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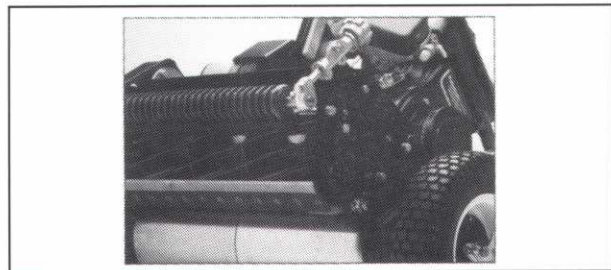
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Official Publication  
of the  
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## FROM THE PRESIDENT'S DESK

### Annual Conference To Be Held At Minneapolis Convention Center



As evidenced by other articles in this issue and announced at our April meeting, our Annual Conference will now be held at the Minneapolis Convention Center rather than Northland Inn this year. This move will allow for expanded educational opportunities, larger trade shows and more cosmopolitan cultural opportunities as we model our state conference after the GCSAA Conference and Show. Though the Northland served us well in the past, we simply needed more room to meet members' needs. This site appears to be a wonderful opportunity to establish ourselves as the premier turf conference in the region. With a dedicated conference committee, Board, and membership, I'm sure our Conference will be a great success, paving the way for future participation with the proposed Minnesota Turf and Grounds Foundation. I know the conference committee is excited with this move and we, the membership, should give them our support in this large and exciting endeavor.

**In other Board actions**, we now have a new policy on guests at our monthly meetings. Guest superintendents are welcome to attend one monthly meeting as long as they are pre-registered and sponsored by a member. Take some time to invite a potential new member to our meetings and let them take a gander. I'm sure they'll enjoy the view.

\* \* \*

**It's not often that we mention member participation** in other associations, but I feel that we should recognize and appreciate those MGCSA members who serve on various GCSAA committees.

**Keith Scott**, CGCS, Oak Ridge C.C., Scholarship Committee.

**Steve Garske**, Par Aide Co., Industrial Advisory Council.

**Patty Knaggs**, Hazeltine National G.C., Conference Planning Committee.

Many thanks to these fine folks for volunteering their time for the betterment of golf.

\* \* \*

**Looking for additional copies of *Hole Notes*?** Additional subscriptions will be available for those Club Presidents, Green Chairs and others interested in golf by checking off a box on our upcoming dues statement. Price is \$20.00 per additional subscription.

\* \* \*

**For our outstate members, remember to use our toll-free number** when phoning our office — 1-800-642-7227. We receive about 20 calls a month and are listening for your call.

\* \* \*

**Take some time off and enjoy Fox Hollow Golf Course** at our next meeting May 10 in Rogers, Minn. By that time, we'll all deserve another breather.

—Greg Hubbard, CGCS  
President

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# Boots . . . you know, like you wear on your feet

By FRED TAYLOR  
Mankato Golf Club

After many years of service to Mankato Golf Club, Irwin "Boots" Fuller Jr. will retire following the 1993 golf season. Known to be one of the most colorful and gregarious superintendents around, his charisma and charm have livened many meetings and outings. In this interview, Boots adds some insight into the man and his background.

I first met Boots as a cub superintendent while doing an interview for an introduction to horticulture class from the University of Minnesota/Waseca. The assignment was to interview someone in my intended profession to get a feel for the job. I picked Boots because he was convenient—right in my home town. That was October, 1976. Little did I realize then what a long and meaningful working relationship we would enjoy. It seems fitting that now, some 16 years later, he and I reflect on some of those questions and concerns.

**Q. Boots, you've become somewhat of an institution among the ranks of Minnesota superintendents. How long have you been at the Mankato Golf Club?**

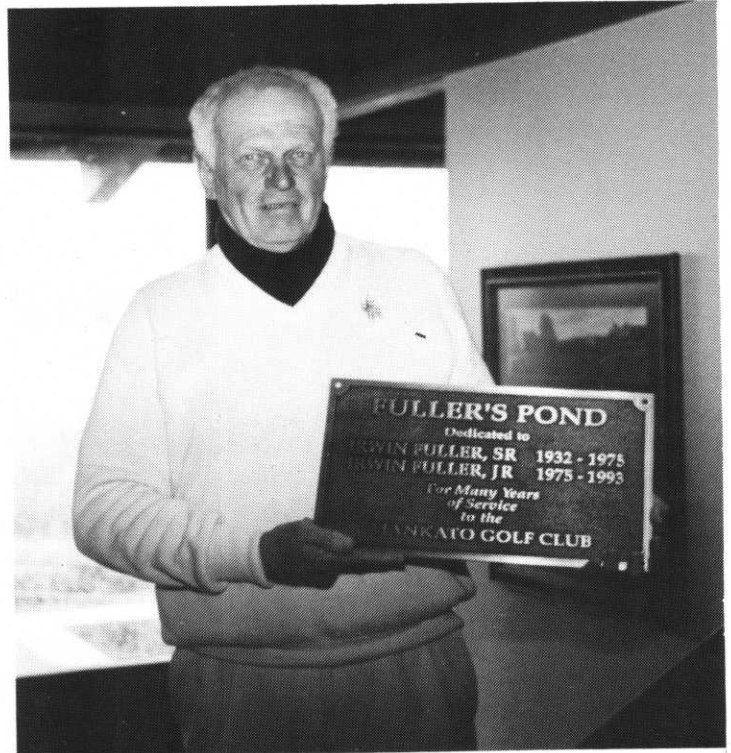
**A.** I came back to the club in June of 1975 after teaching school for 17 years. My dad, Irv, was then retiring from the club after 43 years. He had recommended that I be hired to take over as the superintendent after working under him during the summer of '75. Unfortunately, in July of that summer, he became ill with cancer, and was not able to return to work. So basically, I was put in charge right away.

Of course, my first experience was working for Dad when I was in high school. I started hand-raking the bunkers (there were no power rakes) and push-mowing greens (the mower didn't have an engine) in 1945 for \$.35 an hour. I worked summers through high school, and then came back on furlough from the service in 1952 to help with the construction of the new nine holes. After my stint in the Air Force, I returned to Mankato to go to college at Mankato State. During the summers of '55-'60, I did the night watering on the old manual water system. In '55, my wife and I actually lived right on the course in an old cottage that was originally built for the pro back in the '20s.

**Q. What are your first memories of the club?**

**A.** The first vivid memories I have are of the old caddy shack. All of us kids from the north end of town would routinely gather up there to get a caddy job for the day. We'd hope like hell that old John McCrae, the pro at the time, would pick one of us to go out on a round. I think we got paid \$.25 a round, plus a tip if the guy shot well. So on a good day, we'd make \$.50. That wasn't a bad wage for a kid in the late 1930s.

**Q. Your dad was really one of the true pioneers in the industry. He was respected by his peers not only in Minnesota, but nationally too. To this day, I still**



"Boots" Fuller shows off his new pond plaque.

**hear stories and accolades from some of the older superintendents around. He obviously impacted your life a great deal. What is the one thing about Irv that impressed you the most?**

**A.** I guess it was his continual search for knowledge. He constantly was reading and studying to better himself. He only had an eighth grade formal education, but through his own studies, he became very aware and informed on a variety of subjects. He came to the golf club from a road construction job in 1930. He had no turf or ag background, but through his own readings and trials, was able to become an authority on greenkeeping.

During the years of World War II, he was able to stay in Mankato with the family by getting a defense job at Kato Engineering, a manufacturer of electric generators. By going to night school and studying the books, he became the chief tester in the quality control area. During this time, he also was consulting for the pro at the golf club, who, by default, became the greenkeeper during those war years.

**Q. What was the most important lesson that you learned from your dad?**

*(Continued on Page 37)*

## Panel to Watch Benomyl Study

An expert committee will be established to shepherd the design and implementation of a National Institute for Occupational Safety and Health study on the health effects of the fungicide benomyl.

The fungicide is suspected of causing millions of dollars worth of damage to Florida crops and has been the target of many claims of adverse health effects.

The product is manufactured by Du Pont, and is offered by 23 companies through about 100 pesticides.

EPA is reviewing data on the potential adverse health and environmental effects of benomyl currently and is also looking into charges that the product contaminated water sources and soil.

The expert committee will be established soon. NIOSH officials say, adding that it will take about one year for the study to be completed after the initial investigation, which is to take about four weeks.

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# Baker National Golf Course Leachate Study

John M. Barten

Water Quality Manager, Hennepin Parks

## Part II

DATE	TOTAL KJELDAHL NITROGEN (mg/l)	SOLUBLE REACTIVE PHOSPHORUS (mg/l)	TOTAL PHOSPHORUS (mg/l)	BANNER (µg/l)	DACONIL (µg/l)	DYRENE (µg/l)	CHIPCO (µg/l)
11-Jul-90	4.8	0.56	0.65				
26-Jul-90	2.6	4.87	3.87				
31-May-91	1.9	3.2	3.2				
21-Jun-91	2	2.5	2.5	ND	0.33		
12-Jul-91	2.1	2.5	2.5	ND	0.34		
02-Aug-91	2.4	2	2.1	ND	ND		ND
02-Jul-92	2.4	1.5	1.7	ND	ND	ND	0.91
12-Jul-92	2.2	1.9	1.9	ND	ND	ND	6
16-Sep-92	2.1	2.1	2.2	ND	ND	ND	ND

NOTE: ND indicates that the parameter was not detected

**Table 5. Concentration of Leachate Contaminants, Green 7, 1990 to 1992**

As Figure 7 shows, the concentrations of nutrients in the leachate water during the different rainfall events were very consistent during the three-year study with the exception of 1990.

The total quantity of phosphorus and nitrogen in leachate water from measured storms during the three-year study was 0.09 pounds and 0.1 pounds respectively, less than 0.1 percent of the amount applied as fertilizer.

Of the fungicides applied to Green 7 in 1991 and 1992, only two, Daconil 2787 and Chipco 26019 were present in the leachate, (Figure 8). Daconil 2787 was present in 1991 and Chipco 26019 was present only in 1992 although both were applied to Green 7 in both years. Banner and Dyrene were not detected in any leachate samples. In 1992, Chipco 26019 was detected in the sample collected on July 2 although the first Chipco application occurred on July 6. This suggests that carryover of Chipco from 1991 occurred. Due to laboratory problems, no fungicide analysis was done in 1990. The total quantity of fungicides flushed through Green 7 during the study was very small, 0.000096 oz of Daconyl in 1991 and 0.000049 oz of Chipco in 1992. These quantities amounted to less than 0.01 percent of the Daconyl and Chipco applied to the Green during the study.

**BAKER GOLF COURSE GREEN 7  
LEACHATE DATA 1990 - 1992**

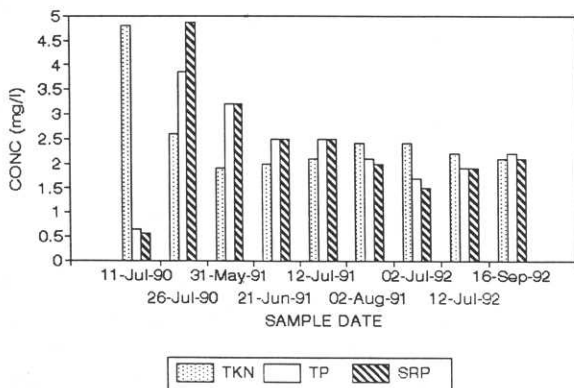


Figure 7. Green 7 Leachate Nutrient Concentrations 1990 to 1992.

## Discussion

The data from the monitoring project suggests that there is no significant movement of fertilizer or fungicides from Green 7 to the underlying groundwater table. Although phosphorus and nitrogen were present in all leachate samples at fairly high concentrations, only trace quantities were flushed through the green. Only trace concentrations of fungicides were present in leachate water and, therefore, even less of these chemicals were flushed through the green. The lack of movement of significant quantities of

**BAKER GOLF COURSE GREEN 7  
FUNGICIDE CONCENTRATIONS 1990 - 1992**

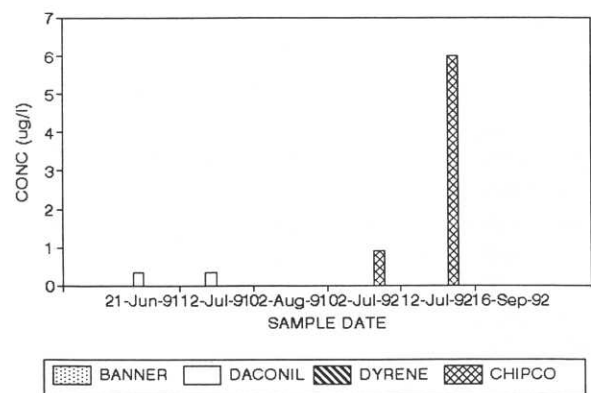


Figure 8. Green 7 Leachate Fungicide Concentrations, 1990 to 1992

fertilizer elements and fungicides from the green surface to the underground tile line was a function of the small amount of leachate generated by the rainfall events. Overall 214,000 gallons of rain fell on the green during 63 monitored rainfall events, but only 5,200 gallons of the rainfall passed through the green.

The lack of significant quantities of leachate suggest that the majority of rainfall either was absorbed by the soil or left Green 7 through surface runoff. Because Green 7 was irrigated between rainfall events and because some events less than 0.5 inches in volume did produce leachate, it is doubtful that the majority of rain in most events was adsorbed by the soil. It appears rather that the majority of rainfall left the green as surface runoff. This conclusion is supported by visual observation of the green during rainfall events. Significant quantities of runoff were unexpected, given the fact that the infiltration rate of Green 7 was in excess of 18 inches per hour as determined by a standard percolation test. The rainfall intensity data showed that most rainfall occurred at a rate of four inches per hour or slower. It appears therefore, that the percolation rate of Green 7 was significantly reduced by the development of the turfgrass over the underlying sand/peat soil mixture.

(Continued on Page 35)

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# A Look At A Chemical Spill

By **ROBERT DISTEL**  
Wayzata Country Club

On June 30, 1992 thousands of Superior, Douglas County, Duluth, Cloquet and Proctor residents were evacuated from their homes due to a chemical spill which originated in Superior, Wisc.

The spill of dangerous Liquid Benzene occurred about 2:30 a.m. from a railroad tank car that fell from an elevated bridge into the Nemadji River, approximately three miles from my home in Superior. It was a little like watching a newscast — an eerie feeling to be awakened by squad cars and rescue units announcing that everyone must evacuate. The town of Superior was basically closed down by noon, including Nemadji Golf Course of which I was, at that time, golf course superintendent. All phone lines were tied up, families frantically trying to contact each other, find their school children, or scramble for one of the few remaining hotel/motel rooms available outside the city.

The Benzene toxin, a component of gasoline, is suspected of causing cancer and is known to cause headaches, difficulty in breathing and loss of consciousness. There were several people admitted to the hospital to be checked out after Benzene-related symptoms, but no fatalities were reported. For the most part everyone remained calm, got their families to safety and spent a free day away from work or school. The threat of danger seemed to be eliminated by 6:00 p.m. that evening when the evacuation was called off and the roadblock on the bridge dividing Superior and Duluth was lifted. All but those who lived in a one-mile radius were allowed to return home. Clean-up of the spill was underway and DNR authorities reported that there would be no danger to aquatic life since the Benzene gas is too light to permeate water, although I did notice several dead fish along the river bank shortly after the spill. The gas, being a carcinogen, may

have a long-term effect on wildlife whose habitat includes the riverbed. I observed an alarming decrease in the return of swallows and martins and noticed that mother birds, bluejays and bluebirds, had left their young baby birds in the nests to die, surely

to escape the irritating gases. Nemadji Golf Course had lost a day's revenue but, moreover, lost some valuable wildlife.

I hope for a return of all that wildlife and a good report of no long-term effects on any life in the Superior area.

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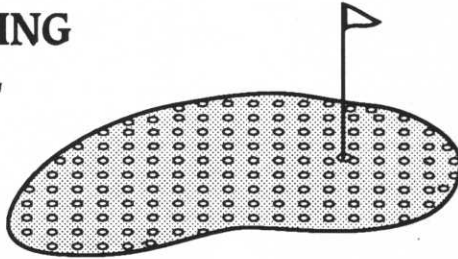
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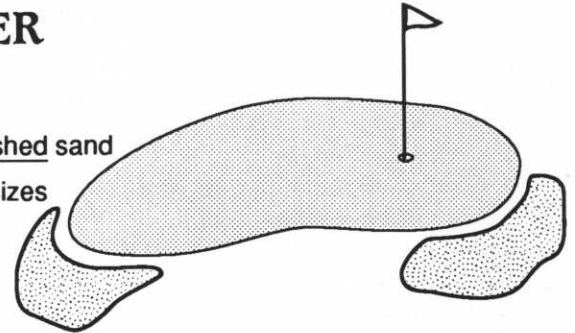
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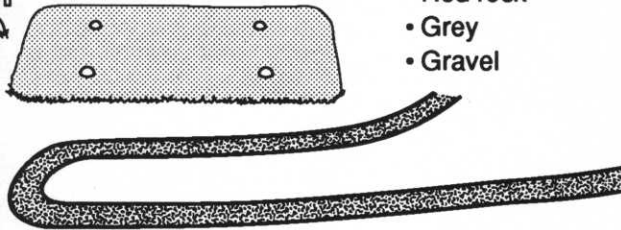
- Clean, washed sand
- 2 particle sizes to choose from



## CARTPATH AGGREGATE

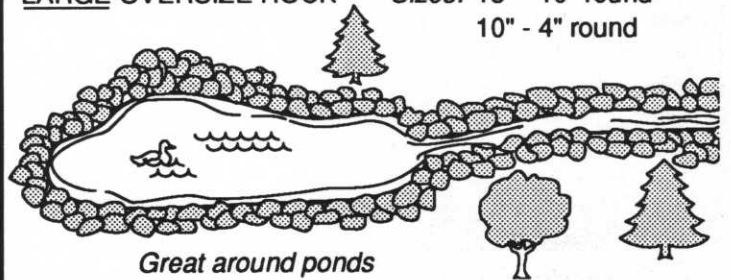


- Colors:
- Buff
  - Red rock
  - Grey
  - Gravel



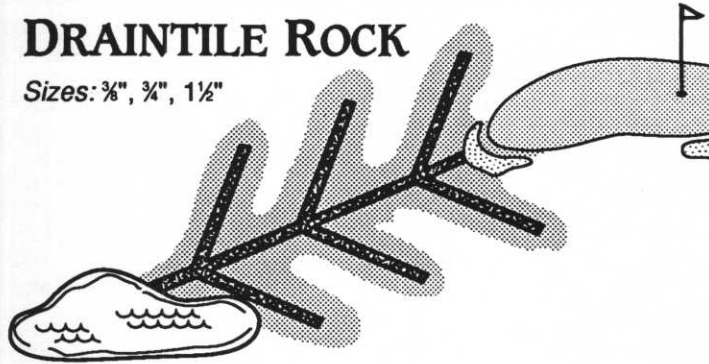
## RIP RAP

- LARGE OVERSIZE ROCK      Sizes: 18" - 10" round  
10" - 4" round



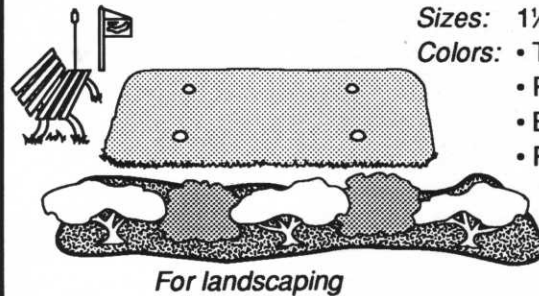
## DRAINTILE ROCK

Sizes: 3/8", 1/2", 1 1/2"

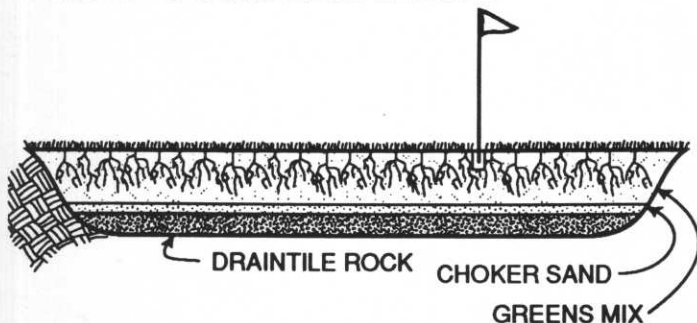


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