
Water, or Its Lack, Was Turf Culprit During '64 Season

***More research is needed to
determine when irrigation
is overdone or falls short***

By C. G. WILSON

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Much already has been said about the weather and its harsh treatment of turf in recent issues of Golfdom. Suffice to say, the summer of 1964 will go down on record with 1955 and 1928 as one of the most disastrous years on turf, especially irrigated fairway turf in the upper Midwest. The dry open winter of '63-'64 was equally disastrous from the Rocky Mountains east through the Dakota's and western Minnesota. There, all of the snow fence and brush treatments to hold snow and stop water loss by transpiration failed miserably. *The reason — no snow.* Someone should be working on wax-like sprays for fall application on dormant turf to stop this grass loss from desiccation.

Hardly an afterthought, yet one of importance in parts of Kentucky, Tennessee and Georgia, was the backlash from cov-

ering greens with straw to prevent winterkill. It worked beautifully, but it was not the ideal year to do it. The mild winter encouraged disease under the straw cover. Fortunately, it wasn't serious. Still, this year, not last, would have been the success year to overseed, or so it appeared to some.

Wind Hurt, Too

All of this is by way of saying one must learn to move with the punches no matter how low or below the belt they may fall. For instance, although much poa-bent turf was lost in the north this summer from oppressive heat, too much water and high humidity, the toll was just as bad with some when temperatures modified and the humidity dropped. The cooler, dry winds that came on sucked every last drop of water from the "no rooted" turf when the wilt guard was down in parts of the Midwest and Northeast.

Again, unfortunately, most of the written articles on watering, are strictly book — "deep and infrequent." Well, there are times on any and every golf course when the book must be laid aside. Notice I said laid and not cast because we are talking about fundamental truths. There is no question that grass often is overwatered, whether by natural or artificial irrigation. It is equally criminal to perpetrate this crime whether water is applied frequently or infrequently. Infrequent "book" watering may flood the low spots more than frequent watering due to excessive runoff.

Is Frequent Watering Harmful?

The other water factor as it applies to golf is uniformity of playing conditions. The more frequently water is applied, provided it is not used in excess, the more uniform the playing conditions. Often only the low handicap golfer who plays frequently notices this. The once-a-week golfer's memory is too short. A good research project for any experiment station would be to find out in reality if frequent watering, using the proper amount, is actually harmful to turf.

"Mist Culture" is becoming more commonplace in greenhouse work with no increase in disease or insect problems, and better plants. Dr. Madison in California makes a good case for frequent wa-

tering when disease has injured the turf. One thing sure, shallow rooted turf would like it that way. Unlike the camel and the cactus, it can't store enough to last for several days.

Buy Equipment Instead

Wayne Morgan, farm advisor in turf in Los Angeles County, deserves credit for his field work on golf irrigation practices. He has found that a simple 10 minute saving in sprinkling time per head can save enough to buy the fanciest tractor and fairway mowers in his arid country where water costs and use rate are both high. Morgan has done this the hard way by "can tests" to determine the actual delivery rates of sprinklers.

The form sheets on delivery rate put out by manufacturers sometimes fall short of accuracy in practice for many reasons. Unexpected loss of pressure, unfavorable wind movement, poor valve spacings, etc. are but a few reasons why. It would seem the only sure way to know what your sprinklers are doing is to string out cans or containers, let the system run for a set period of time, and then measure the results.

Most states have checked water use rates on agricultural crops and these can be used as a guide until more is known about various turf species. Dr. Bob Hagan, irrigation department, University of California in Davis, has estimated peak usage of 3 inches per week in the hot Imperial Valley of his state to a low of 1 inch per week in coastal areas. Dr. James Love at Wisconsin states the top day in his area on alfalfa is 0.27 inches. If this holds true on turf, one comes up with a maximum of 1½ inches per week in the upper Midwest with a seasonal average of 1 inch or less per week during the growing season.

Flexibility Is Desirable

Obviously, irrigation systems must be designed to supplement rainfall and to be capable of taking care of maximum use rates. Incidentally, there is no area in the world that doesn't need water on occasion to keep golf turf green, vigorous and uniform in playing quality. The secret with successful turf managers is their flexibility in applying it when and where needed.

Turf Conferences

OCT.

- 10—Rutgers Field Day, New Brunswick, N. J.
- 21-22—Equipment & Materials Exposition, Brookside Park, Pasadena, Calif.
- 21-23—Central Plains Conference, Kansas State University, Manhattan
- 25-27—Sprinkler Irrigation Assn. Convention, Scottsdale, Ariz.

NOV.

- 4-6—Oklahoma Turf Conference, Oklahoma State U., Stillwater
 - 16-20—American Society of Agronomy, Kansas City, Mo.
-

We have concentrated on water in this year's roundup because either too much or a lack of it was responsible for most turf troubles during the past year. In July, parts of Illinois and Southeastern Wisconsin received from 7 to 10 inches of deluge in the space of a few hours. Those that got only 3 to 4 inches at the same time came off relatively easy. Whether or not this proves the point is immaterial. The material point is that 70 per cent of good grass is water. We don't want more or less . . . just that amount.

This year pythium disease from the Northeast to the upper Midwest was a serious problem for the first time. Iowa was literally clobbered with leafspot on all grasses, and supts. fought hard to stop this pest. Beryl Taylor, reporting from Ames, told us that Zineb (sold as Parzate or Dithane) did the job for him. But, to make it really work he applied it heavily and repeated for two straight days before effecting control.

It Works . . . and It Doesn't

The pythium in the Midwest was even more discouraging. Familiar fungicides including Zineb failed, and Illinois pathologists discouraged the use of the only effective fungicide known for the disease. Dr. Homer Wells of the Tifton, Ga., station, reported some time ago on favorable results with Dexon in controlling pythium. Although it worked well there on ryegrass, and in Arkansas and Indiana on bent, the University of Illinois ran into turf injury and discouraged its use.

Fairway problems were of such magni-

(Continued on page 127)

ing his talks. To be able to make forecasts with a reasonable degree of accuracy, it is necessary that the manager have available sales figures for any given day of the previous year as well as a record of any unusual business (such as a wedding) that the club had that day. These two elements then are related to the weather forecast for the day in question along with the general economic trend or, as some managers may prefer, the club dining room's own sales trend for the year.

Matching employees' working hours to hours when dining room patronage is greatest calls for keeping records over a long period and definitely establishing at what times during the day the rush hours come. Regular and part time help then can be assigned to work accordingly. Lundberg pointed out that the restaurant business in general has more "down time" among employees than any other industry (45 per cent), but clubs are fortunate in that most have enough short-hours help (i.e., waitresses) to keep the non-productive portion of the payroll from becoming excessive.

At practically all clubs, Lundberg said, beverage sales follow food sales on a fixed ratio.

Water Was The Culprit

(Continued from page 72)

tude in the Chicago area that the Midwest supts. and the Chicago District GA called a special meeting in late August to discuss them. Ably moderated by Jim Holmes of the USGA green section, the panel placed full blame on the weather. Supt. Roy Nelson of Ravisloe thought drainage was the biggest area for improvement in the Chicago district. Dr. Bill Daniel of Purdue indicated a great future for dwarf type Kentucky bluegrass fairways kept free of poa with arsenicals. Toronto GC in Canada is removing Merion bluegrass from fairways and approaches in favor of bent. Golfers' objections, and not the condition of the Merion, is the reason why.

Drs. Mike Britten and Jack Butler of Illinois wondered if golf courses really want to get rid of poa, and indicated their approach would be to find better annual



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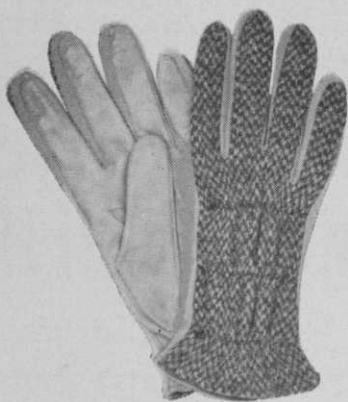
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bluegrasses. Interestingly, it seemed to be the poa that took the brunt of the summer punishment. Warren Bidwell, supt. at Olympia Fields is introducing more bent into his fairways. Such is the case with most of the irrigated fairway courses, and makes one wonder why more improvement and breeding work isn't being done on bent for fairways, rather than the poas.

Putting All in the Mind

The controversy on whether or not to overseed Bermuda greens, and what to seed rages in the deep south. Paul Frank, Hole-in-the-Wall CC, Naples, Fla., says he isn't ready to overseed yet. "A little dye takes care of color and most golfers think it improves playing, so putting must all be in the mind." Just a bit farther north in St. Petersburg, Bud Pearson at Lake-wood didn't overseed last winter and says, "never again". Ryegrass is rapidly losing favor where overseeding is done. Work by the Milorganite turf service bureau and Dr. Dick Schmidt at V.P.I. indicates mixtures are best. The turf service bureau likes a mixture of poa trivialis, fine leaf fescue and seaside bent grass with possibly some Kentucky bluegrass for the deep south. Poa trivialis is more economical than rye, but care must be taken to assure clean seed with it. Chickweed, plantain and shephards purse have been a real problem with poa trivialis unless the seed is doubly recleaned.

Various Mixtures Used

Baumgardner and McKendree at Sea Island use this basic mixture and further hedge their bet by adding some ryegrass in the second overseeding applied each fall. Jack Graves, supt. at Longboat Key Country Club, Sarasota, had excellent results last year using straight poa trivialis at 12 to 16 pounds per 1000 sq. ft. Other Florida clubs like to include some seaside bent with it for late winter and early spring play. Undoubtedly, more fescue would be used were it not for the cost.

The V.P.I. mix of 12 pounds Pennlawn fescue, 12 pounds chewings fescue and 5 pounds seaside bent runs about \$23 per 1000 square feet. Florida courses that overseed with 4 pounds poa trivialis and 2½ pounds seaside bent spend about \$6.35 per 1000 square feet. Adding 6 to 8 pounds

of fine fescue to this runs costs up another \$3 to \$4 per 1,000 square feet but seems to improve putting quality.

Clover and knotweed received the most attention this past season in the field of weed control. Banvel-D and MCPD did excellent jobs in cleaning out these weeds in late spring and early summer without injuring sensitive poa-bent turf.

Banvel-D was a bit more positive on Jack Kolb's trials at Minikahda in Minneapolis. Bob Musbach, supt. of North Shore in Appleton, Wis., found the addition of "wetter water" made one pint of Banvel-D do as good a job as 3 pints per acre without this additive. Both of these newer herbicides are safer to use on bents and, it would seem, more positive in controlling these weeds than the older 2,4-D or 2,4,5-T mixture. We are still old fashioned enough to prefer sodium arsenite as a contact spray for fall treatments on bent fairways. Most reports of 2,4-D materials injuring bent come from fall treatments. Adequate fertility still plays the biggest part in weed control even with the newer herbicides.

It is undoubtedly fortunate that where troubles occurred they were widespread. When only one supt. in an area runs into grief from turf loss, he is liable to lose his job. When others are in the same boat, the members usually offer some much needed sympathy.

Tractor Maintenance

(Continued from page 86)

brands; nor any serious disadvantage. Before marketing a new additive oil for general use, oil companies thoroughly check it for compatibility with other additive oils; that is, they make certain it will cause no harmful effects. It is fully realized that some new additive oils may do a good job, but may not mix with additives contained in other brands.

Yet, as a general practice it isn't wise to mix oil brands. For one thing, most oil companies won't guarantee the performance of their oils when mixed with other brands. Secondly, it is known that when some brands are mixed with another brand the two don't perform quite as well together as when used separately.

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