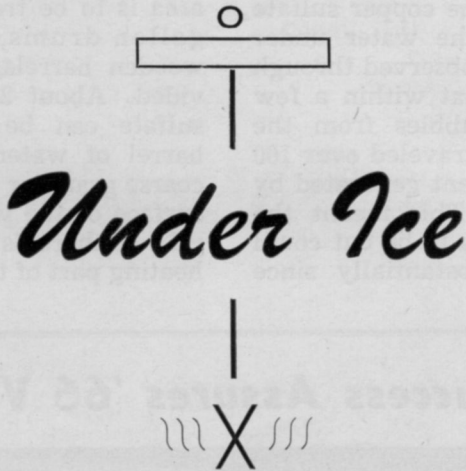


Outboard provides efficient method for treatment of algae



DURING A RECENT study of winter problems of algae control, an interesting method of treatment came to light in Massachusetts.

Iceing of the reservoirs serving metropolitan Boston has brought about the very practical application of 2-cycle outboard motors to disseminate copper sulfate for aquatic weed control.

Hardy Species Develop Under Clear Ice

It is the practice of the Metropolitan District Commission, suppliers of water to the Boston metropolitan area, to clear their reservoirs of objectionable microscopic organisms before winter ice sets in. However, they have found that flagellate protozoa such as synura, uroglenopsis, dinobryon and other hardy



Employees of the Water Division, Massachusetts Metropolitan District Commission, treat for algae under ice. Copper sulfate solution is poured through hole in ice into current generated by outboard propeller. Rotating the complete frame 360°, effectively dispenses the algacide in an area 100' to 150' in diameter. With such a rig a reservoir of 50 to 80 acres can be treated in a minimum of time. Barrel on right holds algacide.

species will develop under the ice, particularly if it is clear enough to permit the penetration of light. Presence of this algae is manifested not only in the samples taken by reservoir personnel, but also in phone calls to the water company by customers complaining of fishy odor and taste.

Treating large bodies of water after the formation of ice has always presented a problem, particularly if the current is insufficient to dispense adequately the necessary application of copper sulfate. A number of methods have been devised at reservoirs facing the problem.

Clarence H. Reed, Principal Sanitary Engineer, of the Boston system, relates that first treating attempts involved cutting holes through the ice in areas 25 foot square and pouring the copper sulfate solution into the holes.

Since there was no appreciable current, the total solution (figured for each hole) had to be poured in three separate portions to prevent an overconcentration. With a 10 to 15 minute interval between each portion an excessive amount of time and labor was consumed treating a total lake area of 50-80 acres.

Fewer Ice Holes Needed

Experimentation led the engineers to evolve the system successfully used for a number of years; addition of an outboard motor to mix the copper sulfate solution with the water under the ice. It was observed through the clear ice that within a few seconds gas bubbles from the motor exhaust traveled over 100 feet in the current generated by the propeller. This meant the number of holes to be cut could be reduced substantially since

the 25-foot-square areas previously required could now be increased to 100 to 150 feet.

The equipment used consists of an 18-hp outboard and a wooden frame 8 ft. long by 3 ft. wide using 3" x 10" planks for the sides and end. The motor is mounted on a 2" plank in the center. The frame is provided with hand holds at the ends so it can easily be picked up with motor attached, set on saw-horses, and slid along the ice to the next hole.

Mr. Reed states that "If a large area is to be treated, several 50 gallon drums, or preferably wooden barrels, should be provided. About 25 lbs. of copper sulfate can be dissolved in a barrel of water by suspending coarse granular crystals near the surface of the water in the barrel. If there is some means of heating part of the water used, it

Hawaii Turfgrass Meet Success Assures '66 Version



An ideal place to hold a conference. These delegates prove it as they pose in casual dress for official photograph during University of Hawaii Turfgrass Management course.



Conference officials paused to check exhibits at Kuykendall Hall. Shown here are (from left): Major Robert J. Bohan, chairman; David A. Akana, County Extension Agent; Dr. Irwin Lane from the City and County Parks and Playgrounds Dept.; and William Y. Hayashi, Oahu Country Club superintendent.

Over 130 attended the First Annual University of Hawaii Turfgrass Management Conference, Aug. 26-27, held in cooperation with the College of Tropical Agriculture. Subjects were geared to discuss soils, fertilizers, weed control, and lawn insects. Exhibits, seen by more than 500, included species of various turf grasses, turf weeds, and turf equipment. On the Mall of the university campus were fertilization plots, and examples of nitrogen evaluation, aeration, verticutting, and topdressing. Several mainland delegates attended, including program speakers George Sandy of Los Angeles and William F. Bell, Pasadena, Calif. Details of next year's conference will be announced early in '66 through WTT.

will facilitate dissolving the copper sulfate. Long-handled wooden paddles are necessary to stir the solution in the barrels."

Keep Holes Small, Round

"The holes in the ice should be cut just large enough to conveniently accommodate the motor shaft housing and propeller. The motor should not be started until the propeller is under water. This means starting and stopping the motor for each hole. As the estimated amount of copper solution is being poured from the barrel into the hole, the frame with the motor running should be rotated slowly; two or three complete turns are sufficient. By rotating slowly, the current set up by the motor will travel farther.

"The holes in the ice should not be too large and cut as round

as possible. The smaller round hole will minimize the bumping of the propeller shaft housing against the sides of the hole while rotating. A short piece of rope attached to the frame handles will enable the men to rotate the outfit without stopping.

"The barrels can be moved easily over the ice on a sled, with a cover or burlap bag over the barrel to minimize slopping. Two men on skates with a 100-foot tape and small ice chisels can

quickly mark the location where the holes are to be cut in the ice. Ten-quart water pails are convenient for pouring the copper solution from the barrel into the holes and also provide a means for measuring the amount of the algicide applied to each hole."

Although simple in construction and extremely low in cost both for construction and operation, this method of treating for algae under ice has proved most effective, Reed reports.

St. Louis to Host Weed Society Conclave Feb. 8-11

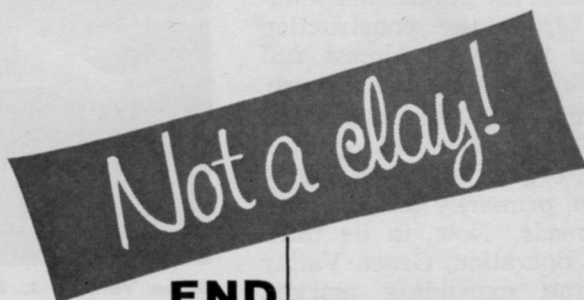
Attendance of 800 research and educational specialists is anticipated when the Weed Society of America holds its 1966 meeting in St. Louis, Mo., Feb. 8-11. The Sheraton-Jefferson hotel has been chosen for site of the conclave.

The program includes newest methods of weed control in industry, public utilities and agriculture. Committees representing seven phases of weed control are screening material to be presented to the meeting.

Chairman of program arrangements is Dr. W. R. Furtick of Oregon State University. Local arrangements for this annual event are in care of Drs. D. D. Hemphill and O. H. Fletchall, both of the University of Missouri.

President of the society is G. Fred Warren, professor of horticulture, Purdue University; Dr. Earl G. Rogers, University of Florida, is secretary; and Dr. Fred W. Slife, University of Illinois, is treasurer.

More details about this annual meeting will be included in the January issue of *Weeds Trees and Turf*.



**END
TURF MOISTURE
PROBLEMS!**



New **DIALOAM**[®]

Soil Conditioner Absorbs 150% of its weight in water, provides controlled release of moisture, won't compact.

At last here's a soil conditioner/mulch/top dressing that ends turf moisture problems. Won't cake, won't leach away. DIALOAM is a granulated, diatomaceous earth composed of millions of microscopic water-life plants and fossils. DIALOAM absorbs up to 150% of its weight in water. Moisture release is gradual, just right for healthy grass... a life-saver in dry weather. Particles tend to work into the earth giving it a porous, loamy texture that leads to strong, healthy turf. Try DIALOAM on your turf this year! Write for more information.



SINCE 1843



EAGLE-PICHER

The Eagle-Picher Company
American Building, Dept. W-11
Cincinnati, Ohio 45201