square miles from Orlando to the Keys and includes all or parts of 16 counties. Within this area is a complex interconnecting system of canals, levees, lakes, water storage areas, pump stations, and water control structures, designed to provide a sufficient quantity and quality of water for all the diverse interests in South Florida. The district has over 1400 miles of canals, 16 pump stations, more than 125 water control structures, 1345 square miles of water conservation areas, and about 20 lakes; the largest of which is Lake Okeechobee (730 square miles).

The implementation of an aquatic weed control program in district canals was necessary both for flood water removal and to maintain proper water levels. With the warm sunshine and year-round growing season typical of Florida, aquatic weeds left unchecked would soon clog all primary and secondary canals, reservoirs and most waterways, and the entire water management system would cease to be functional.

In the rainy season, canals would back up and overflow. Weeds would clog intake gratings and halt the use of large pumping stations and cause possible damage to expensive equipment. Navigation of boats would be impossible in weed-infested canals. Waterways used by fresh-water fishermen would be blocked off. Recreational boating would be brought to a halt. Farmers would not be able to irrigate their crops, resulting in an economic disaster for the state.

An effective aquatic weed program was essential. The SFWMD's program operates on a year-round basis, following three basic steps:

1) Identification of Plants: The first step in an aquatic weed program is to determine what species or types of aquatics are in the canal facility or waterway. Basically, these include floating, submersed, emersed and ditchbank (including levee grasses and brush).

Diquat application on duckweed and water paspalum. Duckweed is almost completely covering the canal surface.

2) Methods of Treatment: This depends on the growth form of the plant—where it is located, the uses of the water body and the types of equipment available. The district uses four methods of control: mechanical, chemical, biological and physical (i.e., water-level fluctuation).

Mechanical control methods were used by the district primarily against submersed vegetation until about two years ago, when a transition to chemical methods was initiated.

In recent years, advances in chemical technology have allowed the uses of specific chemicals for specific needs in aquatic weed control. Baker said in his report chemical control methods are speedy, cost-effective and longer lasting than mechanical methods, realizing, of course, that there are certain environmental considerations inherent in the use of chemical control. For example, the application techniques are designed to place the chemicals on the target species and not on other weeds through equipment designed specifically for aquatic use and by the use of spray additives.

Before submersed weed control operations are begun, the district also determines certain parameters, such as the amount of dissolved oxygen in the water, wind velocity and general weather conditions.

Herbicides presently being used in the district's program are Banvel 720 (dicamba), 2,4-D, dalapon, diquat, chelated copper and endothol. For submersed weed control, two or three treatments are necessary following one mechanical removal during the first year. The second year, one or two treatments are necessary and, finally, one application per year.

Biological control is based on the fact that there are some organisms which feed on plants to the extent that the growth of the vegetation is reduced. The primary objective of biocontrol is not eradication of a species, but reduction of a plant's density to where it is no longer a nuisance. Advantages of this type of control are low program costs, ease of application, no special equipment, minimum training of personnel and relative permanence of treatment, once established. The main disadvantage is that initial results generally are too slow in coming, and usually necessitate the use of other methods of control in addition to biocontrol.

The district has cooperatively participated with the State Game and Fresh Water Fish Commission on lake drawdown projects (physical control) at Lakes Kissimmee and Tohopekaliga. While the primary purpose for these drawdowns was to enhance the fisheries resources, some degree of management of the obnoxious weed community emerged as a secondary result. In addition, the district, under the supervision of the Environmental Sciences Division, has initiated water fluctuation methods for the purpose of re-establishing native Everglades vegetation. A trial scheduled for mid-1979 is presently pending.

3) Cost and Economics: Aquatic weed control can be an expensive undertaking. Within the boundaries of the district, weed control maintenance of the primary waterway system is presently costing in excess of three million dollars. This is a considerable in-
crease over what the district spent six years ago (one-half million dollars). The magnitude of cost involved certainly generates a desire to find methods of control that produce results which act in harmony with the environment and, at the same time, reduce costly repetitive and expanded treatments. In this light, Baker concluded, the present technology base indicates superior results for submersed weed control through skilled application of herbicides as contrasted with mechanical control methods.

Baker pointed out some of the major works that have been completed and their contributing value to South Florida:

- Three Conservation Areas — Almost 50 percent of the original Everglades is preserved in a wilderness state in Palm Beach, Broward and Dade counties. These water storage and wildlife areas cover 1,345 square miles. They are surrounded with levees, canals and water control structures. Excess water impounded here is diverted south to Everglades National Park.
- Everglades Agricultural Area — South of Lake Okeechobee, an area of 700,000 acres is

<table>
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<tr>
<th>Target Species, Control Methods, Treatment Proposed</th>
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At Meredith Sod Farms, we take the adage "waste not, want not" seriously. That's why we invented the Meredith Seed Miser. This seeder (U.S. Patent Pending) has cut our seed requirements in half and will give us a more dense stand of grass in less time. This is due to better, more uniform seed germination.

While conventional seeders distribute seed adequately, much of the seed is buried too deeply and therefore never grows. The seed which does grow is not mechanically buried at all, but through natural action becomes embedded in the furrows along with a small amount of soil. This makes the seedlings grow in rows which require time to fill in properly.

Our MEREDITH Seed Miser entirely eliminates turf seeded by conventional seeder.

Perhaps the best feature offered by the Meredith Seed Miser is its low cost. Depending on the price of seed used and soil conditions, the price of the Meredith Seed Miser can be recovered with only 20 acres of new seeding.

Don't waste seed another day. Order a free brochure with the coupon below and get "downright miserly" with your seed. Send the coupon to:

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Or call: (208) 767-9961 or (208) 767-9281

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leved and pumped. About 400,000 acres of the total is now in agricultural production. There are 20 levees and seven pumping stations serving this land.

Seasonal rainfall patterns in South Florida annually create periods of flood and drought on land where surface slopes are as low as 0.7 feet per mile. Due to this flatness, a canal large enough to carry flood flows by gravity is impractical. Therefore, pumping stations must be provided to operate during the rainy season to remove excess water from the land and store it in such places as Lake Okeechobee and the three Water Conservation Areas in the Everglades. During the dry season, when water demands are high and supply is low, water is released out of the storage areas to meet the needs of South Florida.

- Lake Okeechobee — A major levee (the Herbert Hoover dike) has been constructed around the perimeter of the Lake, a distance of 100 miles. This levee prevents a recurrence of hurricane-driven wind tides, such as those that drowned 3,000 persons in 1926 and 1928. The levee also will make possible additional storage of water in the Big Lake, a major source of water for South Florida.

- The Caloosahatchee River — A 58-mile waterway project, between Lake Okeechobee and the Gulf of Mexico (at Fort Myers) has been completed. The River improvements serve a basin area of 1,200 square miles and also add discharge capacity for emergency releases from the Lake to tide-water when necessary.

- The Kissimmee River — A 58-mile channel, between Lake Okeechobee and Lake Kissimmee, was finished by mid-1971. The widened and deepened river is equipped with six large dam and spillway structures, operated by the SFWMD. Each structure has a navigation lock 30x90 feet, designed to pass vessels of 5½-foot draft. The river improvements serve a drainage area of 758 square miles and provide an outlet for excess water from the Upper Kissimmee Valley.

- Upper Kissimmee River Basin — To date, 15 canals, equipped with eight water control structures, have been constructed, linking 14 lakes in the Upper Kissimmee in central Florida.

Working within the boundaries of the rising costs of maintenance and restrictions of the Environmental Protection Agency, the SFWMD has managed to meet the objectives set forth in their original establishment with more than a little success.

The success of SFWMD’s aquatic weed control program is the culmination of an effective planning and coordination effort. The impact of this effort has affected South Florida by protecting the quality and quantity of fresh water resources and enhancing public recreational facilities. More importantly, the district has protected the health and safety of the people of the state of Florida.
Manager's Guide to Equipment, Chemicals, Supplies and Distributors.
“Why am I so strong on service? Because Jacobsen customers say they expect it.”
When you buy a piece of turf equipment from your Jacobsen distributor, he knows that the sale doesn’t end with delivery.

In fact, it’s just beginning. The rest of it depends upon his ability to give you fast service whenever it’s needed. He knows that when your equipment is out for service, it’s like having no equipment at all.

That’s why your Jacobsen distributor goes out of his way to offer you the best service in the business. From normal maintenance to emergency repairs.

And he’s been going out of his way for a long time. Our distributors have been with us for an average of 25 years. And their service managers have been with them for an average of 11 years. That’s one heck of a lot of experience.

But Jacobsen distributors don’t rest on laurels. Every year they send their service managers and key people to our Racine Product Training Center for comprehensive training sessions.

To stay up-to-date on new products and modifications. To attend workshops on subjects such as the latest advances in hydraulics and transmissions. And to attend seminars on parts, service and management training.

Not only that, Jacobsen distributors hold field seminars and offer training to those customers who handle their own routine maintenance.

Fast service. Done by professionals who are thoroughly trained.

That’s what you said you expect.

And that’s why we feel that the sale is really completed in the service department.

Next time you get a chance, ask your Jacobsen distributor to tell you about his service philosophy.

The more you listen to what he has to say, the more you’ll know he’s been listening to you.

We hear you.

Jacobsen Division of Textron Inc.

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Park Structures Int.
Patterson-Williams
Playtime Equip. Corp.
Rosenwach Inc.
Ryther-Purdy
Stadiums Unlimited
Standard Golf Co.
Troy Playground Equip.
Victor Stanley Inc.

Blades, Dozer/Scraper
Allis-Chalmers
BrillIon Iron Works
Dountz Equip. Co.
Erickson Corp.

Excel Industries
Ford Motor Co., Tractor Operations
Grasshopper Co.
International Harvester
Rhino by Athens & Servis, Austin Prod.
Seaman Co.
Toro Co.
Vermeer Mfg. Co.
Wheel Horse Prod.

Bleachers
All American Outdoor Seating
Alum-a-Products Corp.
Belson Mfg. Co.
Bil-Jax Inc.
Howmet Aluminum Corp.
Kay Park-Rec Corp.
L. A. Steelcraft Prod.
Medalist Standard Steel
Patterson-Williams
Playtime Equip. Corp.
Portableachers Inc.
Salway Steel Prod.
Stadiums Unlimited
Sturdiesteel

Blowers
Atwater Strong
Echo Inc.
HMC, Green Machine
Jacobsen Mfg. Co., Div. of Textron Inc.
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Toro Co.
Vandermolen Corp.
Yard Vac

Bridges
Continental Custom Bridge
De Bourgh Mfg. Co.
L. B. Foster
OME Inc.
Standard Golf Co.
Western Wood Structures

Brush Cutters, Hand Held
John Deere & Co.
Echo Inc.
HMC, Green Machine
Hoffco Inc.
Homelite Div., Textron
Solo Motors Inc.
Stanley Hydraulic Tools
Stihl Inc.
Walbro Corp.
Weed Eater
Wilson, D.J., Co.

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Bennington Tractor Co.
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Kershaw Mfg. Co.
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Homelite Div., Textron
Husquvarna Inc.
John Deere & Co.
Massey-Ferguson
McCulloch Corp.
Continues on page 30
We seem to forget, or fail to realize, that a good many years ago we did not have independent verification of publication circulation. Some publishers swore to circulation figures that had no possible relation to fact. Soon, all publisher circulation figures were suspect. No advertiser or agency could be sure of what it was buying.

Leading publishers and advertising buyers finally revolted. They acted to establish independent, tripartite bureaus to authenticate publication circulation.

With regret, we must report that the fight is far from over. That unaudited publications are still added to media schedules can only be because buyers of advertising do not realize what a Pandora’s box they open when they deny the audited circulation principle.

Without audited circulation, the advertising agency cannot develop a media schedule with any feeling of confidence that all figures on coverage are valid. The advertising manager cannot defend his market coverage data with the sure knowledge that all statistics are accurate. In other words, without audited circulation, the buyer of advertising would be forced to use unverified claims as data or set up an expensive system to determine if full value for the advertising dollar is being delivered.

Why is any publication not audited?

One reason is, of course, that the publication is so new that it is not yet able to meet the requirements of the audit bureaus. That need not concern us.

It is perhaps true that a publication which has absolutely no competition need not supply verified data—if there is such a publication. Publications owned or operated by a society or association may consider an audit unnecessary since “the publication is sent to all members.” An association’s roster cannot be accepted automatically, however, as a basic for buying advertising. Experience has shown that sometimes substantial differences in total numbers and individual characteristics exist between an association’s roster and its journal’s distribution.

The reason most frequently cited for lack of an audit, however, is that costs of an independent audit are too high. In fact, auditing charges are generally not much more than the price of just one page of advertising in the publication!

Ah, yes, the argument runs, but it is not the cost of the audit itself; it is the expense and effort to maintain circulation records which is “too expensive.” If the condition of a publication’s records isn’t good enough to meet the discipline of an audit, how can the advertising buyer have confidence in the quality of the circulation list?

In fact, all of these reasons for lack of audit do not reflect the real reason why unaudited publications survive. The real reason is that not enough buyers of advertising care enough to insist on a publication’s being audited. These buyers refuse to recognize that audit reports contain meaningful and valuable information not elsewhere available and that they are essential to advertisers and agencies in the proper evaluation of publications.

And what is ABP’s interest in this subject? Since it was first formed, ABP has championed the cause of audited publications. It is a requirement for ABP membership that a publication must submit to the discipline of an independent audit. Clearly stated in ABP’s Code of Publishing Practice, to which members must subscribe and which they must uphold, is this forthright statement:

“As a condition precedent to membership and as a condition for the continuation of membership, each member of American Business Press, Inc. agrees:

“To submit its publications to regular circulation audits by an independent, non-profit, tripartite auditing organization, and to encourage similar auditing practices by all presently unaudited business publications.”

ABP believes that all good publishing will gain, as will the buyer of advertising, when higher standards become a must. We rise to ask if buyers care.

ABP
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New York, N.Y. 10017
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Cascade Corp.
Dountz Equip. Co.
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National Greenhouse Co.
Reliable Greenhouses
Sturdi-Bilt Mfg. Co.
Sunglo Greenhouses

Greenhouses
Archway Greenhouses
Atlee Burpee Co.
Cloud Co.
Enclosures Inc.
Environtmental Dynamics
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Hansen Weatherport
J. A. Nearing Co.
Lord & Burnham
National Greenhouse Co.
Reliable Greenhouses
Sturdi-Bilt Mfg. Co.
Sunglo Greenhouses

Hose and Reels
John Deere & Co.
Dountz Equip. Co.
Flexitube Ind. Corp.
Minnesota Wanner Co.
F. E. Myers Co.

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Aquatic Irrigation Systems
Drip-Eze
Drip-Iigation Co.
Raindrip Inc.

Irrigation, Mobile
Ag-Rain Inc.
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Greenfield Traveling Sprinklers
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Irrigation, Systems & Supplies
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