



UNITED STATES GOLF ASSOCIATION GREEN SECTION

Southern Turfletter

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IRRIGATION

History

Archaeological studies indicate that irrigation, or the application of water to lands by artificial methods, is a very old practice. One of the oldest written records that refer to this ancient practice is found in Genesis 2:10 which reads: "And a river went out of Eden to water the garden." Egypt is thought to be the country in which artificial watering originated. The ancient paintings and sculpture of that land show that water was baled up for watering of crops at least 4,000 years ago.

Irrigation continues to be practical throughout the world. Golf courses could not be properly maintained otherwise. Water on a golf course is a management tool. Correct use leads to excellent results; misuse leads to headaches.

Influence on Root Growth

All superintendents dread having to manage turf that has a shallow root system. A shallow root system sometimes results from the mismanagement of irrigation. Small amounts of water frequently applied keep the moisture close to the top of the soil and the roots have but one choice - to grow where the moisture is present. On the other hand, deep infrequent watering allows the soil to become wet to a greater depth and roots will tend to grow deeper. Shallow-rooted annual plants are discouraged because the soil near the surface does not need to be kept constantly wet.

Irrigation must be adjusted to the conditions existing on each area to be watered. The water schedule should be based upon how much water the turf needs to keep it in good condition. This need will vary with the depth and texture of the soil as well as with the effective rooting depth of the grass you may choose.

Use a Well-Planned System

Nothing is more frustrating than an irrigation system that does not provide enough water or one that distributes water unevenly. The lack of sufficient water may be caused by an inadequate source of supply or by pipe sizes too small to deliver the necessary quantities of water. To correct either of these faults may be quite expensive.

One of the other chief causes of inefficient or uneven watering lies in the distribution pattern around a particular outlet. Sometimes poor design is to blame but more often it is a matter of failure to balance water pressure against nozzle size. Too small a nozzle opening, with high pressure, may result in a

very fine mist pattern that does not reach far enough. Skips and dry spots are the result. Too large an opening on the other hand may cause water to fall in large drops which produce a beating action. Most of it may fall near the outer periphery of the sprinkler pattern. The right size nozzle opening for any given water pressure will provide uniform coverage for the area where the sprinkler operates. Experimenting with various nozzle sizes will indicate which is best for you. Such a change should not be very expensive and it may be extremely helpful to you.

Soil water

Do you know the terms that describe the way water is held in the soil? Try to match the following terms with their appropriate definitions.

- | | |
|-----------------------|-------------------------|
| 1. Hygroscopic water. | 3. Gravitational water. |
| 2. Capillary water. | 4. Field capacity. |
-
- a. () Water that drains out of the soil as a result of the force of gravity.
 - b. () The condition that exists when soil contains only that water which is retained by the pores after gravitational water is removed.
 - c. () Water retained by tension against the force of gravity but available for plant use.
 - d. () Water held in a thin, non-liquid film around the soil particle. This water is not available to the plant.

Answers: a(3); b(4); c(2); d(1).

For a discussion of "HOW TO WATER," see the February, 1953 number of USGA Journal. Dr. R. M. Hagan has discussed the subject of watering very thoroughly in this article.

COMING EVENTS

June 12-14, 1958 -- U. S. Open Championship, Southern Hills Country Club, Tulsa, Oklahoma.

July 16, 1958 -- Texas Turfgrass Association Field Day, College Station, Texas
Dr. Ethan Holt.

POISON INFORMATION CENTERS

When workmen handle pesticidal materials such as those commonly used on golf courses, there is always the chance that one of them may become ill from exposure to these materials. Because of the complexity of the chemical nature of economic poisons, physicians may not have treatment procedures immediately at hand. As an aid to the prompt treatment of poisoning victims, a number of POISON INFORMATION CENTERS have been set up throughout the country. A partial list for your area is printed below. Should you desire a complete list of Centers, please write to your Green Section Office.

KEEP THIS LIST WHERE YOU CAN FIND IT! If one of your men becomes ill after working with pesticides, give your doctor the name of the material and give him this list of Poison Information Centers.

Alabama

Birmingham, University of Alabama Medical Center, 619 South 19th Street;
Stephen D. Palmer, M. D. 53-3531

Florida

Miami, Jackson Memorial Hospital, 1700 N. W. Tenth Avenue, Miami 36,
George Lister, M. D., Director Franklin 1-9611

Jacksonville, St. Vincent's Hospital, Barrs and St. Johns Avenue;
J. K. David, Jr., M. D., Director Evergreen 9-7761

Tallahassee, Tallahassee Memorial Hospital, North Magnolia Drive and
Muccosukee Road; George S. Palmer, M. D., Director 2-8060

Georgia

Albany, Phoebe Putney Memorial Hospital, 417 - 3rd Ave., P. O. Box 1151;
M. Sutton, M. D., Director Hemlock 6-3321

Louisiana

New Orleans, Louisiana State University School of Medicine, New Orleans 12;
Charles S. Petty, Associate Professor, Department of Pediatrics

North Carolina

Durham, OPD, Duke University Hospital; Jay Arena, M. D., Director
Durham 9011, x 398

South Carolina

Columbia, Columbia Hospital, 2020 Hampton Street, Columbia 4;
Henry Moore, M. D., Director Alpine 4-7387

Tennessee

Knoxville, University of Tennessee Memorial Research Center and Hospital;
Alcoa Highway; Robert F. Lash, M. D., Director 4-2961

Texas

Houston, Baylor University, College of Medicine, Texas Medical Center;
Harold L. Dobson, M. D., Chairman, Poison Control Organization Comm.

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