

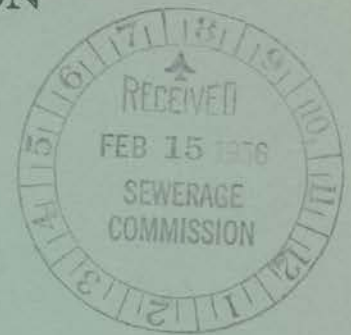
UNITED STATES GOLF ASSOCIATION
GREEN SECTION

NORTHEASTERN OFFICE

College of Agriculture

Rutgers University

NEW BRUNSWICK, NEW JERSEY



ALEXANDER M. RADKO
NORTHEASTERN DIRECTOR

NORTHEASTERN TURFLETTER

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FEBRUARY IS "LET'S TALK TURF" MONTH IN THE NORTHEAST

February, the month of conferences, is important to everyone interested in better turf in the Northeast. Two local conferences are scheduled, and of course, the National Turf Conference and Show sponsored by the Golf Course Superintendents Association of America, which takes place in Long Beach, sunny California. The National Conference is scheduled from February 5 through February 10. Everyone who has had the good fortune to attend a National Conference well knows its value to the golf turf field. Equipment and material displays are second to none - almost every major tool and chemical used in golf course management will be on display - with technical men to answer questions about them.

The Educational Program is star-studded with turf talent from various sections of the Nation and is balanced nicely with technical and practical specialists. The National Conference is a "must" for those who desire to keep close to the pulse of the golf turf field.

Local Conferences

February 13 - 17 One Week Course in Turf Management
Rutgers University - Lipman Hall
New Brunswick, New Jersey
Leader: Dr. Ralph E. Engel

Feb. 27 - March 1 Ninth Cornell Turf Conference
Cornell University
Ithaca, New York
Leader: Dr. John F. Cornman
(Note: Educational features begin morning of
February 28.)

Each local conference will have interesting speakers - specialists in every phase of turf management. The Rutgers Conference, for example, will include papers on soils, diseases, herbicides, nematocides, insecticides, irrigation systems, grasses, nutrition of grasses, thatch studies, and landscape and recreational planning. The latest developments in each of these phases of turf

culture will be brought into many of the discussions, and everyone present will have the chance to ask questions about his particular problem.

It isn't often that we in the Northeast get the chance to have so complete an array of specialists to discuss topics so vital to golf course management. We encourage each of our USGA member clubs to send its Golf Course Superintendent to each Northeastern Conference, if it is at all possible; if not both, then certainly the one nearer home. So let's plan to get together to talk turf in February so that our courses will be finer courses during the rest of the year.

SOME FACTS ABOUT WATER

With specific reference to rainfall, we in the Northeast experienced "Feast or Famine" during 1955. Perhaps it would be more descriptive if the order were reversed because the drought occurred in the early season, and the hurricane floods came in mid-to-late season. Water was the topic of discussion wherever turf men gathered. Some of the questions in early season had to do with irrigation systems. One of the best practical discussions on this topic was given at one of the monthly meetings of the New Jersey Golf Course Superintendents Association. The speaker was Mr. Joseph T. Kearns, Water Supply Consultant, and the text of his talk appeared in the publication, "GRASS CLIPPINGS", which is the monthly publication of the New Jersey Golf Course Superintendents Association. The text is as follows:

"The past season has again brought forth the inadequacy of many golf course irrigation systems. There is no substitute for an ample supply of water and efficient pumping system. If you are planning to expand or remodel your present watering plant or completely install a new irrigation system the following factors picked out at random may be of some help to you:

"The quantity of water is usually stated in gallons or in cubic feet.

"A cubic foot of water weighs, at the ordinary temperature of 60 degrees, 62.4 pounds.

"A cubic foot of water contains 7.48 gallons, and each gallon contains 231 cubic inches.

"A gallon of water weighs $8 \frac{1}{3}$ pounds.

"An acre contains 43,560 square feet. To irrigate an acre, therefore, to the same extent as an inch of rainfall, would require $43,560 \times \frac{1}{12}$ or 3630 cubic feet of water. This is equivalent to 3630×7.48 equals 27,152.4 gals. of water, or $27,152.4 \times 8 \frac{1}{3}$ equals 226,270 pounds of water.

"Pumping 500 gallons per minute for 8 hours would deliver 240,000 gallons of water, which in turn would require a reservoir of 32,032 cubic feet capacity or a storage area of approximately $50 \times 200 \times 3.2$ feet.

"Consult local authorities before taking water from a stream or pond or local sources because there are many rules or regulations concerning the removal of large quantities of water from a natural stream.

"When water is pumped through a long pipe the friction against the walls of the pipe tends to retard the flow of the water. In order to overcome this friction additional pressure must be exerted on the water to force a given amount through a pipe. The friction varies directly with the length of the pipe, inversely as the diameter of the pipe, and varies with the roughness of the pipe. It varies as the square of the velocity of the water. The friction is best expressed as the loss of head in feet for each 100 foot length of pipe.

"The friction due to pipe fittings is usually expressed by saying that it is equivalent to so many additional feet of the pipe size. Thus the friction in a 3 inch 90 degree elbow is taken as the friction in a 15 foot length of 3 inch pipe. . .

"A globe valve should never be used in a pump line. The friction in such a valve may be as much as in a length of pipe equal to 200 times the diameter of the pipe. Thus a 3" globe valve has the same friction as about 50 feet of 3" pipe. A gate valve, wide open, has such a low friction that it may be negligible.

"The total head against which a pump operates is made up of suction head, discharge head, and friction head, all measured in feet. The suction head is the vertical distance from the surface of the water supply to the center of the pump. The discharge head is the vertical distance from the center of the pump to the point of delivery. The friction head is the head produced by the friction of the pipe, and it can be obtained by consulting a table.

"Selection of the size of pipe to be used should be based on cost; cost of pipe and cost of power. A small pipe costs less but the friction is greater and thus increases the power bill. A larger pipe in many instances will save more in power bills than the additional investment in the pipe will cost. Furthermore, the larger pipe may so reduce the total pump head that a lighter and lower priced pump and drive may be used.

". . . Pitch of pipeline should be 2" per 100 feet; smaller pipe 3" per 100 feet. Need expansion joints for metal pipe -- expands or contracts 1/2" per 100 feet -- and should be installed at about 250 foot intervals. The pump should be the last item purchased. By then you know the required gallons per minute and the pressure needed to produce the effects desired. Golf course irrigation system should not show a total leakage of more than 8 gals. per hour at a pressure of 150 pounds for the entire system."

Northeastern Turfletter

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Mr. O. J. Noer
Milwaukee Sewerage Commission
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