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And, with either the hand-held portable radio or a telephone, you can even command your system from your home, when that’s more convenient.
Edina's Interlachen Country Club is set to host the 34th Walker Cup Match August 18-19. Superintendent John Katterheinrich has the course playing in championship form. Interlachen has played host to the 1930 U.S. Open, the 1936 U.S. Women's Amateur and the 1986 U.S. Senior Amateur.

The Walker Cup competition was begun in the wake of World War I with a view toward stimulating golf interest on both sides of the Atlantic. It grew in part out of two international matches between Canada and the United States, 1919 and 1920.

Simultaneously, British and American players were seriously seeking each other's national championships. In addition, the USGA Executive Committee had been invited to Great Britain for a series of meetings with the Royal and Ancient Golf Club's Rules Committee regarding the advisability of modifying various rules of the game. Among the participants was George Herbert Walker, the president of the USGA in 1920.

Upon the Executive Committee's return to the United States, the possibility of international team matches was discussed. The idea so appealed to Walker that he soon presented a plan for an international golf championship and offered to donate an International Challenge Trophy. When the press heard of this story, they called the trophy the Walker Cup, and the name has stuck.

Early in 1921, the USGA invited all countries interested in golf to send teams to compete for the trophy, but no country was able to accept that year. The American urge for international competition was rampant, however, and William C. Fownes, the 1910 Amateur champion, who had twice assembled the amateur teams that played against Canada, rounded out a third team in the spring of 1921 and took it to Hoyasca, England, where in an informal match it defeated a British team, 9 to 3, on the day before the British Amateur.

In the spring of 1922, the R&A announced that it would send a team to compete for the Walker Cup at the National Golf Links of America, in Southampton, N.Y. The competition originally was conceived as a worldwide affair, involving any countries that might care to challenge. The USGA invited any countries interested in golf to send teams to compete for the trophy. Except for Great Britain, no other country was able to accept the invitation to compete.

Although the United States has clearly dominated the series, the matter of the number of American victories has never clouded the true purpose of the Walker Cup Match. A much higher value has been placed upon the series as a medium of international friendship and the understanding between the R&A and the USGA.

In alternating between the United States and Great Britain, the Match is always scheduled so that the visiting team also can participate in the Amateur Championship of the host country.

The Match was played on an annual basis until 1924, when it was felt that the financial strain of annual matches was too severe, and that interest might drop if they were played too frequently. A decision was made to meet in alternate years thereafter.

After the 1938 Match at St. Andrews, Scotland, the series was interrupted by World War II. When the Match resumed in 1947, St. Andrews was selected as the site again. Under normal circumstances, the Match would have been played in the United States, but the postwar economic conditions would have made the trip difficult for the British.

During the visit to England for the 1951 Match, at Royal Birkdale, representatives of the USGA and the R&A met in London with officials from Australia and Canada, and crafted a uniform worldwide code of rules.

### 1993 MGCSA Schedule

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>The Links at Northfork</td>
<td>Aug. 9</td>
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<tr>
<td>Stodola Tourney @ Hillcrest Country Club</td>
<td>Sept. 13</td>
</tr>
<tr>
<td>Eau Claire Country Club</td>
<td>Oct. 11</td>
</tr>
<tr>
<td>Annual Conference</td>
<td>Nov. 17, 18 &amp; 19</td>
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MEMBERSHIP REPORT
JULY 19, 1993
WHITE BEAR YACHT CLUB

NEW MEMBERS—JULY 19, 1993
Rob Barr                  St. Cloud Country Club  Class A
Jeffrey Linder           Worthington Country Club  BII
Richard Schroeder        Anoka Technical College  C
Chris Wolla               Brightwood Hills Golf Course  BII
Gregory Ulbrich          Brightwood Hills Golf Course  BII
John Doyle                Ringer Corporation  F
Michael Lund              Anoka Technical College  C
Russell Olson            Anoka Technical College  C
Mike Kelly                Glenn Rehbein Companies  F
Todd Domine              Madden Resorts  D
Rod Johnson               Elk River Country Club  BII

RECLASSIFICATIONS—JULY 19, 1993
Daniel Augdahl           Interlachen Country Club  D to C
Richard Carr             Interlachen Country Club  BII to D
George Peterson          Pebble Creek Country Club  BII to B
Troy Johnson             Hudson Country Club  C to BII
Kevin Schmidt            Inver Wood Golf Club  BII to B
Tim Nelson               Clearwater Estates  BII to B

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.

OSHA has released a flow chart to help employers determine if their confined spaces require permits under the new standard.

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Historically, turf rolling was one of the most basic cultural practices utilized in maintenance of turf and was regularly utilized for many centuries. To this day, frequent rolling at intervals ranging from 7 to 3 times weekly is practiced on high quality bowling greens around the world. In their book “Turf for Golf Courses” published in the 1920s, Piper and Oakley stated that rolling is a treatment that should be employed in moderation, especially on putting greens.

“The popular belief that rolling appreciably promotes the growth of grass has been largely responsible for the liberal use of the roller.”

A scientific understanding as to the negative effects of turf rolling on the root zone and indirectly on turfgrass growing conditions evolved in the 1950s. This resulted in a strategy to minimize rolling of putting greens in order to avoid soil compaction problems and resultant lack of aeration that restricts root growth and weakens the turf. These effects are of particular concern on greens constructed of fine-textured, clayey soils.

Turf rolling re-entered the cultural program as an option with the extensive use of high-sand root zones in the construction of putting greens, and this renewed interest is being driven by the desire for fast putting greens. Use of the proper sands, such as the Texas-USGA Method, in root-zone construction results in minimal susceptibility to soil compaction problems. Such root zones may be rolled without imparting detrimental compaction effects, thereby accomplishing improved smoothness and speed of roll. This is of great interest in that the putting speed may be enhanced via turf rolling, which reduces the need to utilize an excessively close mowing height that results in turf thinning and subsequent development of moss and algae problems.

The effects of turf rolling on ball roll distance were assessed with (a) a 3-gang powered mechanical roller by S. Hammon and M. Morris at Crystal Downs C.C., Frankfort, Michigan and (b) a single-weighted powered mechanical walking unit by D. Kenozierski and J. Holmes at the Grand Traverse Resort, Traverse City, Michigan. The pressure applied was 2.2 kg (4.8 lb) per lateral 25 mm (1 inch) for the former and 5.4 kg (11.9 lb) per lateral 25 mm (1 inch) for the latter. Both experimental sites were constructed of a well-drained, high-sand root zone. The turf was composed of mature Agrostis stolonifera subsp. stolonifera (creeping bentgrass), that had a minimum mat accumulation.

The non-rolled putting green ball roll distance at the test sites ranged from 2.8 to 3.3 meters (9.3 to 10.7 feet) during the duration of the study conducted in September of 1992. Five experiments were conducted to assess the effects of:

(a) one-time rolled versus not rolled and (b) 4 intensities of rolling. A single turf rolling resulted in a - 300 mm (1 foot) increase in ball roll distance at both locations when assessed in mid-morning of the same day, with a - 150 mm (0.5 foot) increase in ball roll distance persisting through late afternoon of the same day. Comparisons of rolling intensities of 1, 2, 3 and 4 times resulted in enhanced ball roll distance ranging from 10 to 20 percent at both experimental locations. There basically was no significant difference in effect on ball roll distance between the two pressures of 2.2 and 5.4 kg per lateral 25 mm. These data demonstrate a substantial enhancement in putting green ball roll speed from turf rolling, while also greatly improving the smoothness and uniformity of ball roll. These investigations will be continued during 1993.

Two alternatives to turf rolling that may achieve increased putting green speed include (a) excessively close
mowing and (b) frequent topdressing. However, very close mowing eventually introduces problems in terms of a weakened turf, with resultant thinning that provides openings for moss and algae invasion. Topdressing is more expensive and disruptive of play.

This author first observed a newly developed mobile, mechanically powered turf roller for putting greens over 7 years ago in Melbourne, Australia. It led to authorship of a turf rolling article in the January 1986 issue of Grounds Maintenance. Now after 6 years, the interest in turf rolling of high-sand root zone greens has increased to the point that U.S. turf equipment manufacturers are developing powered mechanical models of turf rolls specifically designed for putting greens. A prime time for use of a turf roller to achieve increased smoothness and distance of ball roll is just prior to tournaments. There is a learning curve of proper utilization of a turf roller, as with any cultural practice being considered for routine use. A significant portion of this technical information remains to be generated.

A primary precaution in the routine use of turf rolling is to employ it primarily in situations where potential soil compaction is minimal, such as high-sand root zones of the proper particle size distribution. Soils with significant clay contents have a much greater potential for soil compaction from turf rolling, plus associated problems in maintaining turfgrasses. This may limit turf roller use at a minimal frequency if at all on clayey soils, and, if used, the turf roller selected should impose a lighter pressure than on high-sand root zones.

Based on the studies reported herein, and especially in view of the golfer’s desire for fast putting greens, it is evident that turf rolling will become a more important and perhaps a significant routine component in the cultural maintenance program of high-sand putting greens. As with any cultural practice, turf rolling should not be viewed as a panacea to solve a multiplicity of problems. Rather, it is one additional component in a range of cultural practices available to turfgrass managers to produce the highest quality surface on a cost-efficient basis, particularly in relation to the smoothness and distance of ball roll.

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<thead>
<tr>
<th>Wet Soil Conditions Demand</th>
<th>To Protect Your Investment</th>
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<tr>
<td>CROWN SERIES: Formulation blended for the Upper Midwest.</td>
<td>Choose the following Crown Series of turf formulations that meets your needs.</td>
</tr>
<tr>
<td><strong>Coach’s Formula For Athletic Fields</strong></td>
<td><strong>Shade Premium Formula</strong></td>
</tr>
<tr>
<td>• “Wear tested” elite Kentucky Bluegrasses and Turf Perennial Ryegrasses.</td>
<td>• Shade tolerant balanced combination of fine Fescues and Kentucky Bluegrasses that tolerate shade and are able to tolerate shade diseases and maintain an attractive turf.</td>
</tr>
<tr>
<td>• Developed with the turf superintendent’s requirements in mind.</td>
<td>• Ten percent Ryegrass provides quick cover.</td>
</tr>
<tr>
<td>• Recommended for athletic complexes, playfields, stadiums, high traffic areas around golf course fairways, tees, shopping centers, picnic areas, and parks.</td>
<td><strong>Sod Growers Premium Formula</strong></td>
</tr>
<tr>
<td>• Meeting today’s demands for a low maintenance quality turf with a balanced combination of Kentucky Bluegrass, fine Fescue, and Perennial Ryegrass.</td>
<td>• Top Quality Kentucky Bluegrasses combined to produce a premium sod.</td>
</tr>
<tr>
<td>• For new lawns and damaged turf around homes, parks, playgrounds, cemeteries, commercial and government buildings.</td>
<td>• At harvest, the turf is attractive, dense, and yet tough, producing a liftable sod.</td>
</tr>
<tr>
<td><strong>Elite Landscape Formula</strong></td>
<td>• QUARTET, blend of four perennial ryegrasses for high wear and quick establishment.</td>
</tr>
<tr>
<td><strong>Shade Premium Formula</strong></td>
<td><strong>Turf Renewal Formula</strong></td>
</tr>
<tr>
<td>• Shade tolerant balanced combination of fine Fescues and Kentucky Bluegrasses that tolerate shade and are able to tolerate shade diseases and maintain an attractive turf.</td>
<td>• Designed to redevelop vigor and beauty of old turf by introducing modern day grasses. This formulation produces fast erosion-resistant cover and helps with “on-time” fulfillment of contracts.</td>
</tr>
<tr>
<td>• Ten percent Ryegrass provides quick cover.</td>
<td><strong>Turf Pride Formula</strong></td>
</tr>
<tr>
<td><strong>Sod Growers Premium Formula</strong></td>
<td>• Developed to produce a “turf proud” lawn which will maintain its premium quality for many years with moderate care.</td>
</tr>
<tr>
<td>• Top Quality Kentucky Bluegrasses combined to produce a premium sod.</td>
<td>• Recommended for home lawns, condominiums, important commercial and government buildings that require high quality turf with moderate to full management programs.</td>
</tr>
<tr>
<td>• At harvest, the turf is attractive, dense, and yet tough, producing a liftable sod.</td>
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Les Bolstad / University of Minnesota Golf Course

- Yes, It’s pretty obvious we have to do everything we can to stay abreast of regulations, safety practices, new materials, precautions, training, disposal etc.

— Scott Hoffman, CGCS
Madden’s on Gull Lake

How are you coping with this summer’s rain?

- Low spots on fairways died out from water sitting there and water coming out of hillsides. Haven’t had the 3” rain. Most rainfall at one time was 1 1/4.” Only closed for one day.

— Charlie Pooch
Les Bolstad / University of Minnesota Golf Course

- Rain and cool weather has made it hard to suppress Poa. Interfered with projects. I drain really well. I don’t even own a pump.

— Scott Hoffman
Madden’s on Gull Lake

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Setting Up a Preventive Maintenance Program

Next time you are tempted to grumble about what a pain it is to track preventive maintenance, consider what breakdowns have already cost our facility.

Idle workers by the side of their disabled truck waiting for a tow truck produced angry customers and overtime to cover the missed work. The cost of new equipment was an unpleasant surprise, especially when you had hoped the equipment would last two to three years longer.

Many Golf Courses make the mistake of thinking that the amount of equipment they have and differing types of equipment make them too small and unique to maintain a preventive maintenance (PM) program. They also believe that a good PM program will be too complicated and expensive to generate any real savings, given their limited resources.

Schedule Inspection Intervals. Establish PM intervals for the different types of equipment you are maintaining. Inspect all equipment and vehicles at certain fixed intervals. These can be time (days, weeks, months) intervals, hourmeter intervals, and/or mileage intervals.

The easiest and most practical intervals to start with for a beginning PM program are time. Base the intervals on an inspection every few weeks or months. Starting with time-based PM intervals eliminates the need to be dependent on meter readings, which much of your equipment may not have. The equipment service manual is a good place to refer for recommended service intervals. The manual will contain the manufacturer’s recommendations for items, such as oil changes, component replacements, and adjustments. If different intervals are suggested for light, medium, or severe service, always use the severe service interval.

Some manufacturers may suggest multi-level intervals that you do not have the maintenance staff to handle. If this is the case, set PM intervals that will maintain clean oil, keep the warranty in force, and guarantee safe operation. Ask your maintenance personnel to contribute input as to optimal intervals.

Sell your staff on the proactive approach of preventive maintenance rather than reactive approach making costly repairs. You can tell them that PM programs have proven their cost savings at every level of equipment maintenance over a broad spectrum of industries and businesses.

Inspection Records. After you set PM intervals, the second step is establishing a PM inspection record. Start this by using a loose-leaf binder, with each page being a PM record for a separate piece of equipment. Enter the equipment number and description and PM interval at the top of the page and enter the date, PM type, and meter reading (if applicable) as each PM step is completed. At the beginning of each week, check each page to see which pieces are due that week.

Alternate methods include using a large blackboard schedule or a PC-based PM software program. Typically, if your equipment base (licensed vehicles, off-road equipment, chain saws, string trimmers, etc.) exceeds 75 units, it will be much more time efficient to use a computerized program.

PM Checklists. The third step is to establish PM checklists to follow the PM for different types of equipment. For example, you may have a 25-step inspection procedure for a pickup truck (change oil and filter, grease chassis, rotate tires, etc.) and only a six-step inspection for a chain saw (check oiler operation, replace spark plugs, sharpen chain, etc.).

Repair History Logs. The fourth step is to establish a repairs history log for each piece of equipment. This can be as simple as recording the date and a short description of the repair in a loose-leaf binder. For a larger equipment base, it will probably be more time effective to use some type of computer-based log. This log is your feedback mechanism to determine if the PMs are being done correctly or alert you to change or fine tune the checklist. For example, if you are seeing a large amount of broken chains in the repair log for your saws, you may want to change the inspection checklist to include, “Inspect for bad links and replace as necessary.”

A preventive maintenance program for your equipment need not be an overwhelming or expanse process. It does take a certain amount of discipline, commitment, and clerical effort. Its benefits in increased productivity and decreased expenses will repay these efforts many times over. Your equipment will last much longer, you will have fewer field breakdowns and major component failures, and your operators will be safer and more productive.

—Sports Turf Magazine