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# HOLE NOTES

Official Publication  
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## FROM THE PRESIDENT'S DESK

### It Was A Very Cool Summer of '92



At the time of this writing the "Summer of 92" is going to go down as the coolest on record. However, Mother Nature has a way of evening things out over time. It was only four short years ago that the summer of '88 had a record 44 days in the 90 degree temperature range. From drought to flash floods to above record rainfall, it is a matter of the golf course superintendent and his staff being prepared. This is not only dealing with what nature presents us but also being prepared to respond appropriately to questions from our golfing membership or the press. It is important to convey the message of the benefits a healthy turfgrass represents. Health and environmental concerns are going to continue to be a major emphasis in our day-to-day role as managers of golf courses. Staying abreast in education and training for the superintendent and the staff will be vital to ensure that pesticides and fertilizers are handled and applied properly and also to ensure the future use of them.

On a related issue, the GCSAA has withdrawn funding from the USGA Research enabling the association to fund more research of its own. The major focus of the research the GCSAA plans on places an emphasis on examining people who have been applying pesticides. The purpose is to study any possible side effects to long term exposure to pesticides.

\* \* \* \*

**Scott Austin, his assistant Eric Peterson, and the green staff** at Midland Hills Country Club went all out to provide a beautiful test of golf for the MGCSA Championship. On behalf of the membership, I would like to thank them for their help and the club's membership for allowing us to host it at Midland Hills. Pete Mogren won this year's championship with a well-deserved 76.

\* \* \* \*

**A reminder that all members who have paid their dues for 1992-93** should have the Environmental Guideline updates. If your dues are current and you have not yet received one, contact Scott at the Association office.

\* \* \* \*

The Harold Stodola Research Scramble is being hosted this year at Rolling Green Country Club and Wayzata Country Club. The format this year is the same as last year with a 12:00 noon shotgun start at both clubs, and with dinner and awards at Wayzata Country Club. Required at both clubs is proper golf attire, and a jacket and tie for dinner.

—Rick Fredericksen, CGCS  
MGCSA President



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# Pete Mogren Leads Way For MGCSA Championship

Pete Mogren fired a low 76 to take on all challengers at the annual MGCSA Championship held at a very fine Midland Hills Country Club. Host Golf Course Manager, Scott Austin, CGCS, had the grounds in superb shape. . . everything from the flower beds near the entrance to those extremely quick putting surfaces, (Ice, Ice, Baby, Ice!).

Minikahda Club's Doug Mahal captured the First Flight crown with a blistering 85 (net 71) to bring home the coveted trophy. Commenting about the golf course, Doug said "The greens were really to my liking." Rick Carr of Interlachen C.C. captured the Second Flight trophy.

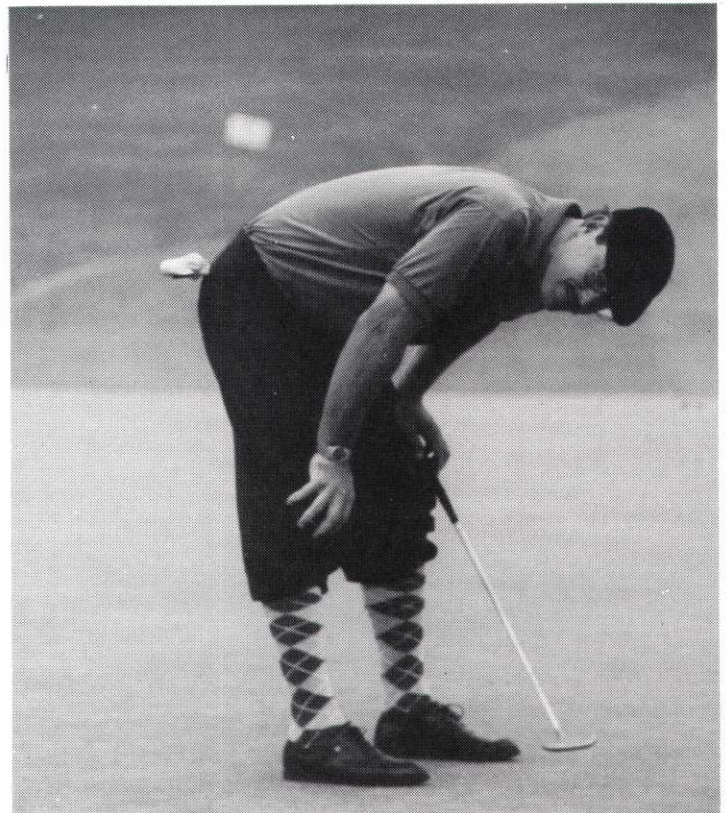
With the Senior PGA making a stop at Coon Rapids next year, we might see Super Senior Larry Vetter making a bid to join after shooting a solid 74. Callaway Flight winner was Mike Brual of Hazeltine National Golf Club.

"Probably everyone who shoots a good score on any golf course would say 'the course is in great shape,' said Vetter. "It seems that good scores by non-superintendent golfers are shot on courses that are 'in great shape.' However, as superintendents, we also all are familiar with the reverse. Bad scores are almost never the fault of the player, as far as they are concerned."

"Well, I've been on both sides of that situation. My score at Midland Hills was very good for me. Consequently, the course was in great shape!" Vetter said. "That's the comment from the 'casual golfer' me. There were a number of things that impressed 'the former superintendent' me, but the ones that stood out the most were the fairway definition and contour mowing on a number of holes, and the amount of grass that was on greens that were that fast. I know that this has not been a 'typical' summer in Minnesota, but it's very obvious that Scott is doing more than a few things right!" said Vetter.



TOM KIENTZLE of The Pines at Grand View pitches to the green.



A VERY CLASSY JAMES GARDNER of Rochester C.C. leans into his putt at the championship.

## MGCSA CHAMPIONSHIP RESULTS

### Championship Flight (Gross)

Pete Mogren (\$70) .....	76
Steve Busch (\$50) .....	79
Paul Diegnau (\$20) .....	79
Tom Meier (\$15) .....	80
Lief Erickson .....	80
Todd Klein .....	80

### Super Seniors Flight (Gross)

Larry Vetter (\$25) .....	74
John Monson (\$15) .....	85

### Callaway Flight

Mike Brual (\$30) .....	75
Dale Walesheck (\$20) .....	75
Kevin Rue (\$15) .....	75

### First Flight (9-18 Hdcp.)

Doug Mahal (\$70) .....	71
Cliff Reynolds (\$50) .....	72
Bill Larson (\$30) .....	72
John Hammerschmidt (\$20) .....	73
Scott Weltzin (\$15) .....	74

### Second Flight

Rick Carr (\$20) .....	76
Mike Daly (\$15) .....	80
Bill Liles .....	80



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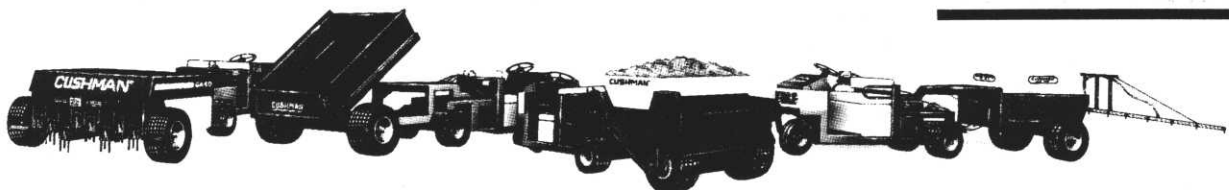
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# Here Are Brief Histories of 'Stodola' Courses

(Ed. Note: The 1992 Stodola Scramble will be played September 14 at Rolling Green Country Club in Hamel and Wayzata Country Club in Wayzata. Following are brief histories of the two courses prepared by Course Superintendents Pat Walton, Rolling Green, and Jim Lindblad, Wayzata.)

## ROLLING GREEN COUNTRY CLUB

In the mid 1960s, the membership of Brookview Country Club in Golden Valley began to consider the possibility of selling their country club to the city of Golden Valley and building a new championship golf course complete with a large clubhouse and swimming pool and tennis courts. The membership of Brookview purchased 180 acres in Hamel in 1967 and began construction of their new country club in 1968.

Charles Maddox of Chicago was hired to design and build the golf course. Members told Maddox that they wanted a large championship golf course with large bunkers and large greens. Maddox choose to give Rolling Green two drastically different nines. The front nine would be wide open with few trees, but heavily bunkered and featuring very large and undulating greens. The back nine was basically cut right out of the woods. Construction of the championship course was completed in 1968 and the executive course was completed in 1969.

In June, 1969 the championship course was opened to play. At that time the club carried a full golfing membership of 350. After the membership of the club had a chance to play the course for a few seasons, they began to wish that they hadn't instructed Charles Maddox to make the course so difficult. Many of the members were getting on in years and were unable to score well on the golf course.

In an attempt to alleviate this problem, many of the championship tees were abandoned and many of the bunkers were filled in. These measures were not enough for many of the original members and they ended up leaving the club because they

found it too difficult.

To compound this problem, many of the original members of the club left during the mid '70s to early '80s and joined Oak Ridge Country Club in Hopkins. While the club had been losing members for 10 years, they had not been gaining any new members during this time. The golfing membership bottomed out in 1983 when the number of dues-paying members dropped to 116.

As we all know, with only 116 dues paying members, there wasn't a lot of money to go around, as can be attested to by former Superintendent Rick Fredericksen. The club was "bailed out" of its financial problems temporarily by a local investor in 1983. He took a 10-year option on the property. During this period of 1983-1988, many new members joined the club and the membership was able to buy back the club in 1988.

Since regaining ownership of their own club, the membership has been dedicated to making some long-range improvements to the facility. In the past four years they have automated the irrigation system, purchased some badly needed maintenance equipment, remodeled the club house, installed over 5,000 feet of drain tile, instituted a tree trimming and planting program and repaired the swimming pools. Many other improvements and projects remain to be done and with a strong and growing membership I am sure they will be in the coming years. I hope that all of you who will be playing here on September 14 in the Stodola Scramble have an enjoyable round of golf.

—Pat Walton, Superintendent

## WAYZATA COUNTRY CLUB

Wayzata Country Club was founded and chartered July 30, 1956, on what was known as the Bowman Estate.

The early club, known as the Wayzata Golf and Hunt Club, sported a T-shaped olympic-sized swimming pool, a riding club which grew into the largest Hunter Jumper Show in the Upper Midwest, a skeet and trap range and an 18-hole golf course designed by Robert Bruce Harris and built by Charles Maddox, noted golf course contractor. The first nine holes were ready for play in 1957, and the entire 18 in 1958.

In June, 1957, Lloyd Borg, the first club president, hit the first ball to open play under the watchful eyes of Homer Martinson, the club's first golf professional.

The Bowman home was the first clubhouse and, under the

direction of Glynn Shifflet, an architect member, early additions were completed in the summer of 1957. Modest cosmetic changes were made through the years until major remodeling was completed in October, 1975, and again in 1987.

The present club also supports an outstanding clubhouse, golf and tennis pro shops, eight tennis courts, two paddle ball courts, a beautiful pool and the skeet and trap range.

Over the years, the club has hosted the United States Golf Association Junior Championship, the MGA and MWGA Championships, the Minnesota State Open, the Women's Western Amateur Championship and, in 1992, the MGA Mid-Amateur Championship.

—Jim Lindblad, Superintendent

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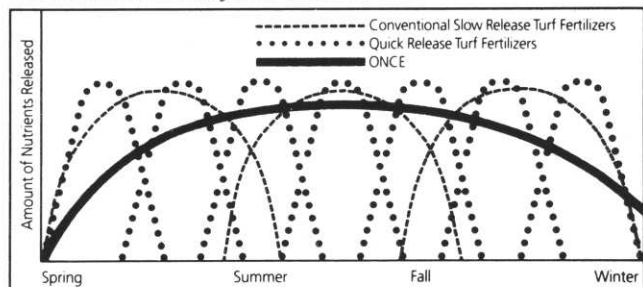
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Microbial Releasable		■			
Not dependent on coating or particle size for release	■				■
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# Managing for Moisture Stress in Turf

By Dr. Wayne Kusow  
Department of Soil Science  
University of Wisconsin-Madison

Many golf courses do not have the luxury of “wall-to-wall” irrigation. Rroughs in particular are dependent on rainfall, a growth factor whose predictability remains as elusive as the Loch Ness monster. Managing these areas so as to minimize the effects of drought on the turf is the subject of this article.

Getting the most out of rainfall in terms of maintenance of turf quality involves some fairly simple principles. These principles become obvious when we examine the plant water budget shown below:

$$\begin{aligned} \text{Transpiration} &= \text{Rainfall} - \text{Runoff} \\ &- \text{Evaporation} - \text{Percolation} \\ &+ \text{Soil storage} \end{aligned}$$

In this budget, rainfall is our input, and our objective is to maximize the portion of the rainfall that is available for turfgrass use in the form of transpiration. To do this, we need to attempt to minimize rainfall losses. These include any means whereby the water does not become available for turfgrass use. The rainfall loss pathways include runoff, evaporation from soil and plant surfaces, and percolation of the water beyond the rootzone of the turfgrass. Of these three avenues of rainfall loss, one that is manageable is runoff.

**Runoff of rainwater occurs** whenever the rate of rainfall exceeds the infiltration rate of the soil. At the onset of rain, water initially moves very quickly into soil because the dry soil exerts a wicking action on the water. This lasts only until the soil surface is wet. Thereafter, the rate at which water infiltrates is determined primarily by the numbers and sizes of soil pores that are open to the soil surface. Rapid infiltration of rainwater requires the presence of large pores. To emphasize this fact, let's contrast the rate at which water can enter the soil via an earthworm channel vs. a relatively large soil pore with a diameter of 0.5 mm. A typical earthworm channel will conduct water at approximately 100,000 times the rate of this large soil pore.

Relative to agricultural land, turf typically has high water infiltration rates. However, soil compaction can easily render turf areas less permeable than cultivated soils. The reason for this is that soil compaction is basically a process in which larger pores are compressed into many smaller pores. This increases the moisture holding capacity of the soil but at the expense of reduced infiltration and increased runoff loss of rainfall. The net result is less total water being available for the turfgrass. Therefore, the first management practice that needs to be implemented to manage moisture stress in nonirrigated turf is to alleviate soil compaction. Heavily trafficked areas should be core aerified at least once a year—preferably more than once. In fact, any area where runoff commonly occurs is a candidate for periodic aerification.

**The second management practice** that needs attention is N fertilization. Contrary to popular opinion, fertilization with moderate rates of N delays the onset of drought-induced dormancy in turfgrass. Applying 2 to 3 lb N/M<sup>2</sup> season to Kentucky bluegrass ensures good stand density, favors deeper rooting and provides for faster recovery from drought. Improved turf density increased water infiltration by slowing down the velocity

of runoff water, thereby allowing more time for infiltration to take place. Deeper rooting reduces the amount of rainfall lost via percolation beyond the rootzone as well as increasing the total amount of water available to the grass. At moderate N rates, all of these favorable results can be achieved without significant increases in turfgrass evapotranspiration rates.

So far our attention has focused on increasing the amount of rainwater available to turfgrass. Now we need to ask if anything can be done to reduce turfgrass water use rates. The answer is yes. Research has shown that consistently mowing a grass such as Kentucky bluegrass at a moderate height of 2 to 2½ inches every 3 to 5 days reduces water use rates by as much as 25%, as compared to mowing at greater heights at intervals of 10 days or so. The reason for this is that more frequent mowing at moderate heights reduces air turbulence within the grass canopy. Rather, air flows smoothly across the level surface of recently-mown grass. A higher relative humidity is maintained within the grass canopy and this reduces evapotranspiration rates. The argument that higher cutting heights have the favorable effect of keeping down soil temperatures and increasing turfgrass survival rates during drought is not valid once the height of cut exceeds 2 inches.

In the event of drought so prolonged the turfgrass dormancy occurs regardless of the management practices followed, concern must then turn to grass survival per se. When this happens, you have to be prepared to take emergency measures. Thermal death of Kentucky bluegrass growing points begins when surface soil temperatures approach 105 °F. Complete kill occurs at 117 °F to 120 °F. Once soil has dried out and water is no longer present to serve as a heat sink, surface soil temperatures of 110 °F or more can arise on clear days even at air temperatures as low as 90 °F. The only practical way to save the turfgrass under these conditions is to moisten the top inch or two of soil by applying about 0.2 inch of water every 5 to 7 days.

Careful monitoring of surface soil temperature will tell you when more water needs to be applied. The place and time to check soil temperatures is 2 to 3 p.m. on south-facing slopes. These sites are where thermal death of the turfgrass will first occur and are, therefore, the most critical areas.

What this small amount of water does is serve as a sink for radiant energy so that soil temperatures are moderated and large amounts of heat are dissipated as it evaporates. Such small amounts of water will not induce the turfgrass to break dormancy. This is crucial because more than a single dormancy-recovery cycle per season can result in significant thinning of turf.

When, despite your best efforts, turf is lost to drought and renovation becomes necessary, choice of replacement grass species and/or variety merits careful thought. Water use rates among cool-season grasses vary to the extent that there are significant differences in drought tolerance.

Drought tolerance ratings generally follow the sequence tall

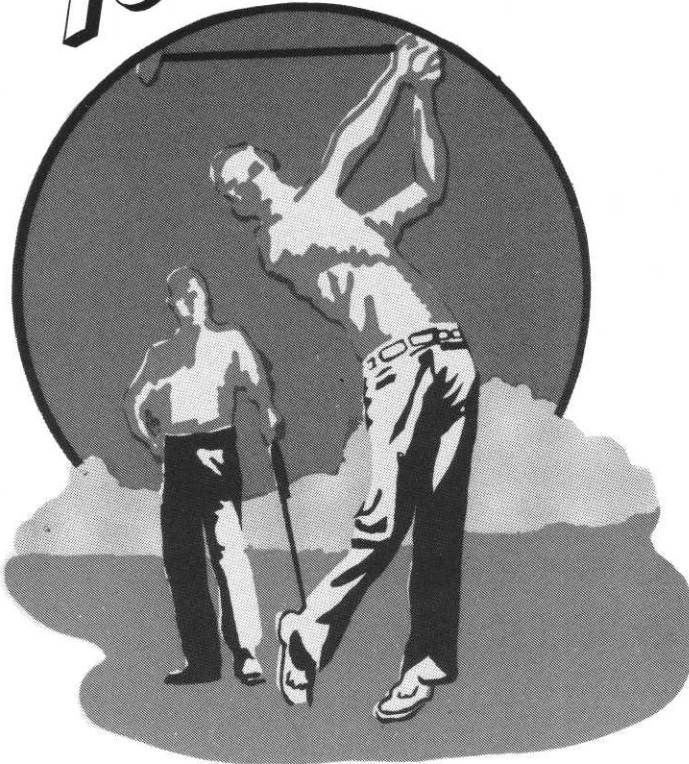
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