WISCONSIN NOTES

The June meeting of the Wisconsin Golf Course Superintendents Association was held on June 13, 1955 at Hillmoor Golf Club, Lake Geneva, Wisc. Audie Williams, our host Superintendent, did everything possible to show every one a good time. While the day was cloudy and the grounds wet, the spirit of the 38 who played golf on Hillmoor's sporty and interesting course, and over 50 who enjoyed dinner in the club house, was sunny. The good will ambassadors, from Chicago District (Bill Stupple and Bill Saielli) traveled North to attend our meeting, and we enjoyed their company, golf and hearts game. We will return their visit as the greatest benefit from our National and District Associations is the interchange of ideas in methods of turf management from district to district and from golf course to golf course.

The July meeting place has been changed from Merrill Hills—Waukesha, to MORSE HILLS —BELOIT, WISC., FRITZ REINERT SUPT.—the date, JULY 18, 1955.

Mike Siciliano of Carbide and Carbon Chemical Co., gave a very interesting and constructive talk on the use of Crag-1.

The main subject of the Bull session was the many rainy days of this month (June), with Milwaukee area reporting about 5 inches of rain in 12 of the first 13 days, and around the state reporting as many rainy days but less rainfall. Many of the courses in the Milwaukee district were closed Saturday, July 11 and Sun., July 12, because of flooded fairways. Severe cases of leaf spot were reported on most blue grass fairways, and there is much more clover than normal. Very little dollar spot or brown patch has been found on the bent grasses, but many courses reported winter kill, and there was considerable wind burn and drying out in early April before irrigation systems were operating. The variable weather before the last week of May retarded growth and the healing over of the bad spots was slow. Greens are now well on the way to summer condition.

—Charles Shiley.

There are two things we must be especially careful of from now on and they are overfeeding and overwatering of putting greens. It is a great temptation on the part of the superintendent to throw a lot of fertilizer and water on his greens to make them look beautiful, but it is a dangerous procedure if the weather turns hot and muggy. Lush growth is something that must certainly be avoided at this time of year. From past experience we have learned that greens that are too lush and soft can go out over night. Many superintendents regulate their fertilizing practice by the amount of clippings being taken from a green. It is generally the case that if more than 1½ or 2 catchers of grass is taken from an average size green when the green is being cut every day that it is wise to lay off feeding for awhile, until such time as the turf begins to go off color and the amount of growth decreases.

O. J. Noer says: Contrary to reports, he will still travel, so we will still see him around. Charley Wilson, however, will take much of the pressure off by travelling about the country. Be constantly on the lookout for wilt and iron chlorosis. Both of these can do damage to greens that will take a long time to overcome. Now Noer knows who had been calling his wife on the telephone—Frank Dinelli, Chairman of the Committee for finding out what Noer wants as a gift from the association. It seems that every time Frank tried to contact Mrs. Noer by telephone. O. J. answered. Will celebrate his 65th birthday this September. We hope he celebrates many, many more.

IRRIGATION FACTS

by C. E. Stewart, Irrigation Engineer

When watering fairways, tees or greens the layer of water applied by the sprinkler in a given time is often required.

The following formula gives the amount applied in one hour by any sprinkler, provided the following is known.

1. The discharge of the springler in gallons per minute.
2. The diameter of the circular area covered by the sprinkler in feet.

$$\frac{122 \times \text{G.P.M.}}{\text{Diameter (squared)}} = \text{inches per hour.}$$

For instance if a sprinkler discharged 15 gallons per minute and covered a circular area with a diameter of 100 feet the inches per hour precipitated would be:—

$$\frac{122 \times 15}{100 \times 100}$$ which equals 0.183 inches per hour.

The discharge in gallons per minute can usually be obtained from the sprinkler manufacturer catalog, once the water pressure AT THE SPRINKLER is known. A pressure gauge should be fitted on at the base of the sprinkler while it is in operation in order to find the true water pressure.

Another accurate method in determining the true sprinkler discharge is to attach the sprinkler to a hose and turn it upside down into a container and catch all of the water for a given period. Then weigh the water and be sure to subtract the weight of the container. One gallon of water weighs 8.3 pounds, so by dividing the weight of the water by 8.3 the gallons discharged from the sprinkler is obtained, this amount must of course be further divided by the number of minutes the sprinkler was allowed to discharge into the container in order to know the gallons discharged per minute.

The problem often arises on golf courses for greater volumes of water in the distribution pipe system and the superintendent is often faced with installing new and larger pipe lines or boosting the existing capacity of the existing pipe line with a parallel feeder pipe.

This makes it necessary to know the number of pipes of a given size that will equal in carrying capacity one single pipe of a larger size.

At the same velocity of flow the water delivered by two pipes of different sizes is proportional to the squares as much water as four 3″ pipes. However, with the same water pressure entering each pipe of different size and velocity, or speed of water, is greater in the larger pipe and the water delivered at the outlet of the larger pipe is much greater; in fact the actual delivery of water is proportional to the square root of the fifth power of each pipe diameter.

The following table gives the number of smaller sizes of pipe required to equal in carrying capacity a larger pipe.

Diameter in	1″	2″	3″	4″	6″
2″	5.70	1.00			
3″	15.60	2.80	1.00		
4″	32.00	5.70	2.10	1.00	
6″	88.20	15.60	5.70	2.80	1.00

From the above it will be noted that one 2″ pipe is equal in carrying capacity to 5.7 one-inch pipes, or one 4″ pipe is equal to 32 one-inch pipe, or 5.7 two-inch pipes, or 2.1 three inch pipes.

Some other revealing facts obtained by using the above formula are as follows:—

A 1″ pipe, or hose, will carry slightly more water than TWO ¾″ pipes or hoses.

One 3″ pipe will carry slightly more water than the combined capacity of one 2″ pipe *plus* one 2½″ pipe.

One 6″ pipe will carry slightly more water than the combined capacity of one 4″ pipe *plus* one 5″ pipe.