when your season rolls around...

be ready to roll with a NUnes sod harvester

PATENT APPLIED FOR

NEW MACHINERY

Designed by John Nunes to help Sod Growers improve their operation, will be unveiled in our next advertisement in Weeds Trees & Turf.

WATCH OUR ADS!

- With a NUnes Sod Harvester and three men you can lift, cut, roll and palletize up to 1200 square yards of sod per hour.
- The harvester, developed at NUnes Turf Grass Farms in California, is designed to handle any length of rolled or slabbed sod.
- Field grading of sod is done by the tractor operator, who has clear visibility at all times.
- Hydraulic controls permit quick and easy adjustment for all conditions.
- The sod harvester travels alongside, never on the turf, during harvesting and can pick up and roll sod at any time your tractor can operate in your field.
- Sod can be cut with any type of sod cutter. The long ribbons can then be lifted and cut to any desired length from 24" to 90", size depending on thickness of sod.
- Loaded pallets can be spotted for later field removal and be clear of the next harvest run. If direct truck loading is desired, a conveyor extension is available.
- The basic power train is a Ford LLG-2110 wheel tractor. The sod harvester can travel at speeds up to 17 MPH for quick transportation between plots.
- The efficiency of this all-mechanical operation has been proven on NUnes Turf Grass Farms in Patterson, California, and it can solve the problem of quick and economical harvesting of sod by all turf farmers.

For more information please contact:

THE JOHN NUNES MECHANICAL HARVESTING CO.

2006 Loquot Avenue, Patterson, California 95363, Phone (209) 892-8776

NUnes SOD HARVESTER

For More Details Circle (117) on Reply Card

The Cover

The first nine holes of Lake Oswego's (Ore.) 18-hole municipal par-3 course opened for play in November, 1967. The final nine is now completed with play scheduled to begin this spring. A strong feature considered mandatory during the planning stage was an automatic irrigation system, shown in operation on this month's WTT cover. Story on page 6.

More Chemicals Used For Aquatic Weed Problems

The use of chemicals to control excessive growth of algae and aquatic weeds in lakes has become more widespread in Wisconsin in recent years, reports M. Starr Nichols, researcher with the University of Wisconsin's departments of agricultural and civil engineering.

From 1950-58, eighty-one Wisconsin lakes received treatment of about 78,000 pounds of sodium arsenite per year, while 41 lakes were treated with 671,964 pounds of copper sulfate, according to Nichols.

During the past several years, the number of lakes chemically treated has continued to grow. In 1966, Nichols cites, 150 lakes in the state received the following treatments: 48 with copper sulfate for algae control; 16 with sulfate-copper carbonate for swimmer's itch control; 38 with sodium arsenite; and 37 with organic chemicals such as diquat and 2,4-D for weed control. Sixteen of those lakes needed more than one treatment; one lake required 13.

WEEDS TREES and TURF

FORMERLY WEEDS AND TURF

March 1969
Volume 8, No. 3

Features

Departments

WEEDS TREES AND TURF is published monthly by The Harvest Publishing Company. Executive, editorial: 9800 Detroit Ave., Cleveland, Ohio 44102.

Single Copy Price: 50 cents for current issue; all back issues 75 cents each. Foreign $1.00.

Subscription Rates: WEEDS TREES AND TURF is mailed free, within the U.S. and possessions and Canada, to qualified persons engaged in the vegetation care industry and related fields in controlled circulation categories. Non-qualified subscriptions in the U.S. are $7.00 per year; Canada and other countries, $10.00 per year. Controlled circulation postage paid at Fostoria, Ohio 44830.

This Means You!

If you are an upstanding citizen who has never contacted a congressman or state legislator, now is the time to make their acquaintance. Either the pesticide industry—and everyone connected with it—mobilizes now, or it can find business unnecessarily restricted.

Last month we mentioned that DDT was on trial. It is. Consider the pending legislation: Illinois—House Bill 81 introduced January 22 proposes to prohibit sale or use of DDT. An earlier Illinois watershed bill specifies that it be " . . . unlawful to use or dispose of any persistent pesticide in such a manner or in such a location that it is likely to flow into the watershed of Lake Michigan." Persistent pesticide is defined in this Illinois bill as "any pesticide composed of or containing any of the following: aldrin, chlordane, DDT, dieldrin, endrin, heptachlor or lindane."

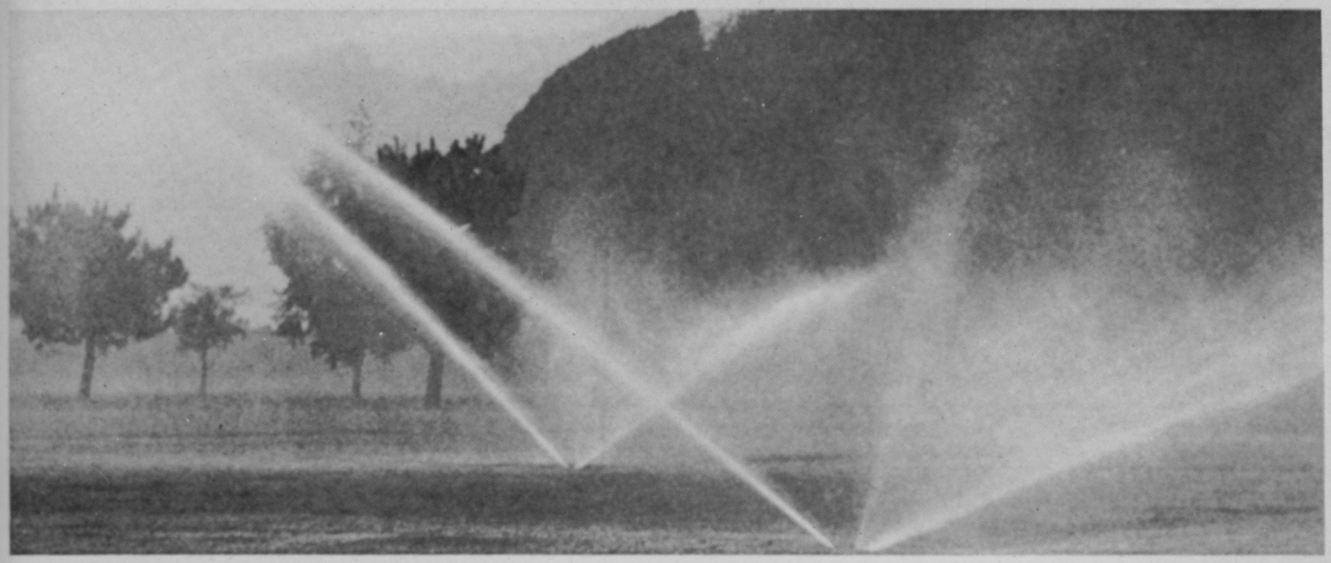
Connecticut: Introduced January 14, 1969, a bill to prohibit the distribution, sale, delivery or use of DDT in that state. The bill proposes that the chemical may be used only as a public health measure in emergency situations and under the direction of the commissioner of health.

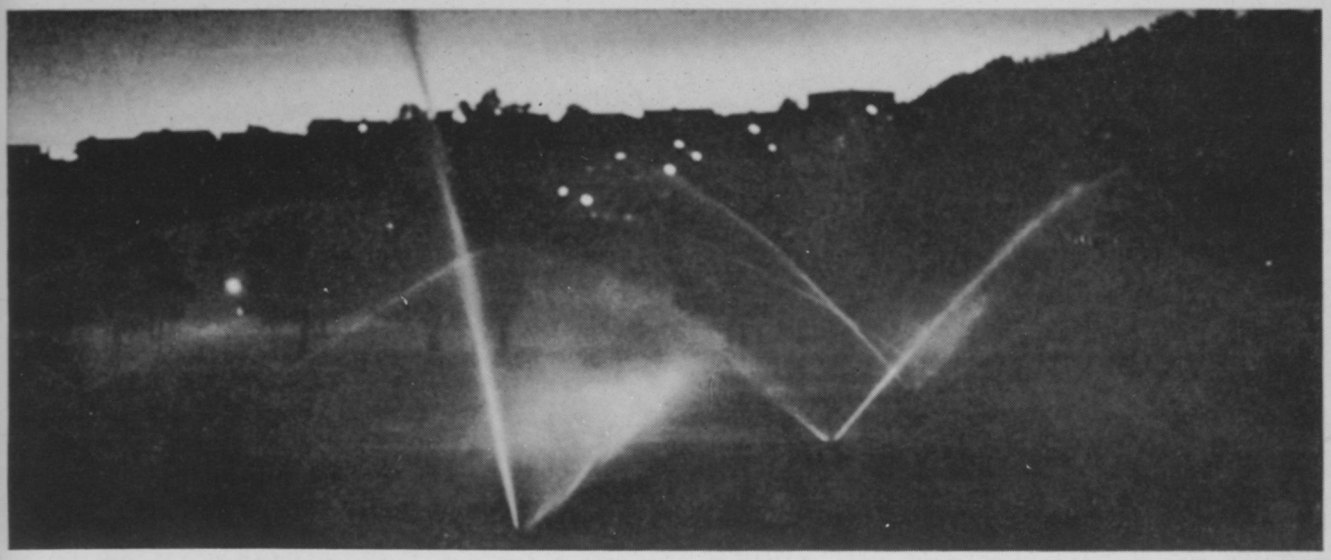
Maine: Bill similar to Connecticut was introduced January 15, 1969 and would prohibit sale or use, but does not contain the emergency measure. Minnesota: Bill to prohibit sale of economic poisons containing DDT was introduced January 17, 1969, At least two additional states are expected to receive proposed legislation this session.

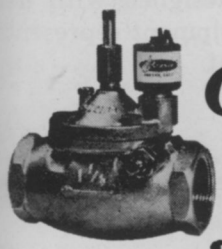
In no case to date have the penalties called for in the bills been severe. But penalties are not the issue.

Should bills be passed in any of these or other states, the door is open to amendments to include other chemicals for uses wholly unrelated to the DDT problem. Legislators, both state and federal, need all the informed thinking available on this subject. You, regardless of your position in the pesticide industry, need to contribute. You can call, wire, write, or visit the people who represent you.

As for the case of DDT, existing federal controls protect man and his food. Little evidence can be found concerning DDT injury to man. Wildlife which we all appreciate is the sole area of contention. We need more study and more solid information before legislation. Let's make sure that the case is tried on its merits rather than emotion.







Our valves come on strong under all kinds of pressure

The mark of the professional is reliability. No matter what the pressures. No matter how tough the terrain. And, that's our 150GER Series Electric Automatic Valves with Pressure Control. The Professionals. They'll never let you down.

Our 150 GER's were specially designed and meticulously engineered to hold pressure constant to all sprinklers. Regardless of varying elevations. Regardless of water line lengths. Regardless of inlet pressure fluctuations.

Available in five angle or globe sizes—1", 1¼", 1½", 2" and 3"—you'll stay steady, day and night, with the 150GER. Get more facts on the 150GER and the entire line of Buckner equipment from your Buckner dealer. He's equipped to give professional solutions to professional problems.

Buckner®

Buckner® Sprinkler Co. Division of General Sprinkler Corporation, P. O. Box 232, Fresno, California 93708

For More Details Circle (108) on Reply Card

Lake Oswego's New Municipal Course

Automatic Irrigation System

CITY golf courses owned by small municipalities are common. But few feature an automatic irrigation system for turf maintenance as does the new municipal course at the City of Lake Oswego, Oregon.

Work crews of the City handled all phases of construction. United Pipe & Supply Co., Inc. of Portland designed and sold the irrigation system. Total cost which included remodeling of an old 2-story farm equipment storage building as a pro shop and building of a new equipment and maintenance building amounted to only $175,000 exclusive, of course, of land. Funds came from a continuing 2-mill tax levy established by city voters in 1949 for parks and recreation. The levy in the City of about 15,000 produces about $180,000 annually.

Work on the course began in April, 1967. First play on the initial nine holes was on November 25. The back nine was constructed during 1968 with play scheduled to begin this spring.

Course Self-Supporting

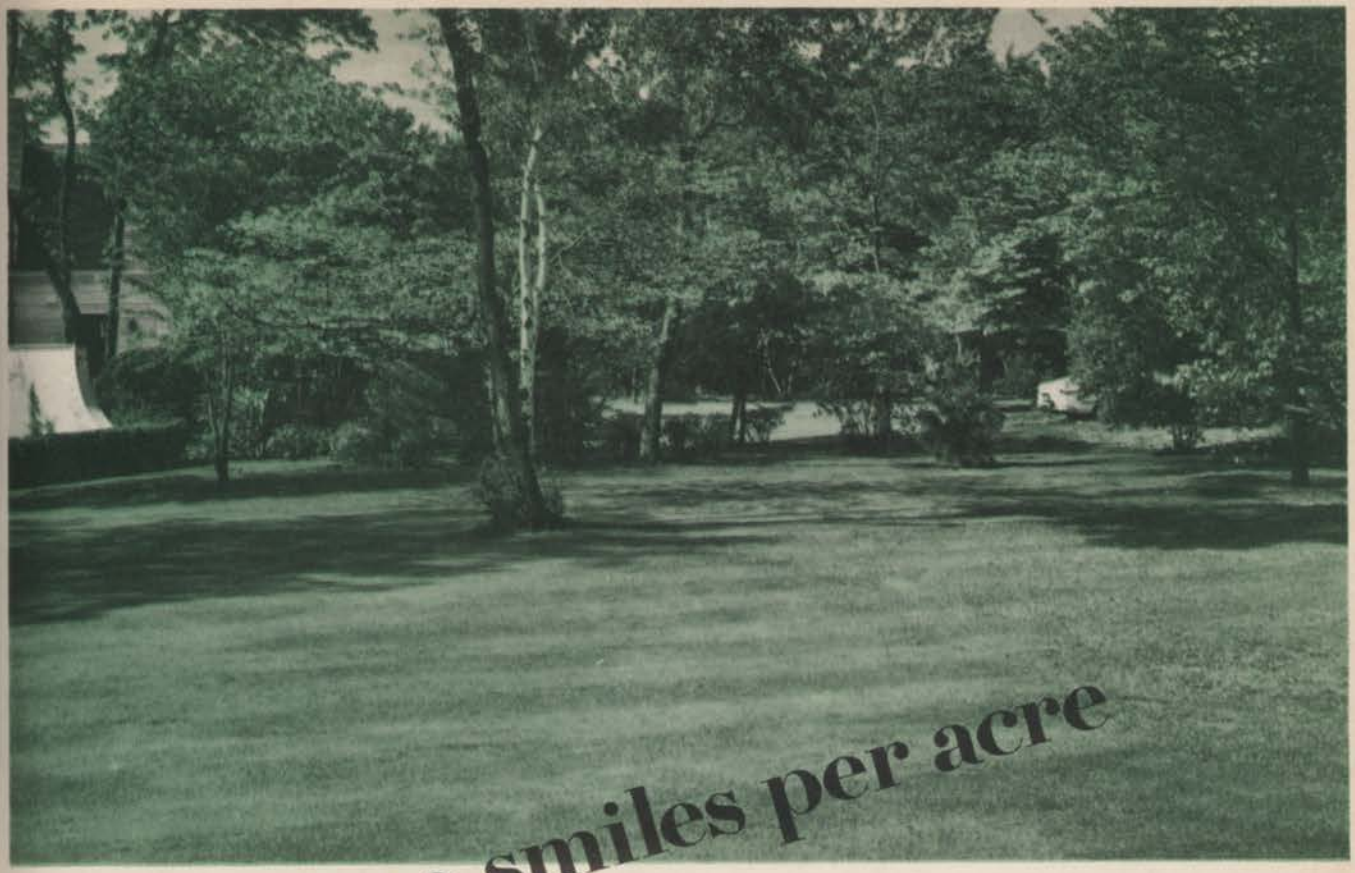
City Manager Deane Seeger believes that with opening of the full 18 holes, and based on '68 income from the first nine, that greens fees and driving range revenues will place the course on a self supporting basis by mid-summer of this year.

United Pipe & Supply representative, Roy Falk, said the system on the modern course consists of 3 to 5 sprinklers per green, with a 2-row system on fairways. During irrigation, one row is operated at a time, which the City water pressure will handle. Pressure varies from 70 up to 90 pounds.

Falk reports that United used Buckner #1371 sprinkler heads on fairways and #1330's on the greens. The course is solidly irrigated in front of the club house because of heavy use.

Approximate cost of the irrigation system equipment, less installation by City crews, on the 33-acre course was $20,000. The course was designed with help of a local equipment representative consultant.

Wilber Freak, left, grounds superintendent at Lake Oswego course, and Roy Falk, United Pipe & Supply Co., Inc., Portland, Ore., discuss automatic system.



More smiles per acre

...with complete Velsicol chemical care

Thick, smooth, green-carpet turf—with no beauty-marring blotches and bald spots—makes happier visitors, members and bosses, or better-satisfied customers.
And you turn on more smiles per acre—easier—with advanced Velsicol job-tailored chemicals.
Modern Velsicol chemicals give you precise, thorough control of almost every troublesome weed, insect or disease. They're performance-proved—in the laboratory and on toughest turf jobs.
Whatever your turf problem—grounds, parks, golf courses, or sod farm—you can depend on the big Velsicol family of advanced chemicals for the "right answer." With more and bigger built-in smiles!
For extra convenience just call your Velsicol supplier. Ask for Velsicol herbicides, insecticides, fungicides, fumigants—*everything* you need to lick practically any turf enemy! You'll enjoy one order, one shipment, one invoice convenience . . . plus the added assurance of *complete* Velsicol care.

Complete line of quality turf chemicals from

THE GROWING WORLD OF
VELSICOL™

Write for Velsicol Turf Chemicals Catalog:
Velsicol Chemical Corporation, 341 E. Ohio St., Chicago, Ill. 60611. Dept. WTT-39

Aquatometer

In Brief:

Irrigation water in many areas is difficult to obtain, if not impossible. Any method which will aid turf care professionals in their search for irrigation water, as well as a supply for other uses can prove a valuable asset. WTT asked the president of Accurate Water Location, George L. Jamieson, to present his experiences with a new water magnetometer which he has used successfully, and which he subsequently developed as a service available to both industry and individuals.

New Development Helps Spot Underground Sources

Locate Water Supply

By George L. Jamieson
President, Accurate Water Location, Inc.

BELIEVE it or not, there is a way to locate water accurately!

We have been so long accustomed to the uncertainties in finding reliable water supplies that most builders, grounds superintendants and construction engineers still despair when the problem comes up.

For years there has been this dilemma: where to drill to obtain the most water at the shallowest depth? And for centuries —all types of artistic witchcraft have surrounded this essential search of man. Willow and peach twigs, divining rods, coat hangers, witches and just plain hunch have called the tune. And those paying the piper have lost countless dollars (and substantially more sleep!) in drilling dry wells.

Clearly, drilling a well has many hazards and can be an expensive gamble. Knowledge of an area from drilling nearby wells or from geologic surveys or hydrologists has often been helpful. But despite this help, the gamble is still high, because of the complexity of pin-pointing heavy water incidence in earth fractures deep — or not so deep — beneath the surface of the ground.

Today, however, proven help is available. A new water magnetometer has performed so well to date that several people throughout the country have become franchises on this instrument. We call it the "Aquatometer."

Predicts Flow Rate

There is no magic in locating water in many water-rich areas of the United States. But in others — in my own area of New York State, for example — it is quite a trick to do three things: locate water, predict its depth and determine its rate of flow. The new "Aquatometer" we

have been using, primarily in the Northeastern States, has an enviable record of success. The people served by Accurate Water Location and its new instrument tell us we have taken the witch out of well-witching, the doubt out of dowsing.

Where we have been most successful with this instrument is in areas where costly, waterless wells have been drilled — in short, where water is difficult to find.

The instrument has an intriguing history. Basically, it is a mining instrument although when the time came for Kenyon Instrument, the inventors of the device, to market it they found that there was no one who was interested in it for prospecting. The instrument was costly, and if anyone found minerals with it there wasn't much market for the minerals. Through experimentation, it was found that the instrument was reading something else besides minerals, because in New York State we do not have an abundance of copper, gold and silver. The company decided that what the device was sensing might possibly be water; over a period of several years people who had had unusable wells drilled asked for the use of the instrument. The company had substantial success, but was not really sold on the use of the instrument for locating sources of water.

In 1965 I had a problem: where to drill a well? Mine was surely going dry. Since I had no knowledge of where to drill another well, through an article about the invention I became interested and investigated it. Little did I realize that a short three months later I would own the patents. My own well came in at the amount and depth that the instrment indicated, but with just a smidgin of error, proving that we can't be absolutely perfect. As a matter of fact, we do have our failures and often we don't know why. Many times we are not present when the well is drilled; thus, we don't know how the well was drilled or if the driller was competent. It might even have been our fault because of insufficient knowledge of the area. We are not always supplied with local history to make proper judgment or allowed enough time to make proper evaluation.

Aquatometer being used to locate water supply at new school site. Transporting instrument is Dick Jamieson and checking plot map is George (Hap) Jamieson, both experienced men in using the water magnetometer.

How Magnetometer Works

The basic theory behind the new magnetometer is not too complicated. What the instrument senses beneath the ground,

as we walk over the land with it, is the ionized stream of water underground, variations in the earth's magnetic field — and the imbalance in water distribution in a given area. Properly evaluated, these factors can mean water — at specific depths and in specific quantities.

Why should you be interested in this new concept of looking for water? Water and often lots of it must be supplied for every living thing we know of and often is just not available. The problem is not only to find it, but also in the quantity that is needed. What is a large volume well for one problem is completely unusable for another. A 200 gpm well for a golf course would be fine, but for the farmer wanting to irrigate, it wouldn't pay to put a pump in it.

Let's take the golf course problem first, since turf and greens consume great amounts of water. The difference between a watered fairway and a burned out one in August is dramatic. Before my own club put in watered fairways, I hit my share of shots off of hardpan and I can say that I much prefer the watered grass. My club was lucky and drilled two excellent wells blind. Still, two years ago they ran out of water in September and decided to tap into the city water to be sure of an adequate supply.

In many cases city water is not available or cannot be used because of a limited supply, as was the case of New York City during the drought. The courses in Westchester County were told that they could no longer use city water for fairways and, I believe, not even for the greens at the height of the drought. At that time I was called in by Winged Foot Golf Club to check specific areas for the possibility of drilling wells and had to tell them that the probability of finding wells in the 50 gpm range was almost nil. Fortunately for them, the restriction was removed shortly afterwards.

A short time later the Powelton Club, Newburgh, N.Y., decided to put in a fairway irrigation system. We were asked to locate the best source of water for this system with the emphasis put upon a primary area. We located a site in this area which did not produce the amount of water necessary because the depth of the gravel was too shallow. Another area was determined by instrument as a good source both because of the readings and also because of the possibility of a major fault put forth by a state geologist. The readings indicated water in gravel and a well was drilled into 25 feet of gravel. The gravel was very tight and would not develop. It was decided to drill into the rock; production wound up at 15 gpm. We then advised the club to drill about 50 feet away and try to develop the gravel. The well came in at 160 gpm without development. (In another case where we have not yet been called in, a club has already spent $10,000 on wells with a total yield of about 25 gpm. Both the driller and several club members had recommended that we be called in to make a search. It never ceases to amaze me that so many people will spend so much money to obtain so little water.)

While we do not have the experience on gravel aquifers that we have on rock, we feel that the magnetometer can tell us a great deal about the flow of water through gravel. People involved with large irrigation wells tell us that they find these large wells by simply sinking test holes until they find one that indicates it will produce the desired amount of water. This is time consuming and sometimes quite expensive. If the instrument does what we believe it can, it will be quite an asset to those people looking for large irrigation wells.

Over the last three and a half years, we have been able to maintain an extremely high average of prediction on water quantity as a result of drilling on our selected sites. Our Vermont franchisee, Accurate Water Location, Waterbury, Vt., has an even better average in that most difficult state. We anticipate that our newest franchisees should do well. (They are in Northern California, Colorado, Nevada and Upper New York State.) More are expected this summer. Even now, we can and will cover anywhere in the United States and Canada.

Professionals are increasingly using our services. Only recently we conducted a search for the Taconic Park Commission, looking for a 20 gpm well for development of a camping area. We were able to locate a site that produced 112 gpm at 150 feet. We have now completed a second search for them and anticipate doing several others. Architects and engineers are finding that our services are helpful to their school, industrial and home owner clients.

As time goes on, we expect ever-increasing use of our practical magnetometer. Its record of 98 percent accuracy on water location and 85 percent on flow rates will be exceeded as more experience is gained with this proven water prospecting tool.

Coming Next Month In WTT:

Poa Annua

Herbicide Use In Potable Supply

Thatch Removal

Weed Society Report