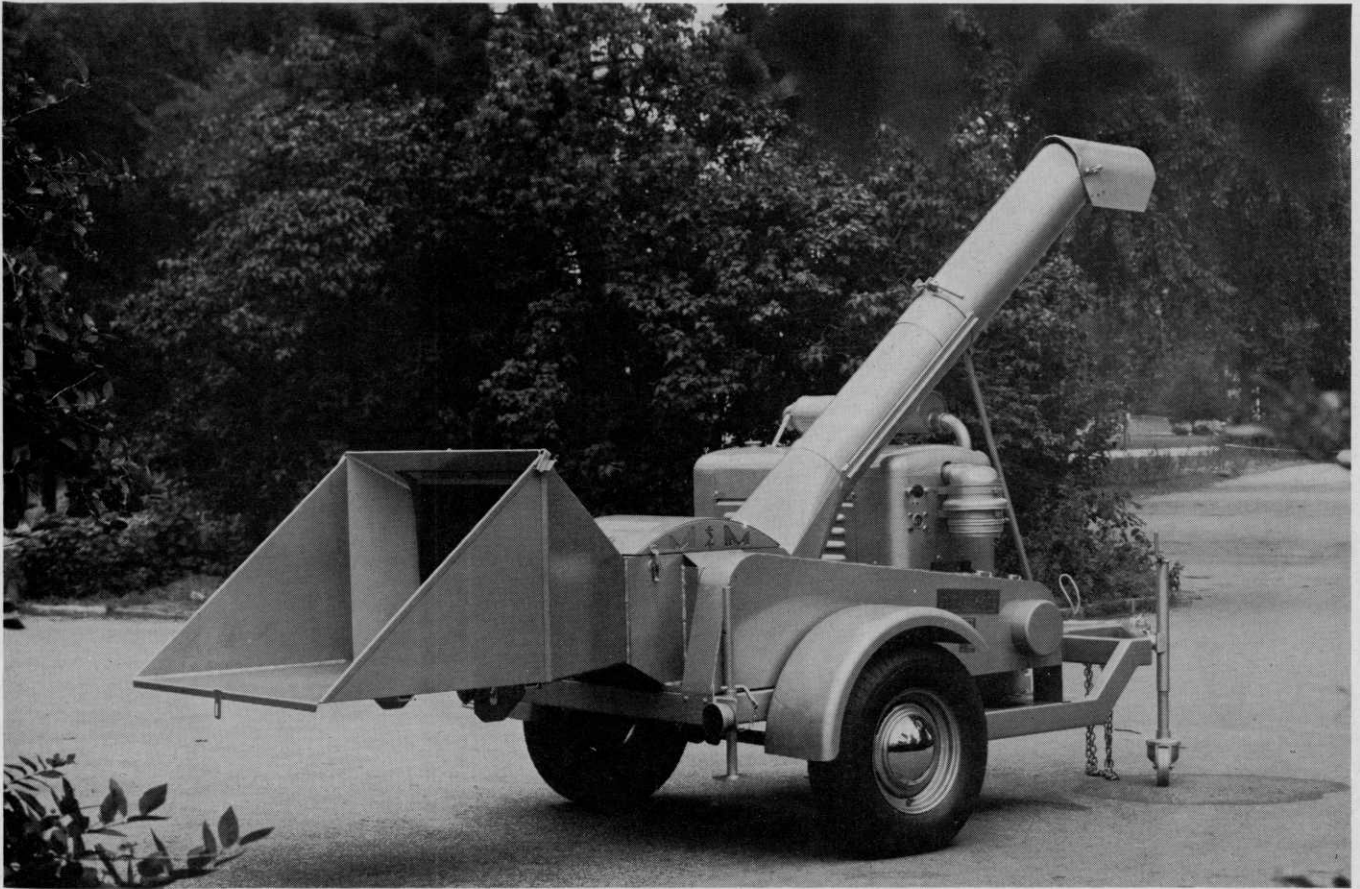
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The Cover

David Wright (pilot) and David Powell of Pennwalt Aquatic Applying Service demonstrate their technique of spraying to control aquatic weeds. They're operating on Lake Maitland, within the city limits of Winter Park, Fla. Chemicals are either released from the rear of the airboat in twin jets just beneath the surface or directed by stream. Powell uses a dye to show dispersion and action in an especially heavy infestation of hydrilla verticillata. The airboat is made by Hurricane Fibreglass Products, Inc., Lake Hamilton, Fla. It's equipped with an F. E. Myers 10-gpm pump. Read more about the Pennwalt service on page 10.



WEEDS TREES and TURF®

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What's Tough About Becoming a Professional

Granted, defining professionalism is about as difficult as nailing Jello to a tree. The word seems to wriggle out of every attempt to nail down its meaning.

Even so, there's a tougher chore: taking the action that's necessary to become recognized as a professional. *Taking the action!*

Public utility arborists have organized. The Landscape Council has been formed. Good steps. But it's funny-strange, thinks Daniel Capper, writing about TLC on page 7, that many have hesitated to put their signature on the application card, "even though no money is being asked at this time." But that's the hard part. Actually signing up requires the commitment to *take action*.

Discussion at the International Shade Tree Conference pretty well covered what a professional is. There were many suggestions also on how to become one. One way helpful in achieving the objective is to analyze what other recognized professionals have done. For example:

Look over the examination that an accountant has to pass before he can be listed as a Certified Public Accountant.

Study doctors' and lawyers' codes of ethics.

Take note of the way certain trade unions, such as bricklayers, plumbers, and electricians, control their memberships and as one result enable them to demand a premium for their services.

Consider the stiff licensing laws that apply to pilots, pharmacists, and most ministers.

For the most part, these standards to live and work by were written by the respective professionals themselves. What's more significant is that the members recognize the standards as being so important that they have given their organizations the power to force individual members, when loyalty falters, to live up to those standards.

"Seek and ye shall find . . ." is the ancient and workable advice from the Good Book. Seek connotes action. The fact that there is so much talk about upgrading a given profession is an indication there hasn't been enough *real seeking*.

"The forestry profession has stayed in the woods too long," quipped John Mixon, Atlanta city forester. Perhaps his charge applies to all arborists; otherwise, it might have been an arborist who first announced his services by "hanging out his shingle."

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Landscape Council, Editorial and Content Comments

I recently spent two weeks of the most rewarding and most frustrating times of my nursery career. I attended two conventions at which the underlying current concerned the Landscape Council.

Most nurserymen seem to agree with the program, but have hesitated to put their signatures on the application card.

Why? Either procrastination, unanswered questions, or just plain conservatism are the most apt reasons. It can't be fear of losing money, because no money is asked for at this time. And nurserymen have a reputation of always being willing to spend money for something that *might* help them.

The most common excuse I have heard is that "I have all the business I can handle." Truer words were never spoken, BUT will this situation remain static? I doubt it. The mass merchandisers, right now, sell somewhere around 50% (and this is conservative) of the total plants sold. How much did they sell in 1959? Maybe 10%. At this rate, in ten years they will sell upwards of 90% of the plants, *leaving us with 10%!*

Would you be willing to have more business if you could handle it?

No one that I have talked to has answered that question negatively. How can we handle more business? By getting more competent help.

This program is going to put the squeeze on both wholesalers and retailers alike. There won't be enough plant material available to meet the demand. According to the economic axiom of supply and demand, prices of nursery stock will rise from the producer. Carrying the normal markup, the retail prices will also rise, resulting in a higher dollar profit. With the higher dollar profit, you can pay higher wages to attract more and better people.

The increased wage scale and the status of a large industry will attract labor to our industry that heretofore would feel degraded to do "farm work." The increase in the dollar profit and the image of the industry will also stimulate other suppliers, such as the machinery manufacturers, to the

market we will create by our demands for better mechanization.

Let's face it, the nursery industry has never been loud enough or worth a manufacturer's time and dollars to develop something *just for us*. Almost always, we have had to adapt some piece of machinery to our needs that was really developed for an entirely different job.

All of these theories are, of course, predicated on the success of The Landscape Council. The question is (although no one has really voiced the opinion that it wouldn't): *Will it work?*

I can only answer this question with a question. Is this program so different from the ones used by the Florida Citrus Commission and, closer to home, the florists with F.T.D., that they could not be compared? Everyone has seen the tremendous growth and profits of the florist industry under F.T.D. Also, the phenomenal growth and success of the Holland Bulb producers came after a program such as this was instituted.

Although all the details have not been announced as yet, I understand that the S.A.F. (Society of American Florists) is instituting a national sales program late in 1970 using, as their media, the larger mass merchandising magazines, and the services of the N.B.C. Monitor program on radio.

This program *will* work but it needs the backing and support of the entire industry to get off the ground. If it doesn't get started, we will always wonder whether it would have worked.

The disposable dollar is shrinking due to surtaxes and inflation, and, if we don't get our bid in for the amount of that dollar that's left, we may have plenty of time to wonder about it. To paraphrase an old saying, "he who hesitates has lost it for others as well as himself."—**DANIEL S. CAPPER**, Capper's Nursery, McLean, Va.

Accurate Reporting

We wish to thank you for the excellent coverage of the Central Plains Turfgrass Field Day in your July issue. It contained some of the most accurate reporting where I knew the story from ac-

tual experience that I have had the privilege of reading.

In your insect report, you may wish to report rather serious damage to fringes and fairways and occasional greens and other turf areas in Kansas due to Beet army worms and some unidentified lepidopterous larvae in mid and late July.—**RAY A. KEEN**, Department of Horticulture, Kansas State University, Manhattan.

Government Interference

I write for the first time to comment upon the content of two recent editions. But first, a word about myself.

I am a small independent Milwaukee area tree surgeon. I spent 14 years as an employee of the city of Milwaukee in the forestry department and five years as an independent. I operate alone, hiring help only when necessary. This gives me independence and saves the federal red tape regarding employees and record-keeping.

In a recent editorial, you objected to the federal government providing nursery stock at lower than prevailing free enterprise prices. I feel you have every right to be concerned, and if you speak on behalf of most nurserymen, those concerns are well justified. However, you address yourself to only a small part of the total problem. The list of citizens who are being offended by the central government grows longer each day. You should be concerned about all restrictive federal legislation.

Few of us see that the problem is not that which confronts us as individuals. The problem lies in that we are all divided and concerned with our very limited area, when we should all be concerned with federal usurpation of power.

In a more recent issue of WTT, you had an excellent article on the Federal Reserve System, and while I hardly expected to find that subject examined in a journal such as yours, I do commend you for speaking so forthrightly. You have made a good start, I feel, in going in the proper direction of an issue of vital concern to every American. I commend you.—**ROBERT W. JOHNSON**, Milwaukee, Wis.

THERE'S SO MUCH of it; why be concerned? And there you have in that public state of mind the real cause and extent of the water pollution we have today.

The public is at last becoming exposed—and aroused—about industrial, human waste, and thermal pollution. This issue focuses on a lesser known aspect of water pollution that's directly related to the industries this magazine serves. The pollutant to which we refer is aquatic weeds.

Why be concerned? It can be said that this country's water pollution by aquatic weeds alone is a problem growing as fast as a foot a week.

That's the rate of growth for hydrilla verticillata, a submersed weed variety discovered and identified in Florida for the first time only nine years ago. The plant has now infested large areas of the Southeast.

Cut it up and the pieces each will take root upon striking soil. It grows up from deep water, 20 to 30 feet. It will bog down motor boats, clog waterways, cause a painful itch or even entrap and drown swimmers. It displaces huge quantities of water, becoming so heavily matted that the non-swimming "lily-walker" bird trots safely across the surface.

"In just five months' time a typical recreation lake can become an economic problem," estimates Andy Price, aquatic biologist for Pennwalt Corporation. "Dig a new lake and the same thing can happen within a year."

No one knows how the weed got to the U.S. It may have been an "exotic tropical plant" imported for fish

aquariums, guesses Price. Then when somebody's fish died, the aquarium was emptied into the canal in back of the home.

But this weed pest is just one of some 150 species of vascular aquatic plants and more than 250 species of algae to worry about. Aquatic weeds have been around from the beginning.

Most any body of water eventually will die of eutrophication, or enrichment. Dig a new pond. Gradually, plants sprout, grow and die around the water's edges. Dirt from the bank sifts and tumbles in toward the center. Decayed plants provide nutrients for new plants. Eventually, the pond's water is displaced until it's just a bog. Finally, the water disappears entirely, leaving just a dip in the land.

But we the people have caused Nature to go berserk. By our very numbers, knowledge and mobility we have increased the eutrophication and, consequently, aging process to an alarming rate. We enrich waters with our wastes and commercial fertilizers, then spread untold varieties of weeds as far and as fast as we can tow a motorboat.

Why be concerned? Even the National Academy of Science's recently published volume on weed control, 471 pages, devotes only one chapter and 20 pages to aquatic weeds. Yet the opening sentence calls "aquatic weeds a worldwide problem that is becoming more critical."

"One aquatic weed alone, the waterhyacinth," the NAS volume continues, "has become known as the



'million-dollar weed' because of control costs and damage it has caused in recent decades in subtropical and tropical regions from the Nile River to the United States.

"It has been estimated that without unceasing control efforts, the Panama Canal would be closed by aquatic weeds within three to five years."

Dr. Lyle W. Weldon of USDA's Aquatic Weed Laboratory in Fort Lauderdale, Fla., reported to the National Geographic Society recently that:

"Aquatic weeds in Florida alone cost the state more than \$50 million a year in just property depreciation. The cost to the nation must be more than a billion."

Submersed weeds of many kinds infest 65% of all irrigation ditches in 17 western states, reported NGS.

Why be concerned? Such weeds, points out the NAS volume, present delicate control problems, requiring special techniques that do not endanger crops dependent on irrigation water or prove toxic to man, fish and wildlife.

Chemical control appears to be most promising. Yet, observes Andy Price, "it takes from \$1 to \$3 million to develop a new chemical, and anywhere from three to five years from conception to get federal registration."

A wide array of newly developed herbicides is being used, NGS stated, particularly nonresidual types that, when properly applied, are harmless to animals.

Some of these weed killers, said NGS, are so safe that aquatic biologists at National Weed Service in Orlando used them to treat a public reservoir. The weeds dis-

appeared in days; the potability of the water remained.

"A Miami country club discovered the value of herbicides," continued NGS. "Site of a \$200,000 golf tournament, the course was marred by unsightly weeds clogging its six miles of canals. Five days before the tournament, a herbicide crew treated the stagnant water. By the time the first golfer teed off, the canals were as clear as the club's swimming pool."

This one issue couldn't hope to cover the total scope of aquatic weed control. We've chosen to approach the subject by discussing a pioneering water management service that's offered by a large chemical manufacturer; by reporting on the latest in mechanical harvesters; by telling how one city is using both mechanical and chemical means to fight aquatic weeds; and presenting a technical report on government research to control hydrilla verticillata.

On an information-gathering run to Florida, this magazine's editor was given a tie clasp with the words "Clean Water."

An alert businessman had seen an opportunity to capitalize on the emblem that the U.S. Department of Interior had used for a booklet on aquatic pests in irrigation systems.

The editor wore the tie pin to a local restaurant. A "now-generation" waitress, catching sight of it as she placed a glass of water on the counter, exclaimed:

"Clean water, that's catchy!"

It had better be.



WATER



Andy Price, aquatic biologist for Pennwalt Corporation, is clutching the aquatic weed, *Hydrilla Verticillata*. He's actually in an airboat in the deep water of Lake Maitland, Fla.

It Takes a Total Water Management Service to Whip This

Price demonstrates that *Hydrilla* not only has mass but weight as well. The weed grows as much as a foot a week. At the surface, it mats with algae strong enough to support large birds.



"Considering that the human body is 70% water, you would think people would recognize the preciousness of our water resources."

ANDY L. PRICE was just warming up to a discussion of his profession when he injected this observation of the most puzzling aspect of his work. Price is an aquatic biologist for the Pennwalt Corporation.

As he continued, he turned up at least three reasons:

—People haven't realized that as population and pollution increase, "good water" — from the standpoint of its multipurpose uses — is a limited resource;

—Too many people don't realize the seriousness of water pollution nor recognize its presence; and

—Those people who recognize pollution don't always know what to do about it or where to go to find the problem's cure.

While Andy Price preaches enthusiastically on all three themes, his profession is to answer the third one — how to deal with water polluted with aquatic weeds.

"All we have to sell is a service — and an end result," he says. That service is the Pennwalt Aquatic Applying Service. And he calls special attention to the definition of the end result: An understood and accepted "aquatic vegetation management program."

"We're talking vegetation *management*," he emphasizes. Total control, or eradication, may not be possible nor even desirable."

Aquatic Weed Explosion

What has been happening the past few decades, Price explained as background, is that we have had a population explosion and a technological explosion; and the two have produced an aquatic weed explosion with as yet unrecognized proportions.

Technology has produced more leisure hours, and more people are traveling and taking to the water in boats, skis, swim suits and scuba gear. Technology has produced commercial fertilizer for every type of purchaser for every living plant. The excess plant nutrients are going into the water. Result: Aquatic weeds are traveling with their human carriers (boat motors, trailers, etc.), are infesting new water areas, and are growing rapidly in the enriched waters.

"The time is near when a land-