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- All controls within easy reach of operator

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ACCORDING TO OSHA

Sand Commonly Used in Bunkers Said to Cause Cancer

If you made the mistake of thinking federal regulations had gotten just about as bizarre as they can get, please read on. A federal classification could require golf courses to warn employees of the dangers of bunker sand.

Crystalline silica—the primary ingredient of sand, rocks, most of the earth's crust and dust in the air—is classified as a carcinogen.

Initially, that might not sound like such a big deal, until you consider that crystalline silica is known to cling to root vegetables and other foods, is widely used to filter most of the nation's drinking water supplies, and is played and frolicked in by millions each year on beaches and in backyard sandboxes. It also can be found in everyday products as common as pharmaceutical, bricks, paper, jewelry, putty, paint, plastic, household cleaners and a host of others.

That's right, one of the most predominant ingredients used to manufacture common household items could be killing us, according to several scientists, health organizations and the Occupational Safety and Health Administration (OSHA).

In fact, crystalline silica has been categorized as a carcinogen for several years, but has been held up lately by a growing number of critics as an example of how the regulatory process sometimes gets caught up in its own web. It has been revised as the result of a California law requiring warnings to be placed on crystalline silica containers, which has caused a mild panic in that state and beyond.

But before you build a plastic bubble for you and your family to live in for the rest of your lives, read on.

Critics are beginning to yell that the official lumping of beach sand in the same carcinogenic category as dioxin suggests that the regulatory system tends to cry wolf when it comes to cancer. Further, it illustrates broader concerns among scientists that the traditional method of massively dosing rats to assess cancer risk—combined with tripwires set to go off at the slightest hint of carcinogenic potential—is fundamentally flawed.

Believe it or not, crystalline silica can boast a reputation dating back to the 1500s, when heavy dust exposure was determined to cause lung disease in miners. Regulations regarding dust exposure were put in place, the incidence of the disease dropped markedly, and litte more thought was given to crystalline silica.

Until 1982. That was when a graduate student at the University of North Carolina made a splash by proposing that silica can cause cancer. The student cited research being conducted at the Los Alamos National Laboratory in New Mexico, where high doses of silica were repeatedly injected into the lungs of 36 rats, of which six developed tumors. This, the graduate student said, "struck me as quite powerful."

The then-graduate student went on to work for the Western Consortium for Public Health in Berkeley, Calif., which has formed alliances with similar organizations, such as the International Agency for Research on Cancer, an arm of the World Health Organization. Needless to say, the item snowballed until it reached its current status.

But more and more critics of the classification are becoming more vocal in their opposition to it and to the process that resulted in the classification.

The process gives no weight to studies indicating that substances do not cause cancer. The listing of silica as a probable human carcinogen was based chiefly on five rat studies. But at least five similar studies in hamsters and mice found no evidence of cancer.

Further, the researcher whose studies the NCU graduate student found to be "powerful" concluded as recently as 1990 that "there is a great deal of uncertainty" about the substances link with cancer and even decried "repeated overreaction to every positive experimental observation."

And it goes on. Researchers are forming a line to take their turn pointing out holes in the classification and the process that created it, most notably, the one used by OSHA.

In OSHA's defense it should be pointed out that the Labor Department requires just one study indicating a substance is carcinogenic to trigger cancer-warning rules. Because of this and the international health agency's classification of silica as a probable carcinogen, OSHA's hazard communication standard automatically was tripped. This means that companies must warn employees about workplace materials containing more than 0.1 percent of crystalline silica, which could include many golf course bunkers around the nation.

For more information, contact OSHA or GCSAA.

Cancer Classification Process Called Flawed

EPA should not assign cancer classification to or reach other safety conclusions about chemicals until they have passed through the final stage of risk assessment, say members of an industry group.

According to the group, cancer classification should fall under "risk characterization" considerations, not "hazard identification," as it currently does. In fact, a new classification system with a smaller number of better defined terms that focuses on likely effects in humans is needed, they said.

The group, The Society of Risk Analysis, made the remarks at a workshop recently held in cooperation with the federal and California Environmental Protection Agency. The workshop was held to consider ways to improve risk characterization and to use biological data in qualitative and quantitative risk assessments.

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GCSAA International Management Program Captures Prestigious Achievement Award

The Golf Course Superintendents Association of America (GCSAA) has captured the top international management honor awarded by the American Society of Association Executives (ASAE).

GCSAA garnered the coveted international management award for its success in developing and administering a highly effective program involving all aspects of international management. The program addresses items such as membership, educational conferences and seminars, trade shows, informational services, technical assistance, multilanguage trade publications and many others, and is targeted at golf course superintendents in every corner of the world.

The program's remarkable success has earned GCSAA one of only three International Achievement Awards given by ASAE this year. The award was presented during a ceremony August 23 in Minneapolis.

"With a burgeoning number of international golf courses under construction or development, GCSAA took advantage of the opportunity to provide educational programs and services to international golf course management professionals," ASAE said in announcing the award. "Through its efforts, such as opening an extension office in Singapore. . . for its Pacific Rim members, GCSAA hopes to better service its members all over the world."

Altogether, nearly 13,000 members in some 50 countries around the world take advantage of the educational programs, services and other benefits that GCSAA provides for the golf course management profession.

"GCSAA is very flattered to have been chosen to receive this prestigious award. A lot of very talented and dedicated people worked diligently to achieve the successes that are being recognized. We are all very proud of these efforts on behalf of the members of GCSAA," said John M. Schilling, GCSAA chief executive officer. "A growing number of superintendents around the world have asked us to share our knowledge with them and we obliged. We think it was the appropriate thing to do, and we plan to continue with and expand those activities."

GCSAA was founded in 1926 to advance the art and science of golf course management through professional education. The experience gained in 66 years of successfully developing and delivering educational programs and the commitment to providing quality education to the superintendent/greenkeeper put the association in the position to continue to expand educational programs in the United States and to further extend similar opportunities to superintendents/greenkeepers throughout the world.

ASAE's international management award recognizes outstanding accomplishments in managing association international activity. While the category recognizes primarily international-focus programs in U.S. associations, it also includes outstanding management of international associations.

MEMBERSHIP REPORT

NEW MEMBERS—OCTOBER 11, 1993

John McGuire	Pendulum Industries	Class F
Allen Anderson	Thein Well Company	F
Alan Rott	Anoka Technical College	C
Linda Thomas	Anoka Technical College	C
Daniel Swenson	Anoka Technical College	C
Gary Kegel	Anoka Technical College	C
Shane Hendrickson	Anoka Technical College	C
Peter Bortnem	Wildflower Golf Course	BII
Michael Cohrs	University of MN	C
Franklyn Hoffman	University of MN	C
Susie Fobes	Environmental Re-creations	F
Mark Prochazka	Nemadji Golf Club	BII
Scott Larson	Two Harbors Golf Club	A
Sherwood Silvernale	Slayton Country Club	B
Bradley Marty	Lakewood Community College	C
Chris Hoff	Anoka Technical College	C
Timothy Berggren	Anoka Technical College	C
Johnathon Bahr	Anoka Technical College	C
Kurt Krenke	Anoka Technical College	C
Mike Sherer	Anoka Technical College	C
Scott Bjorge	Owatonna Country Club	BII
Roxinne Matthews	Laurel Inc.	F
Allan Hanson	Viking Meadows	BII
Bradley Morse	Anoka Technical College	C
Ron Nelson	Anoka Technical College	C

RECLASSIFICATION—OCTOBER 11, 1993

Allen Jaques	Dellwood Hills Golf Course	C to BII
Cecil Audorff	Rolling Oaks Golf Course	BII to B
Scot Milstroh	Wapicada Golf	BII to B
John Hammerschmidt	Manitou Ridge	D to BII

John Granholt, Membership Chairman

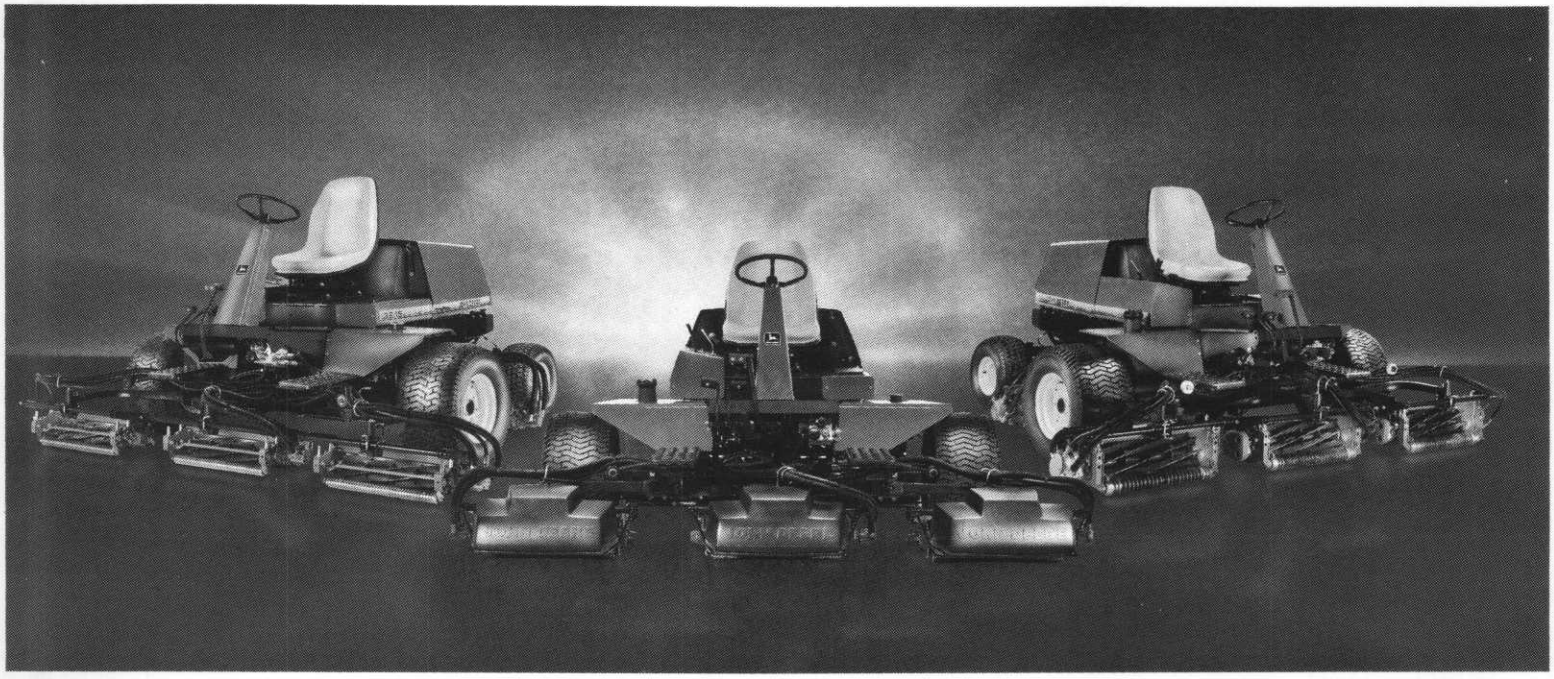
New Standard Issued For Confined Space

The Occupational Safety and Health Administration has issued a new standard for confined space and permit-required confined space.

Confined spaces are areas with limited or restricted means of entry or exit, large enough to allow an employee to enter and perform work, and not designed for continuous occupancy.

Permit-required confined spaces contain or have the potential to contain a hazardous atmosphere; contain a material that has the potential for engulfing an entrant; have an internal configuration that might cause an entrant to be trapped or asphyxiated by inward walls or sloping, tapering floor; and contain any other recognized serious safety or health hazards.

For more information, contact GCSAA's government relations program at 913/832-4470



You just can't beat THE SYSTEM

Introducing the new 3215 and 3235 mowers

Good news. The days of "one-size-fits-all" lightweight fairway mowing just ended.

Now, with the new John Deere 3215 Turf System I and 3235 Turf System II Mowers, you get the ground hugging benefits of 22-inch cutting units regardless of what turf surface you work on.

The 3215 with standard cutting units is a 25.5-hp machine designed to perform well on any turf type, but especially on the more delicate cool-season grasses. Cutting units are 5 inches in diameter and feature 7-bladed reels.

	STANDARD CUTTING UNIT	HEAVY-DUTY CUTTING UNIT
25.5 hp	✓	N/A
32 hp	✓	✓

SIMPLE SOLUTION

The 32-hp 3235 can be equipped with standard or heavy-duty ESP™ cutting units. The ESP units are 7 inches in diameter, have 3-inch rollers, and feature 8-bladed reels to handle tough conditions like mowing warm- and transitional-season grasses.

Talk to us soon for more information about these revolutionary new mowers.

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Peat Said to Be Best Option in Organics

By TOM LEVAR

Editor's Note: Tom Levar is principal scientist with North Woods Organics, located in Duluth, Minnesota and now associated with Faulks Bros. of Waupaca. He is a former research scientist with the University of Minnesota and has a graduate degree in both soil science and horticulture.

* * * *

I would like to ask you some basic questions regarding the use of peat materials in the blending of root zone mixtures used on golf courses. I intend to encourage you to view peat and its use more objectively—to ask yourself, "Why do I use peat material in my root zone mix?" and "How can I improve my use of peat?"

Peat is likely our best "organic option" if judiciously used. It can be process to our specification with technical and economical efficiency for superior turf performance. It can be quality controlled by a competent and cooperative industry, if that is what we require of them.

Our industry needs to adapt and implement standard methods of peat analysis. We also need to better understand the dynamics and function of peat in the root zone environment.

We are responsible for providing specifications to our peat suppliers. We need to become a more discerning market. Over time, we will realize the benefits of peat in root zone mixes, by literally seeing them on our courses.

Conversations with Dr. Norm Hummel of Cornell University, Dr. Wayne Kussow of the University of Wisconsin-Madison, Jim Snow of the USGA Green Section and other professionals have revealed issues and concerns in the forefront of our industry which are relevant to peat.

These include standardizing laboratory procedures, the use and performance of substitute organic materials, use of finer root zone components, inconsistent properties of peat materials from the same supplier and the rising costs of construction.

I contend that no universal or "magical" organic exists, but peat is likely the best of its kind to meet the physical needs of a root zone mix. Peat is not a panacea, since its benefits are primarily physical. Gains other than these may be postulated, but are not well defined. Some may include the natural content of biostimulants (i.e. humic substances) and of beneficial microflora and microfauna, and sustained plant nutrient release.

One type of peat cannot provide all the physical and mystical benefits in our root zone mixtures. That bill will be most difficult to fill with any organic material. Any such claim should be highly scrutinized.

My foremost caution is this: the marriage of any organic material with the sand component in your root zone environment should be considered carefully, especially in regard to capillarity and air/water economy.

Root zone mixtures can be designed to optimize air/water balance and water storage, but only with the right components and basic information. Otherwise, we may be faced with unmanageable root zone environments of short duration. The key is selecting the right peat type with your sand and understanding how it works in the root zone over time.

Peat type is descriptive of both the organic material's "botanical origin" and its "degree of decomposition." Botanical origin refers to the identifiable plant remains of the parent material. They can be quantified using microscopic inspection.

Degree of decomposition refers to the natural extent of humification; that is, how "rotted" the peat appears. This is measured by various means, some of which are quite subjective.

Botanical origin and degree of decomposition indicate the material's biological stability in its natural state

A practical beginning for us to simplify peat type by grouping it according to botanical origin, as sphagnum moss, reed-sedge, hypnum, transitional, woody, grassy peat and peat humus. In each of these peat types a range of decomposition is found. However, the identifiable "namesake fiber" dominates its makeup.

This simplification serves us well for root zone mixtures, since each of these general types differs markedly in basic physical and chemical properties, and in the peatland from which they originate.

I advise you to look at each peat type as a potential component in turfgrass applications. Since all have potential benefits, each will perform differently and all are available from North American producers. But this grouping by peat type is only a beginning.

Why differences between peat types for us in turfgrass culture?

Locally available peat types may be initially inexpensive, but may not be physically compatible, especially over time. Some peats are too decomposed or too coarse to match with the selected sand. This affects the root zone mix's mechanical stability, capillarity and structure—free air space and density.

An analogy would be the physical instability and density changes of mixing golf balls and marbles. With any surface activity, a mixture like this would be very unreliable.

Also, some coarse or raw peat materials may not be biologically stable over time and decompose too quickly when exposed to turf practices such as fertility management. This may result in subsidence and surface irregularities, anaerobic conditions and formation of impermeable residues.

(Continued on Page 27)

Peat —

(Continued from Page 26)

Proper selection of peat improves dependability and control of your root zone media.

It is most important for our industry to contract laboratories which use USGA standardized test methods and services which fully characterize the root zone components, including the peat. Our industry has made recent strides in the use of standard methods for organic carbon of the mix (using Walkley-Black, 1960) and ash content of the peat, but that effort is not complete.

Additional emphasis should be placed on organic carbon, particle size distribution and the quality of the peat alone. The quality of the peat fiber can be described by its biostability. The carbon:nitrogen ratio is one good indicator of biostability.

Where peat is used in topdressing or core aerification, the compatibility of these materials to those of the original root zone media is also essential. Laboratory and blending services with peat expertise help us produce superior turfgrass media consisting of quality components for lasting performance.

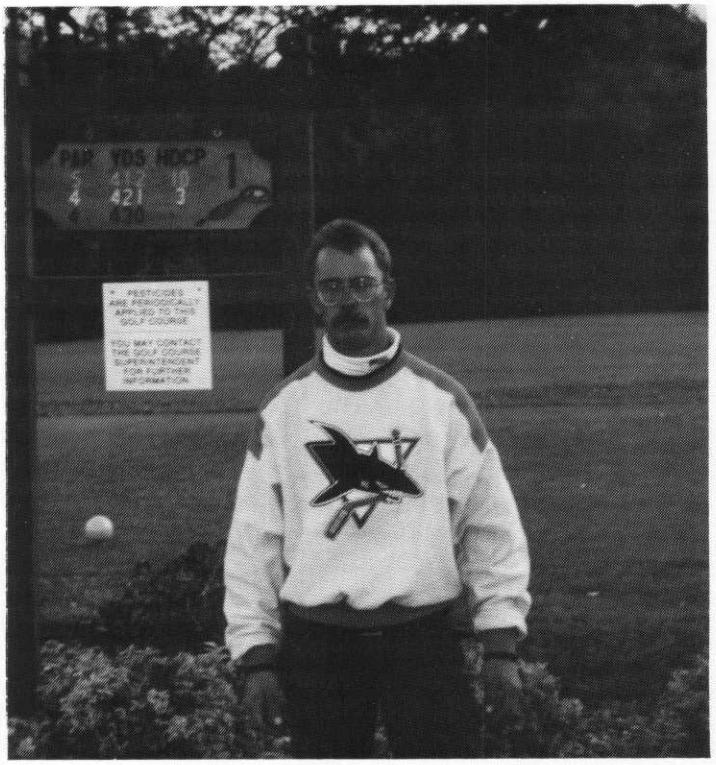
As a golf course superintendent, you may ask, "what are the benefits of being more discerning in my use of peat?"

The use of a specification peat material will ultimately result in lower costs of establishment, maintenance, renovation and general management of your turf. The peat should be consistent, compatible to the sand component in particle size distribution, and free of weed seeds, sticks and phytotoxic residues.

Through proper use of peat, you will realize some of the following benefits in your turfgrass culture and performance: improved green-up and establishment; better rooting stability and wear; reduced compactibility; improved irrigation response and control; better nutrient management; improved gas exchange; increased microbial activity and longer life for your root zone media.

The many benefits and advantages of peat warrant our careful attention to its selection and use in turfgrass culture.

—Grass Roots



Shaughn Erickson of Manitou Ridge

Same Old , Same Old —

(Continued from Page 18)

careful what you wish for, because it may come true." There will always be a golfer who won't be pleased until his opponent misses that downhill putt and it rolls off the green, down the fairway and out of bounds.

I haven't given up hope because the other day a Green Committee Chairman raised this question during the visit: "Wouldn't the greens be healthier if we raised the height of cut from 1/8" to 5/32" but maintained the speed and smoothness by rolling a few times a week and perhaps rolling instead of mowing on Mondays?" Sometimes going the extra mile to communicate and educate pays off.

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MGCSA 66th Annual Turf Conference

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November 16-17-18, 1993
Minneapolis Convention Center

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The 1993 Conference was covered extensively in the September and October issues of Hole Notes. It's going to be our best program ever!

If you have any questions or need pre-registration forms
CALL THE MGCSA OFFICE — 1-800-642-7227

1993-94 MGCSA HOCKEY SCHEDULE

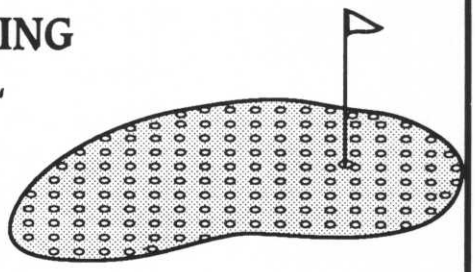
Thursday, November 11	Augsburg Ice Arena	11:30 a.m. – 1:00 p.m. Warm-up first half-hour
Thursday, December 16	Augsburg Ice Arena	11:30 a.m. – 1:00 p.m. Warm-up first half-hour
Friday, January 21	Marriucci Arena	10:00 a.m. – 11:00 a.m. Arena Tour at 9:00 a.m.
Thursday, February 17	Augsburg Ice Arena	11:30 a.m. – 1:00 p.m. Warm-up first half-hour
Thursday, March 17	Augsburg Ice Arena	11:30 a.m. – 1:00 p.m. Warm-up first half hour

All members of the Minnesota Golf Course Superintendents' Association are welcome to play. Helmets with shields are recommended. Ice time courtesy of Associate members of the MGCSA. Join us for lunch at Davanni's afterwards.

A (W)HOLE IN ONE

One-stop shopping for golf course materials

TOPDRESSING MATERIAL



- 80/20, 70/30, or mix to order
- Sand screened with 1mm screen (USGA spec)
- Product blended then rescreened through 3mm screen to assure clean mix

All specs available upon request

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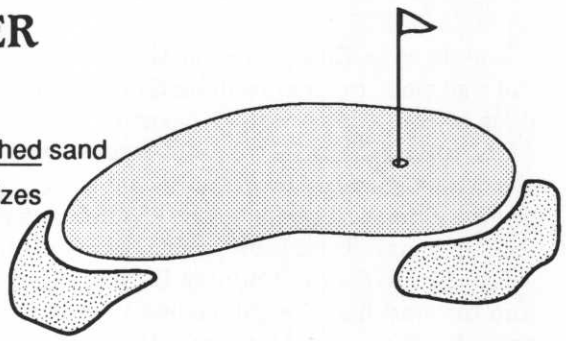
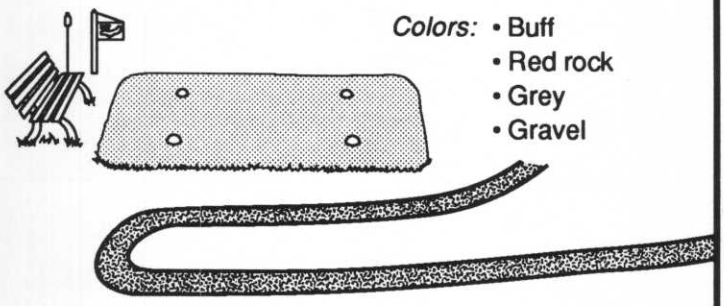


- Clean, washed sand
- 2 particle sizes to choose from

CARTPATH AGGREGATE

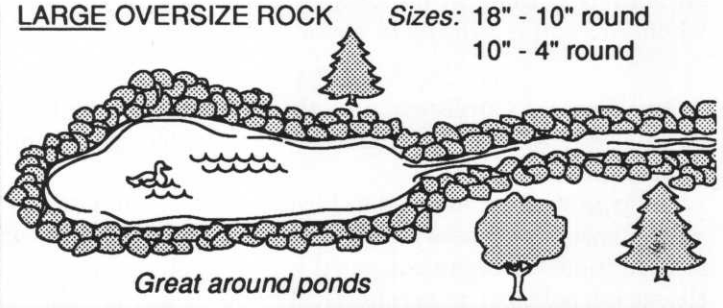


Colors:
- Buff
- Red rock
- Grey
- Gravel

RIP RAP

LARGE OVERSIZE ROCK

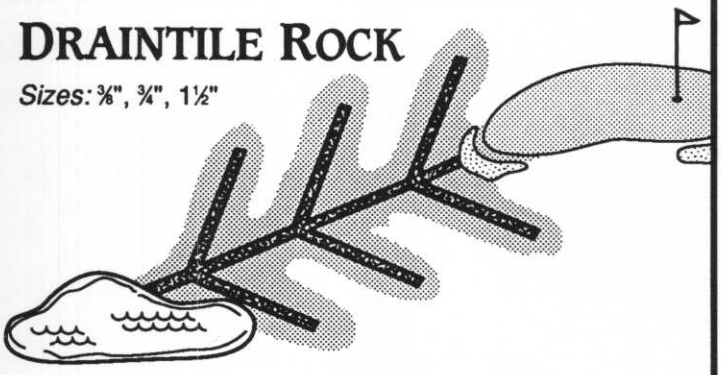
Sizes: 18" - 10" round
10" - 4" round



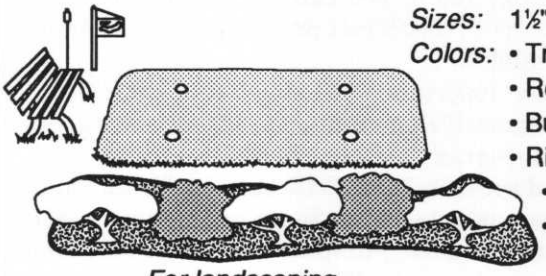
Great around ponds

DRAINTILE ROCK

Sizes: ⅜", ¾", 1½"



DECORATIVE ROCK



Sizes: 1½" or ¾"

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- Trap rock
- Red rock
- Buff limestone
- River rock
- Granite
- Salt & pepper

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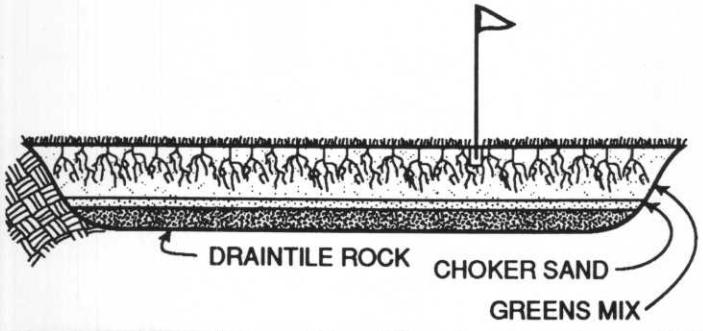
NEW CONSTRUCTION



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EDITOR'S CORNER

By John Harris
Lafayette Club

The drive to Eau Claire for the October MGCSA meeting was made to order by John Granholt, head superintendent at Eau Claire Golf & Country Club.

The rolling hills, the oaks and maples draped in full color, the occasional dairy farm and the morning frost giving way to blue skies and temps in the 60s had a very soothing effect on the mind and soul. (In fact, I almost missed my exit.)

Eau Claire Golf & Country Club typified the day. John and his staff had the golf course in prime condition for a splendid afternoon. All other outings that were missed due to weather faded in the memory banks.

John had five holes of his golf course under water this season, yet little evidence remained of the deluge that was encountered. Congratulations, John, on a fine job, and whomever you're talking to upstairs, let us in on it, okay?

* * * *

Our Annual Conference is about here, and the new downtown location opens this session to a whole new realm of possibilities.

The potential for expansion is very exciting, and as environmental awareness grows, so must our association and related industry organizations if we are to stay abreast of the social, political and economical realities facing today's golf course managers.

Bill Whitworth and Company have laid the groundwork for this endeavor, and as you can see by the agenda you received in the mail, the format provides for some new and significant changes.

Don't miss the opportunity to hobnob with your peers in a new and progressive environment. There is something for everyone this year.

Our featured speaker, Jack McCloskey, had a scheduling conflict and cannot be with us. So we just switched sports teams, and Jeff Diamond, vice-president of the Minnesota Vikings organization, will attend our awards luncheon in place of the Timberwolves' general manager.

Dr. Frank Rossi, Jim Latham and Gerald Farrentino from Cornell University will share their talent and knowledge with us, along with a host of local talent that also will share their wisdom and experience in hosting major tournaments and landscape development.

The trade show will be an event all on its own with plenty of time and space for all. Pull your equipment requirements together for '94 and be prepared to kick some tires.

Thursday night is Hospitality Night, and our vendors will host the tallest of tales of the 1993 season. Fine dining surrounds you from moderate to all-out suit and tie. Check it out.

* * * *

I have received a memorandum from GCSAA President Randy Nichols, CGCS, concerning the members' mailbag column in the Newsline.

This column was set up to provide a forum for members to ask questions, voice opinions and comments, etc. As of early October, only two letters had been received.

On behalf of the CGCM "Newsline", I encourage you to jot down your comments and questions, then forward them to Members Mailbag, 1421 Research Park Drive, Lawrence, Kans. 66049-3859.

* * * *

Finally, it's been a real honor to serve the MGCSA as Chapter Editor. Through the ups and downs of 1993, somehow we all seemed to persevere.

A great deal of this publication's success comes from help from our friends. Without your help, *Hole Notes* would not be the key to communication among our members.

When the Editor of 1994 comes calling, give that person a hand. Your support is needed. Thank you.

—John Harris
Editor