

United States Golf Association

North Central Region

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**USGA GREEN SECTION
TURF ADVISORY SERVICE REPORT**

**MIAMI VIEW GOLF CLUB
Miamitown, Ohio**

Visit Date

Tuesday, August 2, 2011 at 8:00 AM for One Half Day

Present

Joel Appling, Green Chairman
Bill Arnold, Board Member
Chuck DiMuzio, Committee Member
Tim Hinkel, Committee Member

Bob Hoffman, Committee Member
Jim Riley, Superintendent
Bob Brame, USGA Dir. /Agronomist

Statement of Purpose: *The purpose of the USGA Green Section TAS is to assist subscribing courses in matters of agronomic management. All recommendations are offered free of bias, since the USGA has no connections or obligations to any manufacturer, supplier, or contractor. Additionally, since "quick fixes" seldom result in permanent improvement, some of the recommendations in this report may not be easy to implement and could take more than a single season, but would produce dramatic results.*



Some very nice improvements have been completed since our last visit. The new practice facility (photo below), in particular, was an excellent investment/addition. It was also good to find that significant tree removal has been completed to improve turf quality and overall course playability. Well done!



The fact that the Club has a waiting list and a heavy volume of play is indicative of a good value. That is, members are clearly happy with the value they are receiving based on the heavy play and a waiting list to join. Understandably since, while there are a few recommendations to follow that will strengthen the maintenance package, steady progress has been made over the years. The following is therefore offered as a summary of observations made and major topics discussed during our visit, with the intent being to build on the existing maintenance package and strengthen the final product being presented.

GREENS

Physical Analysis

To better monitor and guide the ongoing maintenance of greens submit an undisturbed profile sample of one average green to an accredited physical analysis laboratory. Be sure to ask the



laboratory to zero in on the top two-inches of the undisturbed profile column. The intent is to quantify aeration versus capillary pore space, along with the percent organic matter. As we discussed, finer particles are introduced with aging and organic matter accumulates with growth. These two negatives will gradually compromise needed aeration pore space for an ever increasing percentage of the smaller capillary pore space. The end results will be weaker plants, shallower rooting and more moisture holding in the upper profile. By quantifying the existing attributes core aeration and surface topdressing can be adjusted to improve the structure, and cross comparing in the future will better chart how aging, growth, topdressing and aeration are impacting the profile structure and the resulting turf quality. Send our office a copy of the representative physical analysis, when it is received, for any appropriate follow-up comments.

Aeration

Until physical analysis indicates otherwise, core aerate all of the greens at least three times each year. The proper time slots are early to mid-September, late April/early May and early to mid-October. Each of the three coring operations should include plug removal and channel filling. The use of ½-inch coring tines should work well, although a larger ⅝-inch tine could be used in mid-fall.



Research has shown that at least eighteen and preferably twenty percent of the surface area of greens should be impacted by coring each year. Thus, there is some flexibility with the number



of treatments depending upon the tine size and spacing. Yet, the tine size should be large enough to accommodate channel filling, which eliminates $\frac{1}{4}$ -inch and even $\frac{3}{8}$ -inch is very difficult to completely fill.

Core aeration will remove some of the existing accumulation of finer particles and organic matter (photo page three), while reestablishing a uniform grid of channels with enhanced porosity via the filling of channels following plug removal. As we discussed, schedule the target dates on the Club's calendar before golfing events are added and then insert an alternate date one or two weeks later. If both the target and alternate dates are compromised by weather conditions the policy should state that the work will be done the very next day that conditions allow. Less than three treatments should not be viewed as an option, as the coring of greens is more important than any one golfing event.

A minimum of one deep aeration each year should be continued. Ideally insert the deep aeration, utilizing $\frac{1}{2}$ -inch solid tines, immediately in front of the early to mid-October coring. This allows the benefits of both treatments to be achieved during a single window of scheduling. While the deep aeration does not have the same value as shallow tine coring, plug removal and channel filling, it does offer a beneficial loosening and opening of the middle and lower profile.

It was good to find that the fourth and sixth greens have had drain tile installed. However, drain tile will not eliminate the need for coring or deep aeration. Yet, the combination of proper aeration and drain tile will enhance water management efficiency.

Topdressing

While core aeration is curative with regards to finer particle and organic matter accumulation in the upper profile, further expanding surface topdressing between aerations offers preventative value. In other words, when surface topdressing between aerations is uniform enough to properly integrate aging and growth the stage will eventually be set for less intense coring. For now and the next ten to fifteen years both coring and topdressing will be needed, and topdressing should be expanded from the existing frequency.

A light rate application each week through the summer, followed by moderate rate applications every couple of weeks over the fall and spring, will work to uniformly integrate the never-ending accumulation of finer particles and organic matter. A total of between thirty-five and fifty cu-ft of sand per thousand sq. ft. should be incorporated into the greens each year. This volume includes the sand worked into aeration channels and the volume applied to the surfaces between aerations. Thus, the above recommended expansion of core aeration will in and of itself significantly increase the amount of sand being incorporated in each year. When topdressing is further expanded to light rate applications each week through the summer and moderate rate applications every couple of weeks over the fall and spring, the desired volume of sand will be achieved and serve to enhance the attributes of the profile structure.



Dry sand, a spinner type spreader and a method of keeping the sand dry onsite will combine to ensure good efficiency with surface topdressing. In addition, be sure to accurately record the amount of sand being applied so that it can be cross compared with visual observations and representative physical analysis.

Mowing

To maximize topdressing efficiency and overall turf health, stay at a 0.140 to 0.145 bench setting with solid front rollers all year-round. Raising and lowering the mowing height will impact turf growth, and typically the impact is negative. Maintaining the same level all year-round will develop equilibrium between leaf tissue and root mass. In addition, the recommended mowing height will better accommodate light topdressing applications each week through the summer with no need for abrasive follow-up and no sand found in mower baskets the next day. As the volume of sand being worked into the upper profile is increased via the recommended expansion of topdressing and higher mowing height, not only will turf health be improved, playability will also be made more consistent. In fact, there will often be a faster pace at the higher cut and more efficient topdressing as compared to the previously lower level and less than efficient sand topdressing. The key is making the adjustments and then maintaining consistency moving forward.

Fans

Maintaining positive airflow across the turf will both cool and dry the surface. Ideally improving air movement should be done by tree and underbrush removal. However, there are sites that are limited by the surrounding terrain. In such situations a quality turf fan can be a very good investment. We discussed the value of a fan on thirteen (photo page seven). The eighth green is another site where a quality turf fan could have value. The fourth and sixth greens are also in pocketed environments which make a fan worth serious consideration. Start by installing a fan on thirteen and if the environment can be improved over time with tree removal the fan can be relocated or sold.

Fairy Ring Disease Control

Gaining curative control of fairy ring (e.g. photo right and page six) can be very difficult. The Prostar that was used is commonly at the top of the list, although not always with good consistency. Next season try adding Bayleton to the spray rotation before fairy ring develops. Research and field observations have shown that two Bayleton applications before fairy ring develops will typically eliminate or at least reduce severity.





Plant Growth Regulation

While a soil active regulator like Cutless or Turf Enhancer/Trimmit will help slant the competitive edge towards bentgrass and away from *Poa annua*, this is contingent upon maintaining the upper profile dry and summer heat. In other words, a soil active regulator will have more value in enhancing the bentgrass population when used during the summer, and when combined with a philosophy of maintaining the upper profile on the dry end of the continuum. As such, before expanding the use of a soil active regulator spend a few years improving the upper profile structure via expanded core aeration and surface topdressing. This will set the stage for more efficient usage of soil active regulation with less negative side effects.

TREE MANAGEMENT

While the extensive selective tree removal that has been completed since our last visit has been very good, more is needed. Start by removing all trees that inflict morning shade on putting surfaces. High on the list would be the thirteenth green (photo page seven) that is shaded well into the morning hours. While the above referenced use of a turf fan will improve the grass-growing microenvironment, tree removal is needed to maximize morning sunlight. The same is true for the practice putting green (photo right) and, again, any putting surface that is shaded in the morning.

The principles outlined in our last report to the Club remain valid and in fact, there has been both an adjustment and addition. The adjustment occurs in that trees should not be allowed to overhang greens, tees, fairways and/or bunkers. The addition in that trees inside cart paths are too close. As a package the five principles are listed below.

- **Do not allow trees to block morning sunlight penetration and/or prevailing air movement across greens, tees and/or fairways.**
- **Do not allow trees to overhang greens, tees, fairways and/or bunkers.**
- **Do not allow two or more trees to grow into each other unless it is a defined woodland.**
- **Do not allow trees to compromise/camouflage permanent design features like mounding, bunkers, lakes and overall terrain contours.**
- **Do not allow trees inside cart paths when paths are properly located.**





Utilize the principles to develop a compressive list that can then be prioritized to guide funding. Clearly, those trees compromising putting surface microenvironments should top the listing. In the final analysis, quality tree management, which involves selective removal, is vital to quality golf turf management.



IRRIGATION

It was good to hear that adjustments are being made to the irrigation to maximize efficiency. Like mowers or any other piece of maintenance equipment, irrigation systems must be maintained and even then they will eventually need to be replaced/upgraded. Nozzles are commonly a primary cause of coverage uniformity falling off. As such, on sites where dry spots are a common occurrence take the time to carefully evaluate coverage uniformity via catch can testing. Sometimes relocating sprinklers and/or changing nozzles can make a big difference in coverage uniformity. This does not change the importance of hand watering and hand syringing, but a good irrigation system will reduce the intensity of both hand watering/syringing and help push toward the dry end of the continuum.

ROUGH

Where weakening and loss in the primary rough has forced the need to seed, go with a blend of bluegrasses and turf-type tall fescues. Late August through mid-September is the best time for seeding. Be sure to select bluegrasses that have tolerance to Prograss so that the herbicide could occasionally be used to remove *Poa annua* encroachment.

Time was spent reviewing rough quality right of twelve approach. The concentration of foot traffic on and off the green, along with poor surface water runoff, is compromising turf density. While it will be virtually impossible to eliminate the traffic pattern concerns, water runoff can be improved by opening/constructing a wide and gradual runoff swale. Drain tile can be expanded into the valley of the swale so that the combination will speed water movement and help guard turf quality.



The area of rough left of two approach is similar to twelve in that it is a combination of traffic and drainage that is compromising turf quality. We discussed the value of expanding the cart path a bit closer to the green, but the key to improving turf quality is establishing a better swale basin, and relocating the drain tile inlets so that water is better contained and directed into the tile system. Once this has been done the area can be either seeded or sodded. Curbing could be installed along the path to ensure that players stay on the paved surface but, again, improving drainage or water management is the first step towards improving turf quality.

PRACTICE RANGE TEE

As previously mentioned, the new practice range is an outstanding improvement. It was very good to find that a row of artificial mats have been installed along the back of the practice range tee (photo right and page two), to enhance flexibility during inclement weather or when the natural turf needs to be renovated. Stay with the existing use of Penncross bentgrass to seed divot scars, along with the 6-2-2 (sand-soil-peat moss) divot filling mix. To the extent possible, stay on a hitting line until more uniform wear is present in an effort to maximize the time for other areas to recover. We also discussed the importance of removing weed encroachment so that the bentgrass will cover divot scars as quickly as possible. The herbicide Drive should offer good postemergent control of crabgrass and SedgeHammer will knockout the nutsedge.



WRAPPING UP

Recognizing that water management is a, if not the, key to quality golf turf conditioning, maintain a firm resolve with the core aeration of putting surfaces. When adequate coring is combined with expanded topdressing and a higher mowing height it will strengthen the final product. Yet, improving sunlight and air movement on sites where one or both are limited will also be needed to maximize quality/dependability.



As always, don't hesitate to call or email should concerns arise that we can assist with. All the best for the remaining season ahead.

Sincerely,

R. A. (Bob) Brame, Director
North Central Region

RAB/rrb

**Positive air
movement across
the turf is important
for cooling and
drying.**



Cc: Jim Riley, Superintendent
Joel Appling, Green Chairman
Dave Steinriede, President

Enclosures:
Chemical Control of Turfgrass Diseases 2011 (Supt. Only)
Physical Soil Testing
Accredited Physical Soil Testing Labs
Aeration: Needed More Today Than Ever Before
Giving Turf the Breath of Life
Fairy Ring 101
Fairy Ring – Purdue
Let There Be Light!
Does Your Irrigation System make the Grade?