

Course Consulting Service ON-SITE VISIT REPORT



NEW ULM COUNTRY CLUB New Ulm, Minnesota

Visit Date: May 8, 2014

Present: Jan Wallner, Secretary
Tom Furth, Board of Directors
Jeff Gronholz, Board of Directors
Randy Paa, Board of Directors,
Greg Kjellberg, Grounds Chairman
Rick Jensen, President
Jim Schuetzle, Treasurer
Curt Helget, Golf Course Superintendent
Robert Vavrek, Senior Agronomist

United States Golf Association

Robert C. Vavrek, Jr., Senior Agronomist | Green Section | North Central Region
PO Box 5069 | Elm Grove, WI 53122 | Phone: 262-797-8743 | Fax: 262-797-8838 | rvavrek@usga.org

USGA Green Section Mission: The USGA Green Section are leaders in developing and disseminating agronomically, environmentally, and economically sustainable management practices. We help golf facilities maintain better playing conditions for better golf through science-based and practical solutions.

It was a pleasure to tour New Ulm Country Club and find considerable renovation was completed throughout the course since the previous visit. The overall condition of the course was quite good despite an unusually cold winter and an unseasonably cool spring. Fortunately, much less winterkill was seen this spring in contrast to the extensive losses of turf that occurred during winter of 2012-13, perhaps due to the insulating effect of deep, uninterrupted snow cover. Any loss of turf from winter stress has been very slow to recover this spring due to the below-average soil temperatures.

RENOVATION

No doubt, renovation has improved the appearance and playability of the course. For example, the pond improvements provided the fill used to construct mounding around greens. Mounds frame the putting surfaces as well as make recovery shots more interesting and challenging. On the other hand, the heavy soil dredged from the ponds to shape the mounds has been a poor medium for growing turf, which has difficulty rooting into the heavily compacted soil. As a result, the mounds need to be watered frequently during the summer and this makes the greens wetter and softer than they should be.

The best remedy would be an additional set of part-circle sprinklers around the greens that could water the mounds and surrounds without adding more water to the putting surfaces. Most modern irrigation systems employ this design feature, but it would be a challenge to retrofit more sprinklers in the present system due to the limitations of the controllers. Consider consulting an irrigation system designer to determine options for upgrading the current watering system. Small, pop-up sprinklers may be an option for the areas that have developed a history of moisture stress and a link to an article that discusses this topic in more detail is found below.

<http://gsr.lib.msu.edu/1990s/1997/970718.pdf>

Long residual wetting agents, such as Cascade or LescoFlo, may help relieve some of the moisture stress issues across mounds and reduce the need for frequent irrigation. It will be difficult to apply uniform rates of any plant protectants across mounds with a conventional sprayer, so it may be necessary to calibrate backpack sprayer or a lawn care type hand wand to treat steep slopes.

Be sure to water in long residual wetting agents immediately after application to prevent turf discoloration or apply them during a light, steady rain. In addition, try to cultivate the mounds with hollow or solid tines to increase rooting into the soil and to relieve compaction. Steep slopes on mounds, though, will not accommodate standard aeration equipment, so may only be possible to cultivate the base of the mounds.

Mounding creates other maintenance issues, especially where the mounds are located very close to the putting surfaces. Close mounding tends to restrict and crowd maintenance operations and makes it difficult or impossible to turn triplex mowers completely off the green. Turning must be done on the perimeter of the green which can

cause considerable stress to the turf especially during hot weather.

To complicate matters, only one triplex is available for putting green maintenance and it is equipped with groomers. Groomers that thin out turf should not be used along the perimeter cut (cleanup pass) of the greens because the constant turning of the blades and weight of the attachments can cause additional stress to the grass. Most courses have at least two riding mowers set up for greens and a mower without groomers is used on days when the cleanup pass is cut. Turf thinning along the perimeter of greens due to mower stress was observed several times during a tour of the course.



Stress from triplex mowers along the cleanup pass was observed several times during a tour of the course. A unit without groomers should be used to mow the perimeter cut.

Hand mowing would be the best option for the club, especially on the small back nine green, but not feasible considering the current budget limitations. However, a side-to-side style roller may be affordable and a better option versus a triplex roller because of the close mounding and stress along the cleanup pass. Side-to-side units can be operated entirely on the putting surface and turning across stressed areas of grass can be avoided by rolling only the portion of the green around the hole location.



A side-to-side roller can be operated across the central portion of the putting surface to minimize stress to the turf along the perimeter of the greens.

Another triplex mower (without groomers), a side-to-side roller, and a more efficient walk behind aerator, such as the Toro ProCore 648, would be good investments for future equipment acquisitions. The high capacity aerator would be particularly helpful considering the limited amount of labor available for maintenance throughout the season.

Most courses find they need to allocate at least 50% to 60% of the maintenance budget for labor and find that a staff of at least eight to ten employees is needed to maintain the course properly during peak months of play. Wages vary from location to location, but labor budgets of \$200K or more are typically necessary to provide golfers a well-conditioned course for day-to-day play. It is impossible to provide an absolute value regarding what your labor budget should be, but the current budget of \$100K to \$120K is definitely low for the facility the caliber of New Ulm County Club.

IRRIGATION

The irrigation system does not have the ability to control individual sprinkler heads. Instead, watering can only be controlled in blocks of multiple sprinklers; an inefficient configuration that often leads to overwatering portions of the greens during dry weather. As mentioned above, an irrigation consultant would be useful to determine the capacity of the controllers to be upgraded to individual sprinkler head control.

We discussed the advantages of using an accurate moisture meter to measure and monitor water content in the upper soil profile of the greens. Courses that monitor moisture find they are more comfortable keeping greens firmer and drier throughout the season. An increasing number of courses are using this technology to fine tune irrigation schedules for greens as well as tees and fairways. The money saved by using less water and electricity for irrigation pumps can often offset the cost of the meter within a season or two. A popular unit used at many courses to measure water content of the soil can be found in the following link and similar units are available from other sources.

<http://www.specmeters.com/soil-and-water/soil-moisture/fieldscout-tdr-meters/tdr300/>

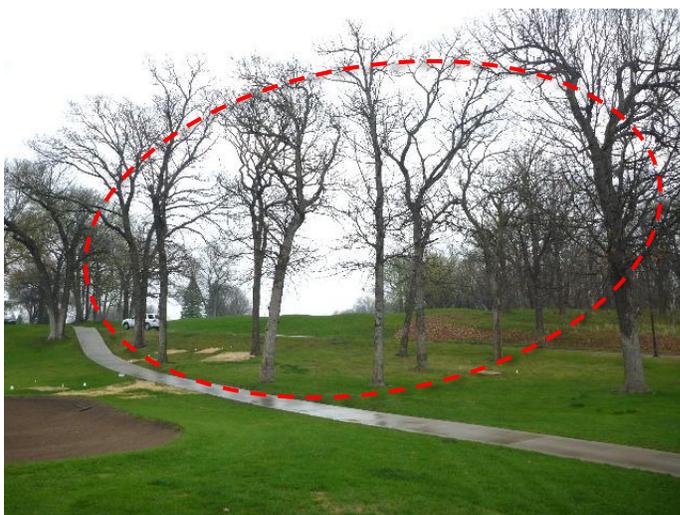
TREE ISSUES

The numerous problems associated with trees planted near greens and tees were a concern discussed during past USGA visits to New Ulm Country Club. The old, existing trees cause problems as well as the numerous trees incorporated into the layout by well-intentioned committees or members who do not fully foresee the detrimental effects of mature trees on the health of the turf.

Trees on the south and east sides of greens and tees cause the most problems because they block morning sunlight. The lack of morning sun can be a serious problem on heavily shaded greens during a long stretch of hot, summer weather. Morning shade can also make turf more susceptible to winter injury by increasing the potential for ice

and snow accumulation. When winterkill occurs, the shaded sites will be the last areas to recover.

It was good to see a number of trees along the left side of the 18th green complex were recently removed. Additional morning sunlight will definitely benefit the turf, but why stop at removing only half the trees that have caused problems in the past? Removing the rest of the oaks between the green and the adjacent hole would further improve growing conditions for turf as well as provide an excellent site for a new practice putting green in the future. In fact, it would be difficult to find a site more accessible to golfers from the clubhouse or the first and tenth tees.



Why not remove the remaining oaks found along the left side of the 18th greens? Clearing this area will improve turf quality on the green and provide a highly accessible site to build a new practice green in the future.

Dense shade always slows down the rate of divot recovery. One option to consider for the most heavily shaded tees is to inter-seed the turf with *Poa supina*. *Poa supina* is an alpine grass similar in texture and color to *Poa annua* but has more wear tolerance and the ability to grow longer into the fall than its weaker cousin. *Poa supina* is used in Europe on soccer fields in cool/cold climates.

The seed is expensive and, like any bluegrass, the rate of establishment is quite slow. Once tees are overseeded through slit seeding or into aeration holes, it may take two to three years for this species to become well established in the site. Once established, it can slowly dominate the stand of turf and provide better wear tolerance and faster divot recovery than other grasses available for use on a heavily shaded tee. A link to one source of seed is:

<http://www.outsidepride.com/seed/grass-seed/bluegrass-seed/supranova-poa-supina-shade-grass.html>

While on the topic of divot recovery, consider using a heavier blend of sand/peat/soil (6:2:2 or 7:2:1 ratio) for the divot repair mix instead of straight sand. The heavier mix will hold more moisture and nutrients than sand alone, which are essential for seed in the

divot mix to germinate. This material is usually available from local suppliers of sand topdressing.

Stockpiles of divot mix will need to be stored onsite, but there is only one sand storage bunker available and it is being used for sand topdressing. Building several more storage bunkers for materials, such as, divot mix, bunker sand, mulch, or drainage gravel would be a good investment.

Shade and root competition from the large oak growing just off the back right of the 10th tee limits turf quality and divot recovery. Mature oaks can be a valuable asset to any golf facility as long as they are located in the right areas of the course. Removing this tree was recommended considering its proximity to the tee.

ORGANIC MATTER MANAGEMENT

On a final note, we observed about 3/4" of dense, dark organic matter accumulation in the upper soil profile of greens sampled during a tour of the course. A healthy stand of turf will constantly recycle plant debris into the upper soil profile when roots, shoots, stolons and other plant parts die back and are replaced throughout the season. Soil microbes decay this excess plant debris and, under ideal conditions, the rate of decomposition can keep pace with the rate of organic matter accumulation. However, in Minnesota, cool or cold weather for at least half of the year will inhibit microbial degradation and the result is excess organic matter accumulation.

Greens with too much organic matter at the surface are soft and tend to hold water for long periods of time after irrigation or rainfall. Footprinting can be a problem, and deep pitted ball marks disrupt the putting surface.

From an agronomic standpoint, a thatchy playing surface often becomes puffy, which makes the turf more susceptible to scalping, particularly during hot, humid weather. The organic matter can clog up pore space and slow down water movement through the soil profile. Over time, nearly all of the root system becomes confined to the upper zone of organic matter accumulation, which makes roots more susceptible to injury from heat, drought, cold temperatures, traffic and other stress.

Aerating the greens with hollow tines and removing the cores before filling the open holes with straight sand is the most effective way to remove excess organic matter from greens. This process removes some of the thatch while the sand filled holes improve drainage and root growth. Hollow tine coring at New Ulm Country Club has transitioned to solid deep-tine cultivation during the past several years and this may be partly responsible for the organic matter buildup.

Deep-tine aeration is certainly beneficial to the greens and it should be scheduled every one to two years. However, standard coring operations with small 3/8" hollow tines during May when recovery is a bit slow due to cool soil temperatures is recommended. In addition, coring with larger 1/2" hollow tines is recommended between late August

and mid-September to remove more organic matter from the upper soil profile. Late summer aeration will also stimulate root growth after the peak months of play. Always schedule the late season aeration early enough to ensure the holes completely heal over before winter. As mentioned above, purchasing a more sophisticated walk behind aerator would reduce the disruption to play and utilize labor more efficiently. An aggressive program of coring is important, because recourses are often too limited to adequately topdress greens every two to three weeks during the season or topdressing was suspended during periods of winter injury recovery. In effect, the extra coring needs to compensate for a lack of sand topdressing in recent years.



Coring greens with hollow tines twice a season will help remove the dark layer of organic matter accumulation observed in the upper inch or so of the greens.

CONCLUSION

This concludes a summary of the major topics of discussion during our visit and tour of your golf course. Thank you for your interest and support of the USGA Turf Advisory Service. We look forward to continuing and improving our relationship with New Ulm Country Club in the future. If there are any questions regarding the recommendations made in the report, feel free to contact the North-Central Region office at 262-797-8743

Sincerely,

Robert C. Vavrek, Jr.
Senior Agronomist, North Central Region

RCV:

Curt Helget, Golf Course Superintendent