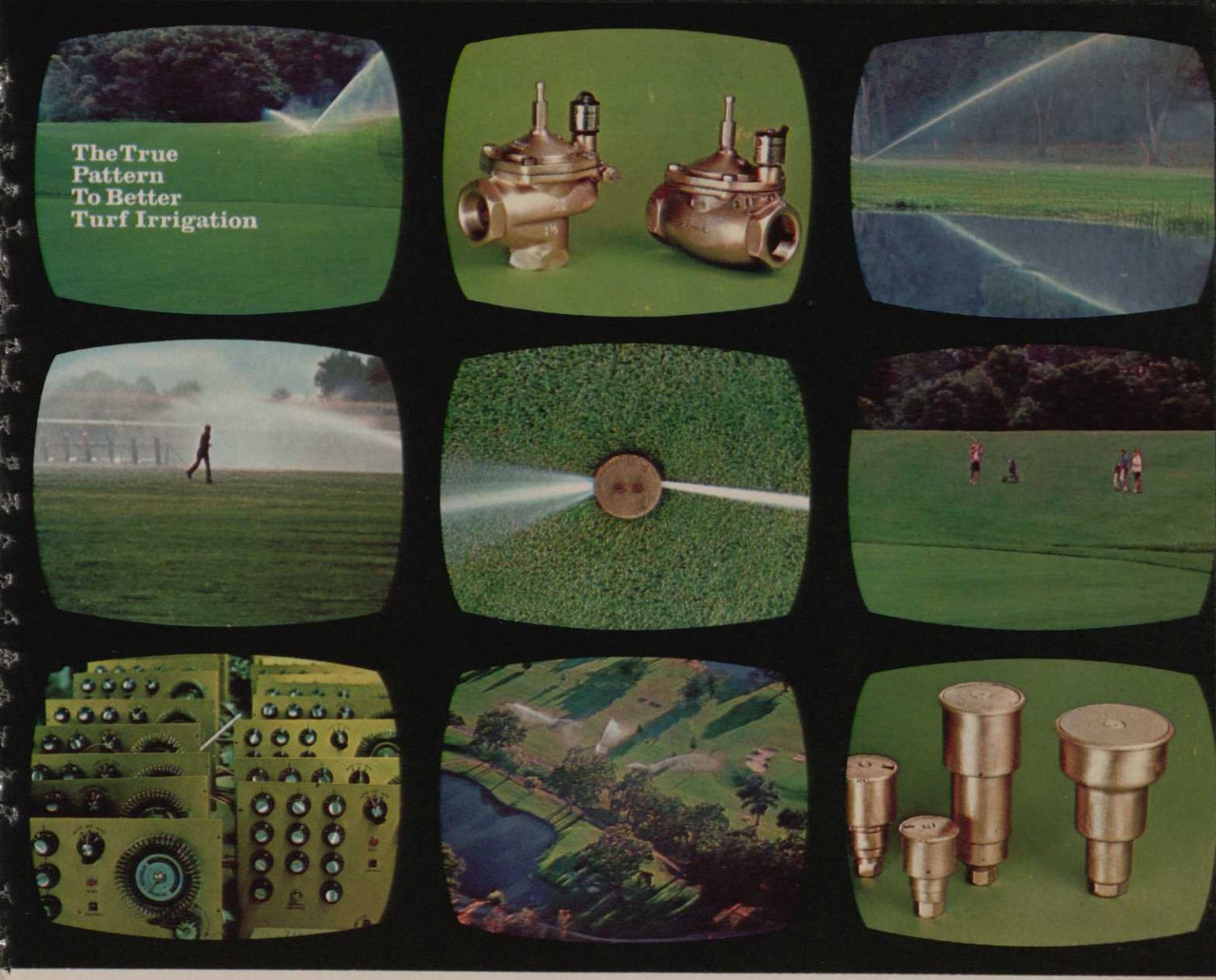

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Tough new Federal law

Six months ago the National Club Assn. noted that the Occupational Safety and Health Act (OSHA) of 1970 was "the toughest piece of legislation business has ever had to cope with."

The truth of this prediction is substantiated by a recent report from the fledgling Federal job safety agency. In the first six months of its operation it inspected 9,300 establishments. It issued 5,536 citations, or 60 per cent of the establishments inspected, and levied $361,692 in proposed fines.

Private clubs, along with all other employers engaging in business affecting commerce, are now covered by the job safety laws and must contend with nearly 400 pages of rules and standards. And this is only the beginning!

Under the new law, job safety standards are being developed and set by the Secretary of Labor, who has until April 18, 1973, to promulgate them. In the interim, "National Consensus" standards are in effect and are being enforced. The interim standards include those prescribed by the Walsh-Healey Act and the National Fire Protection Assn.

The act also contains provisions for standards that require:

☐ That no employee dealing with toxic materials or harmful physical agents will suffer impairment.

☐ Development and prescription of labels or other appropriate forms of warning so that employees know all the health hazards to which they are exposed.

☐ Prescription of suitable protective equipment.

☐ Monitoring or measuring of employee exposure to hazards.

☐ Prescription of the type and frequency of medical examination or other tests for employees exposed to health hazards.

Each club must also keep certain prescribed records and must be prepared to submit them on demand. Records must be maintained of all work-related deaths, injuries and illnesses. Although minor injuries requiring only first aid need not be reported, a record must be made if they involve medical treatment, loss of consciousness, restriction of work or motion or transfer to another job.

The records required of employers include:

1. A diary or log of all reportable injuries and illnesses (OSHA No. 100).

2. An annual review of all reportable deaths, injuries and illnesses (OSHA No. 102).

3. A statistical report to the Secretary of all work injuries and illnesses of which records are required.

Three categories of inspection priority have been established. First priority goes to investigation of deaths. Second, to employee complaints and third, to target industries that have been selected because of their poor safety records.

Any employee who believes that a violation of job safety or health standard exists may request an inspection by sending a signed, written notice to the Department of Labor. A copy of the complaint must be furnished to the employer, but the name of the complainant need not be supplied.

To enforce the standards, Labor Department safety inspectors may enter any establishment covered by the act at any reasonable time to inspect the premises and any pertinent structures, machines and equipment. The act permits the employer and a representative of the employees to accompany the inspector during any physical inspection. The agency has ruled, however, that inspectors do not have to allow union representatives to accompany them on tours of plants.

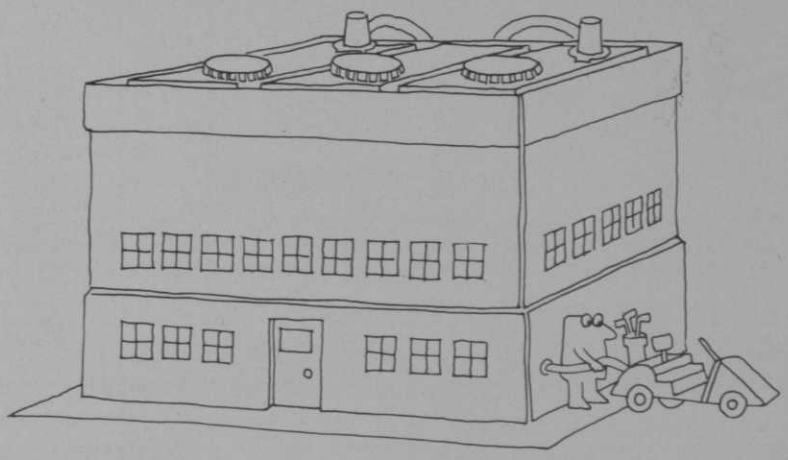
Although the act provides that "Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct" (Sec. 5b), recent developments have caused some concern in this area.

Clearly, the act, as quoted above, does not rule out disciplinary action against an employee who refuses to comply with safety regulations or to use safety equipment provided by his employer. It is equally clear from discussions with officials at OSHA that responsibility for enforcement will be placed on the employer. In short, the employer must not only provide safe premises and post rules of conduct and safety standards, but he must also see that the employees read the rules and standards, understand them and carry them out.

It is also necessary to keep in mind that the act does not in any way affect any workmen's compensation law or enlarge or diminish the common law or statutory rights, duties or liabilities of employers and employees under any law.

The full impact of this law on clubs is still not completely clear. Although it appears that its major implications will center on the clubhouse, particularly the kitchen operation, and the maintenance of the golf course, because of the use of heavy cutting equipment, herbicides, insecticides and fertilizers, it would also seem to have a potential effect on the pro shop and its club cleaning equipment, golf cars, locker rooms; in fact almost any part of the club that uses equipment or machinery and potentially dangerous liquids and chemicals. Club executives would do well to keep close tabs on this new agency. ☐

The National Club Assn. has moved its headquarters to 1129 20th Street, N.W., Suite 602, Washington, D.C. 20005. The phone number remains (202) 466-8424.



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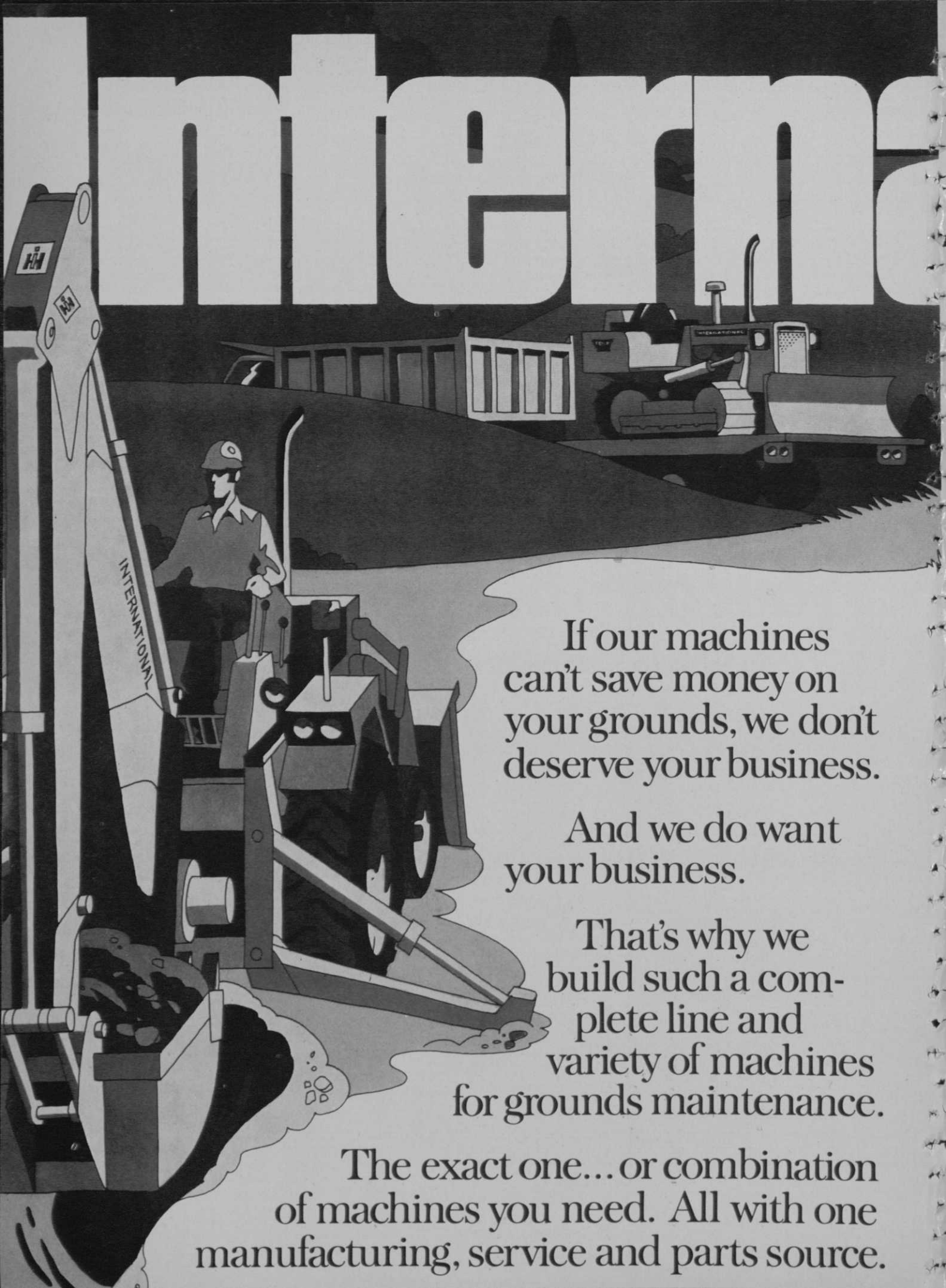
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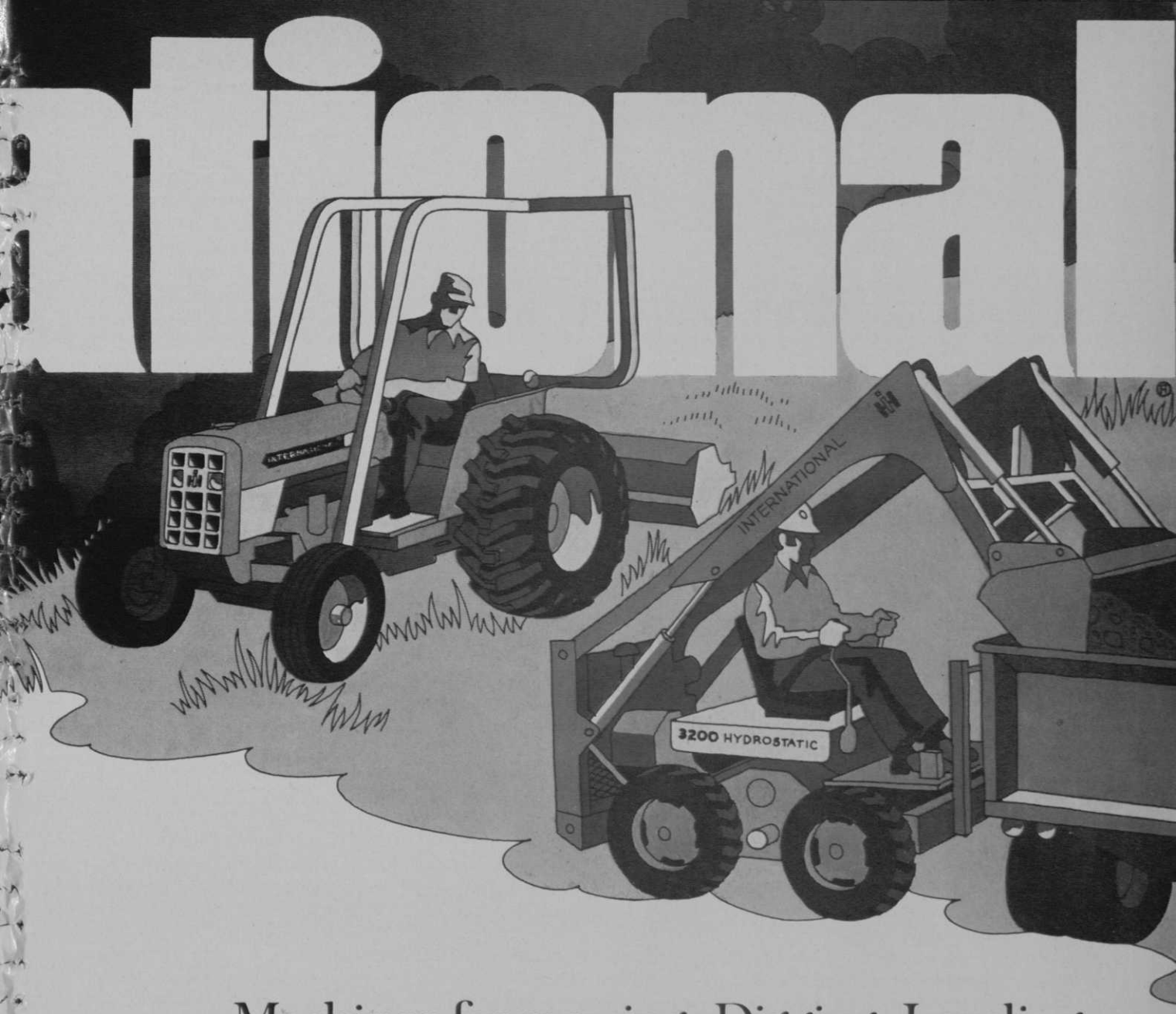

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Automatic irrigation control to increase water efficiency

Turfgrass irrigation research at the University of California. *A. W. Marsh. 1970. California Turfgrass Culture. 20(1): 1-2. (Agricultural Extension Service, University of California at Riverside, Riverside, Calif. 92507).*

The objective of this investigation was to evaluate five different methods of assessing the irrigation water requirement of a turf. The experiment was initiated in 1966 at the University of California at Riverside, South Coast Field Station. Two turfgrasses, bermudagrass and St. Augustinegrass, were included in a randomized block design of four replications. The five irrigation treatments were as follows: (1) automatic irrigation when a tensiometer at either the six- or 12-inch soil depth reaches 15 centibars; (2) automatic irrigation when a tensiometer at either the six- or 12-inch soil depth reaches 40 centibars; (3) automatic irrigation when a tensiometer at either the six- or 12-inch soil depth reaches 65 centibars; (4) manual irrigation at rates based on actual evaporation measurements, and (5) manual irrigation to simulate the irrigation practices utilized by professional turfmen in the local area.

The first three treatments received water automatically when either tensiometer dried to the levels indicated. The controller was set to allow irrigations only at night and for repeated, short intervals. The irrigation ceases whenever enough irrigation cycles apply sufficient water to lower the reading.

The evaporation measurements for treatment four are obtained from a sunken evaporation pan. Irrigations were applied to treatment area four whenever the measured evaporation totaled one inch or more. The amount of water applied was 87 per cent of the measured evaporation during the peak summer months and 75 per cent of the measured evaporation minus rainfall during the fall, winter and spring months.

Treatment five was established as a standard practice equivalent, in terms of timing and amount of water applied, to that typically utilized by professional turfmen on adjacent turfgrass areas. Both treatments four and five were irrigated manually through the controller within the guidelines described. This experiment has been conducted for a three-year period.

The author summarized the results to date as follows. Less water was applied with the automatic tensiometer controlled irrigations than with the manually controlled irrigations, even with the rather wet 15 centibar treatment. The automatic tensiometer controlled 40 centibar irrigation level provided a substantial savings in water compared to the standard treatment five with no visible difference in terms of turfgrass response from that obtained with the 15 centibar treatment.

During the 1968 growing season the bermudagrass turf received the following total inches of water from irrigation treatments: (a) automatic tensiometer controlled 40 centibar level—31 inches; (b) automatic tensiometer controlled 15 centibar level—38 inches; (c) manual irrigation based on pan evaporation measurements—39 inches, and (d) manual irrigation typical of that commonly practiced—42 inches. This represents a considerable difference among treatments in terms of total water applied over the 12-month period.

Some interesting seasonal variations in the monthly water use rate were also evident among the five treatments. The manual water application plot representative of standard practices received more water during early and late spring and again in the fall compared to the irrigation treatments based on automatic irrigation controlled by tensiometers. In addition, the manually controlled standard practice received less water during the peak water use rate period of midsummer compared to the automatic tensiometer controlled treatments.

As would be expected there were considerable variations between months in terms of the water use rate and correlated irrigation rate. During the midsummer period of June, July and August, the monthly water application rate among the five treatments ranged from four to over six inches. This contrasted to the winter months of January and February when less than two inches of water was applied per month.

Comments: The author presents some very striking data showing how tensiometers can be used to automatically control irrigation practices and in turn achieve a significant improvement in water use efficiency. Two tensiometers are used, one placed at a six-inch soil depth and a second at a 12-inch soil depth. The reaction time of the six-inch depth tensiometer was quick enough to terminate an irrigation before all the soil was wet. On the other hand, the reaction time of the 12-inch depth tensiometer to a water application was slower and permitted enough extra irrigation periodically to rewet the profile to a greater depth. This technique is then used to apply an amount of water which comes very close to meeting the actual needs of the turf under the environmental and soil conditions of Southern California.

The decision regarding the timing and amounts of water to apply to turfgrass areas is one of the most difficult cultural practices which the professional turfman must make. It is usually made every day. Quite frequently the turf is over irrigated to insure that wilt or loss of turf does not occur. In some cases too much water is applied to certain areas in an attempt to provide an adequate amount of moisture in other loca-

continued on page 101

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