



# THE GRASS ROOTS

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## Documentation IS Important!

### CHANGING TIMES

By Thomas R. Harrison

Golf course management has endured tremendous changes over the last 50 years. Playability and conditioning of today's courses is at fantastically high levels. Comparisons between today's courses and those of only 30 years ago are dramatic. The changes that have been made and the forces that dictated these changes have been erratic. Advances in maintenance practices have come in spells. When golf is in a boom period and interest is high, changes have come at a rapid pace. When the economy or other factors are on a downturn, then the changes in conditioning demands are slowed accordingly.

In performing my job, as superintendent at Maple Bluff Country Club, I like to see my work progress in an orderly fashion. I like to have goals and targets to reach with well defined levels of maintenance to aim for. I like to anticipate changes in priorities and standards so that work will proceed smoothly without major disruption. I find it most aggravating when the levels of maintenance or what is expected of me in my job changes and I am not informed. It is most annoying to be chastised for poor playing conditions when the standards are changing and we are struggling to achieve these undefined levels of maintenance.

In the early fall of 1978 I was faced with a very trying dilemma. My greens committee was very unhappy with the condition of our course. The greens were too slow, the fairways too long, and the course in general was too wet. I felt helpless about the whole situation. I had an old manual irrigation system that leaked from corroded pipe. I mowed fairways with large gang mowers that were the norm for their day. I kept the course "green" and beautiful as I previously had been educated by the main body of members to do. I did the best I could with the guidelines and tools I was given. But the desired playing conditions and standards of maintenance were being changed. No planning was implemented to achieve these changes nor was I fully aware of what the membership truly wanted. My committee wanted things done that I knew would spell disaster if implemented immediately. The playing conditions they wanted, if sought too quickly, would transform the beautiful golf course into a brown, ugly parcel of land that would certainly get me fired because of the lack of

planning and membership involvement. I resisted their initial demands for immediate change, with the backing of the Board of Directors, but I could see that planning would have to begin to get a true reading of membership demands and then to set a timetable for completing the work. Better greens speed, drier fairways with tighter lies, and an improved irrigation system would have to be addressed.

The changes in fairway conditions would be fairly simple, given a good sum of money. We needed to better distribute our water with a new irrigation system and we needed to replace our old heavy fairway mowers with lightweight equipment. By 1984 we had accomplished all this. The course improvements were dramatic and the membership noticed the changes immediately even though it took seven years to complete.

Lowering the greens speed was a tougher matter however. More money would not be a factor. The greens needed to be fertilized less, cut a little tighter after they

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were growing a little leaner, and watered less. But this all takes time and patience to cultivate a strong healthy plant that will take the added stress. Pressures were great each year to push the plants and do more. Finally in the last two years the speeds have been in the area that a new legion of members seems to enjoy.

However, several things bothered me over the years regarding all these changes that we made. How did I ever get so far behind in recognizing the memberships changing requirements for playing the game of golf? How had this demand for greater greens speed crept up on me and why were we fertilizing like we were? A good superintendent knows you don't make drastic changes to growing plants too quickly. Changes take years to implement. The improvements in irrigation and fairway mowing were needed at Maple Bluff for many years. We had, indeed, been requesting them for many seasons. When authorization finally came to expend funds for fairway maintenance improvements, it was 10 years from the date of our first request. After much soul searching and trying to determine whose recommendations on turf maintenance I might have overlooked or what errors I made leading up to our flurry of member dissatisfaction, I decided to go back through all my old records on course maintenance and tabulate each year's pertinent maintenance practices. I figured if I compared all our past mowing heights, water usage and pounds of nitrogen used with published USGA and other journal recommendations, I might be able to determine where I made my mistakes.

I was fortunate to have *USGA Green Section Records* from March 1964 to the present, *Golf Course Management* magazines from the same era, *Turf Advisory Reports* going back many years and daily record books from the late fifties to the present. After about 10 hours of reading, it became apparent that there was a wealth of information recorded. Properly documented and presented to a greens committee, it could make a very interesting report. Tables 1-5 represent the most interesting aspects of our daily record books from 1962 to present. Although we have records going back into the 1950's, the data from 1962 on was the most complete. After the data was assembled it gave me a very interesting overview of course maintenance operations at Maple Bluff.

I wanted to look at the greens information and see if there were any patterns of maintenance that, when coupled with USGA and other recommendations, would show why we did what we did in early years and link all this with today's level of maintenance. In 1978 we were fertilizing greens at about 7.65 # N/year. The trend in greens was for greater speed. The stimpmeter has been produced in quantity since 1976 and unintentionally helped implement this push toward more speed. The records showed we were headed in the right direction toward using less fertilizer, but they also showed we had come from a period of extreme excess in the early sixties. By going through the old periodicals it was easy to see why we had overindulged in that period. We were told, in the sixties, that that was good greenkeeping. "Green" and "Lush" all were common terms used to describe our successes. The USGA Green Section Record from March of 1964 had an article by Dr. Ralph Engel which said, "the perfect green needs a high density of leaf blade per unit area . . . a bentgrass that can grow densely and a good steady supply of nitrogen are especially important . . ." Also in that issue in a panel discussion on fertilizing bentgrass it is recommended to use 5-20 pounds of N per year. In the January

**Table 1**  
**FERTILIZER USAGE — GREENS**  
**Maple Bluff Country Club**

Lbs. of Nitrogen/1000 ft <sup>2</sup>			Types of Grass
1962	7.8	#N/M	Poa Annua 40% Bentgrass 60%
1963	12.9	"	Poa Annua 40% Bentgrass 60%
1964	17.85	"	Poa Annua 50% Bentgrass 50%
1965	14.65	"	Poa Annua 65% Bentgrass 35%
1966	11.64	"	Poa Annua 75% Bentgrass 25%
1967	11.82	"	Poa Annua 85% Bentgrass 15%
1968	14.76	"	Poa Annua 90% Bentgrass 10%
1969	12.7	"	Poa Annua 90% Bentgrass 10%
1970	6.66	"	Poa Annua 90% Bentgrass 10%
1971	8.26	"	Poa Annua 90% Bentgrass 10%
1972	9.7	"	Poa Annua 95% Bentgrass 5%
1973	10.49	"	Poa Annua 95% Bentgrass 5%
1974	8.0	"	Poa Annua 95% Bentgrass 5%
1975	9.0	"	Poa Annua 90% Bentgrass 10%
1976	7.65	"	Poa Annua 90% Bentgrass 10%
1977	6.80	"	Poa Annua 85% Bentgrass 15%
1978	7.65	"	Poa Annua 85% Bentgrass 15%
1979	4.50	"	Poa Annua 80% Bentgrass 20%
1980	5.32	"	Poa Annua 75% Bentgrass 25%
1981	3.74	"	Poa Annua 75% Bentgrass 25%
1982	3.20	"	Poa Annua 70% Bentgrass 30%
1983	1.77	"	Poa Annua 65% Bentgrass 35%
1984	1.34	"	Poa Annua 60% Bentgrass 40%
1985* (1)	1.15	"	Poa Annua 60% Bentgrass 40%
1986* (2)	1.02	"	Poa Annua 60% Bentgrass 40%

\* (1) 10, 9, 11 2.35#N/M  
 (2) 10, 9, 11 1.25#N/M

**Table 2**  
**FERTILIZER USAGE — FAIRWAYS**  
**Maple Bluff Country Club**

Lbs. of Nitrogen/1000 ft <sup>2</sup>			Types of Grass on Fairways
1962	1.98	#N/M	Bluegrass 40% Poa Annua 20%
1963	3.0	"	Bluegrass 75% Poa Annua 25%
1964	3.15	"	Bluegrass 50% Poa Annua 50%
1965	4.60	"	Bluegrass 35% Poa Annua 65%
1966	4.48	"	Bluegrass 20% Poa Annua 80%
1967	4.07	"	Bluegrass 10% Poa Annua 90%
1968	4.90	"	Bluegrass 5% Poa Annua 95%
1969	4.87	"	Bluegrass 5% Poa Annua 95%
1970	4.99	"	Bluegrass 1% Poa Annua 99%
1971	5.05	"	Poa Annua 99.9% Bentgrass .1%
1972	5.25	"	Poa Annua 99.9% Bentgrass .1%
1973	4.50	"	Poa Annua 99.9% Bentgrass .1%
1974	4.0	"	Poa Annua 99.9% Bentgrass .1%
1975	4.25	"	Poa Annua 99.9% Bentgrass .1%
1976	4.56	"	Poa Annua 99.9% Bentgrass .1%
1977	5.15	"	Poa Annua 99.9% Bentgrass .1%
1978	4.65	"	Poa Annua 99.9% Bentgrass .1%
1979	5.41	"	Poa Annua 98% Bentgrass 2.0%
1980	4.39	"	Poa Annua 95% Bentgrass 5.0%
1981	4.22	"	Poa Annua 95% Bentgrass 5.0%
1982	3.33	"	Poa Annua 95% Bentgrass 5.0%
1983	2.87	"	Poa Annua 90% Bentgrass 10%
1984	2.76	"	Poa Annua 85% Bentgrass 15%
1985	2.74	"	Poa Annua 80% Bentgrass 20%
1986	3.21*	"	Poa Annua 80% Bentgrass 20%

\* Effect of several years of clipping removal, fairways seem to be hungry.

**Table 3**  
**GOLF COURSE MOWING HEIGHTS**  
*(Based on Mid-Season Number)*  
**Maple Bluff Country Club**

	Fairways	Greens	No. of Golf Course Employees - Including Supt. (Mid-Season)
1962	1"	3/16	21
1963	1"	3/16	20
1964	1"	3/16	21
1965	1"	3/16	20
1966	1"	3/16	19
1967	1"	3/16	21 course const.
1968	1"	3/16	14 course const.
1969	1"	3/16	17
1970	1"	7/32	12
1971	1"	3/16	12
1972	1"	3/16	6
1973	1"	3/16	10
1974	1"	3/16	11
1975	7/8"	11/64	12 (began tennis)
1976	13/16"	11/64	12
1977	13/16"	11/64	12
1978	13/16"	5/32*	12
1979	3/4"	5/32	12
1980	11/16-3/4"	5/32-9/64	12
1981	11/16-3/4"	5/32-9/64	13 (began pool responsibility)
1982	5/8-3/4"	5/32-9/64	14
1983	1/2-3/4"	5/32-9/64	14 light weight fairway mowing
1984	1/2-5/8"	5/32-9/64	14 (began removal of clippings on fairway)
1985	7/16-5/8"	5/32-9/64	14
1986	7/16-5/8"	5/32-9/64	14

\* Started use of Wylie roller - effectively lowering height of cut 1/64 to 1/32 more.

1966 issue of the Record it states "judge nitrogen levels (amount needed) by the color and quantity of clippings." From all this it is easy to see why we kept things "lush", because that is what everybody wanted. But in January of 1968 an article by James Fulwider recommends "keep the turf hungry. . . 5 pounds per year." The trend toward less nitrogen was started, but the articles were few and far between, and sometimes vague. A March 1973 Article by USGA Eastern Agronomist, William Buchanan, recommended "0-2 pounds of Nitrogen per year". Unfortunately this is a very vague recommendation to make. Through the rest of the seventies the recommendations were for more speed, use of the stimpmeter and "how to" articles on better management.

The trend toward more speed and less nitrogen continued until the March/April 1985 issue where an article by Al Radko is titled "Have we gone too far with low nitrogen?" When I analyzed where our program at Maple Bluff had been and where it was going it paralleled the USGA's recommendations. The push for lushness was accomplished as well as the decline to hungrier, hardier turf today. It was apparent that I had done nothing wrong, just reacted to membership and USGA recommendations as best I could. The changes required were made as timely as growing plants will allow. However, I learned a valuable lesson from all this in establishing creditability with a committee. If you can document where you have been and where you are headed, it helps to establish credibility in your management practices. Good complete records are essential in dealing with a changing set of standards of performance.

I noticed several other interesting points as I assembled all these years' worth of data. One was the indecisive and ever-changing articles published by trade journals and researchers. One article will clearly say one thing and the next will say something else. One superintendent will be trying one program and another will be going off in a different direction. The USGA and other trade journals publish things as timely and accurately as they can, but when you line up articles making recommendations one year to the next, these recommendations can be most indecisive. It is a wonder how we, as superintendents, can make any clear cut decisions about our maintenance programs given articles, reports and turf advisory visits that are vague and sometimes talk in circles. Articles in trade journals are usually one person's opinion. Nothing more, nothing less.

The second point of interest is the current item of discussion at every club-fast greens and how to achieve them. I for one am guilty of tremendously underfeeding my greens. I am asking for trouble, no doubt about it. But all the "expert" recommendations in the last 8 or 9 years have been to cut back nitrogen. In 1983, however, when I was still struggling to achieve more consistent greens speed, a shred of discontent towards low nitrogen, no color, fast greens, appeared in the March/April issue of the *USGA Greens Section Record*. An article by Stephen Cadenelli, superintendent at Country Club of New Canaan, attacked the low nitrogen, droughty golf course mania and the lack of standards to judge what is necessary to sustain long term healthy plants. In the same issue Dr. J.R. Watson, Agronomist with the Toro Company, quotes Alistair Mackenzie's thoughts from his book on Golf Architecture. Mr. Mackenzie states, "Another common erroneous idea is that beauty does not matter on a golf course. One often hears players say that they don't care a tinker's cuss about

**Table 4**  
**IRRIGATION**  
**GALLONS OF WATER USED ON COURSE PER GROWING SEASON**  
**Maple Bluff Country Club**

1962	26,400,300
1963	27,700,600
1964	24,600,500
1965	28,900,300
1966	27,801,600
1967	25,640,700
1968	31,070,100
1969	30,940,800
1970	32,071,100
1971	34,476,100
1972	27,071,600
1973	28,671,900
1974	31,675,400
1975	30,774,600
1976	28,707,000
1977	26,773,400
1978	24,772,400
1979	29,702,200
1980	25,115,800
1981	26,286,900
1982	24,950,000
1983	22,400,800
1984	20,076,000
1985	
1986	

their surroundings: what they want is good golf.

I haven't the smallest hesitation in saying that beauty means a great deal on a golf course; even the man who emphatically states he does not care a hang for beauty is subconsciously influenced by his surroundings."

An article by Stan Zontek, when he was the USGA North Central Director, attempted to clarify the stimpmeter and its uses. The article suggests that tables on the stimpmeter speeds for the average club's everyday play are indeed that, good sound recommendations for everyday play. Speeds for tournament conditions as listed in the stimp-meter guide, are for the PGA tour!

These notes of changes in thinking on greens conditions did not suffice to slow down our efforts to further starve and weaken our putting greens. Finally in the March/April 1985 issue of the *USGA Greens Section Record*, former National Director Al Radko, wrote an article "Have we gone too far with low Nitrogen?" Mr. Radko's article strongly suggests that we all re-evaluate the "greens speed race". He recommends stimpmeter readings of 7'6" to 8'6". It is interesting to note that we have seen the swing from "Keep 'em green and lush" to "Starve 'em" and now "have we gone too far". The question then becomes where will it all stop or what will the next change be. The low fertility/high speed craze will probably stop when enough damaged turf starts appearing. Maybe the "black layer" is the first sign. The next topic of conversation is undoubtedly already on some researchers' and writers' minds. The subject is "How to rebuild greens damaged by too low nitrogen". The articles will no doubt be vague and affix the blame to no one.

Our program at Maple Bluff, of too low fertility, will continue, no doubt, until we severely damage something. I have a reputation amongst my membership of being conservative and tending to worry excessively about such things. Even though I am concerned about losing some greens, there is not much I can do about it. I have stated my concerns and I will document my recommendations to the greens committee and further document every move we make on the golf course. This drive for fast greens, and any allied problems, is something that I will not be able to alter or stop. But hopefully by covering myself with good record keeping I will survive this ripple in golf course maintenance history if problems do develop. Since changes in golf course maintenance will always be occurring, good record keeping will prove to be a strong asset for every superintendent.

I've always felt that it makes no difference to me what my membership wants me to do. But whatever they want me to do, someone in authority must give approval and I must document all actions taken and warnings of problems to come. If they want me to plow it up and plant soybeans, no problem. But when the ball starts bounding off the bean shoots, I've got my records and Board approval to fall back upon.

## SUPPORT OUR ADVERTISERS!

**Table 5  
GOLF COURSE OPENING DATES  
Maple Bluff Country Club**

April 9, 1962	16 Temporary
April 3, 1963	"
April 11, 1964	"
April 9, 1965	"
April 7, 1966	"
April 13, 1967	"
April 7, 1968	" (No carts until 4/14/68)
April 15, 1969	"
April 9, 1970	"
April 8, 1971	"
April 20, 1972	"
March 29, 1973	(Reclosed April 9 - 14" snow)
April 7, 1974	"
April 16, 1975	"
April 3, 1976	"
March 31, 1977	"
April 5, 1978	"
April 14, 1979	"
April 17, 1980	"
March 26, 1981	"
April 15, 1982	"
April 13, 1983	(10, 17 greens temporary)
April 4, 1984	"
April 4, 1985	"
April 1, 1986	"

## Wisconsin GCSA Seeks 1988 Monthly Meeting Sites

The Wisconsin Golf Course Superintendents Association, through its Golf and Arrangements Committee, is in the process of establishing a tentative monthly meeting schedule for the next year, 1988. It is, once again, our goal to arrange a geographically balanced schedule with a variety of golf courses for all WGCSA members to enjoy. If you are interested in offering your time and your club or facility for such an event; complete, clip and return the form below to:

Michael Semler  
Cherokee Country Club  
5000 N. Sherman Avenue  
Madison, WI 53704

I am interested in hosting a 1988 WGCSA monthly meeting:

NAME \_\_\_\_\_

CLUB \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_ ZIP \_\_\_\_\_

Specific month for meeting date (if preferred) \_\_\_\_\_