IN SEARCH OF THE PERFECT GOLF COURSE

"Perfection has one grave defect; it is apt to be dull." — W. Somerset Maugham

BY JAMES H. BAIRD

Have golfers gone too far in their quest for perfect bunkers?

It has become routine to hear golfers state that "the course down the road does not aerate, always has fast greens, and never loses a blade of grass" in spite of the worst weather that Mother Nature could dish out. In other words, the course is perfect! Considering that the Green Section visits roughly ten percent of the more than 17,000 courses throughout North America, could it be possible that we have not seen this utopian golf course? After all, is there really any need to ask for assistance when you're perfect?

Well, if you're into lists of who's the best, then you'll be interested to know that, at one time or another, the Green Section has conducted Turf Advisory Service (TAS) visits on 93 out of a popular golf publication's America's 100 Greatest Golf Courses for 2003-2004. Are all of these golf courses great? You bet. Are they perfect golf courses? Hardly, but first let's define *perfect*. According to Webster's Dictionary, *perfect* is "being entirely without fault or defect." How then, could 100-200 acres of highly trafficked turf, trees, water, and sand ever be considered perfect? Judging by golfer complaints and demands that prompt many TAS visits, it seems no longer acceptable to have even the smallest area of brown, thin, or bare turf anywhere on the golf course, or turf disrupted by cultivation practices (i.e., aeration), or imperfect lies in bunkers or rough, or earthworm castings, just to name a few.

It is about as unrealistic to expect perfect conditions on the golf course as it is to expect a perfect 18-hole score in golf. More importantly, one has little to do with the other. Then, why is it that some outside agent (possibly poor course conditions) is frequently blamed for a poor round of

golf, whereas good conditions rarely get the credit for a great round? By definition, there can be no such thing as a perfect golf course; however, some are less imperfect than others. This article discusses the key elements that can help improve your golf course as well as those that make perfection a very lofty goal.

ARCHITECTURE

Like them or not, various lists or rankings of the "best" golf courses tend to recognize one nearly indisputable characteristic — great architecture. Classic courses designed by the likes of Banks, Emmet, Flynn, Macdonald, Raynor, Ross, and Tillinghast are "perfect" because they were meant to be imperfect. They were natural before natural was in style, shaped largely by the hands of Mother Nature. Some golfers now realize the beauty in the imperfection and embrace it. Features like tall, sparse grass growing in the rough and around jagged-edged bunkers, and firm, fast, and sometimes brown turf are expected. For others, these are the very signs of a golf course gone awry or a superintendent not doing a good job. Courses like these are the antithesis of the manicured, resort-style golf course or many of those seen on television. The bottom line is, regardless of architectural preference, courses do not have to be perfect to be good.

Although shale does not represent the best golfing soil, it is indicative of the poor soil upon which many golf courses are built.

ENVIRONMENT

"I don't want to hear any excuses about the weather," exclaims the perfectionist golfer. After all, bad weather has no effect on a perfect golf course. What golfers like this fail to realize is that no two golf courses, however close in distance, ever have the same weather conditions, topography, vegetation, growing environments, and soils. Come to think about it, the same holds true for different locations on any single golf course.

Most golfers, perhaps because of their nature, view the world and their golf course as being black or white. If the golf course is green, it's great. If it's not, there's a problem. When it comes to the weather and managing closely mowed turf, golf course superintendents operate in a world of gray. Slight but sudden changes in precipitation, temperature, humidity, and wind can swiftly turn otherwise healthy turf into wilted, diseased, or dead turf. Extreme weather such as extended periods of drought, rainfall, high or low temperatures, and ice cover almost always produces deleterious effects on turfgrass, regardless of the species, experience of the superintendent, or chemical budget. Like it or not, the quality of your golf course is at the mercy of Mother Nature. So if you can't control the weather, what can you control?

IMPROVE THE GROWING ENVIRONMENT

Show me a putting green that receives ample sunlight and air movement, well-dispersed traffic, and is free from tree root competition, and I'll show you a green that is healthier (i.e., better able to tolerate lower heights of cut), more tolerant of pests (i.e., requires fewer pesticides), and one that has the best chances of ducking Mother Nature's best punches. Sounds too good to be true? On many golf courses it is a fact. The presence of trees or poorly placed mounding and bunkering restrict light and traffic flow, and invite the encroachment of weeds like annual bluegrass (*Poa annua*). Although this species is ubiquitous across North America and perennial biotypes can produce an excellent putting surface, in general it is more prone to disease and environmental stress compared to bentgrass or bermudagrass.

On top of that, golfers want fast greens, not just on weekends or for the club championship anymore, but every day. Annual bluegrass weakens as a result of the low height of cut and stressful weather. In the summer, it usually dies as a result of fungal pathogens such as anthracnose, insects such as the annual bluegrass weevil, or simply from being too hot, dry, and/or wet. In the winter, it is usually first to die from direct low-

temperature injury or extended periods of ice cover. The potential for these problems is increased by poor growing environments.

Removing trees that impede sunlight, air movement, and/or uptake of water and nutrients by turfgrass roots is imperative for the health of the turf and achieving a nearly perfect golf course. Trafficked turf requires at least 8 hours of sunlight each day for growth and recuperation. Approximately half of this amount should occur during the morning when photosynthesis is optimum and to help reduce the potential for disease outbreak by helping to dry out the turf canopy. In the northern hemisphere, morning sunlight is favored by removing trees in the east and south directions from the green, tee, or fairway. Keep in mind that the sun rises directly from the east and sets directly in the west during the vernal and autumnal equinoxes only. During the summer solstice, or longest day of the year, the sun rises and sets the farthest from south and its position is highest in the sky. The opposite is true for the winter solstice, or shortest day of the year.

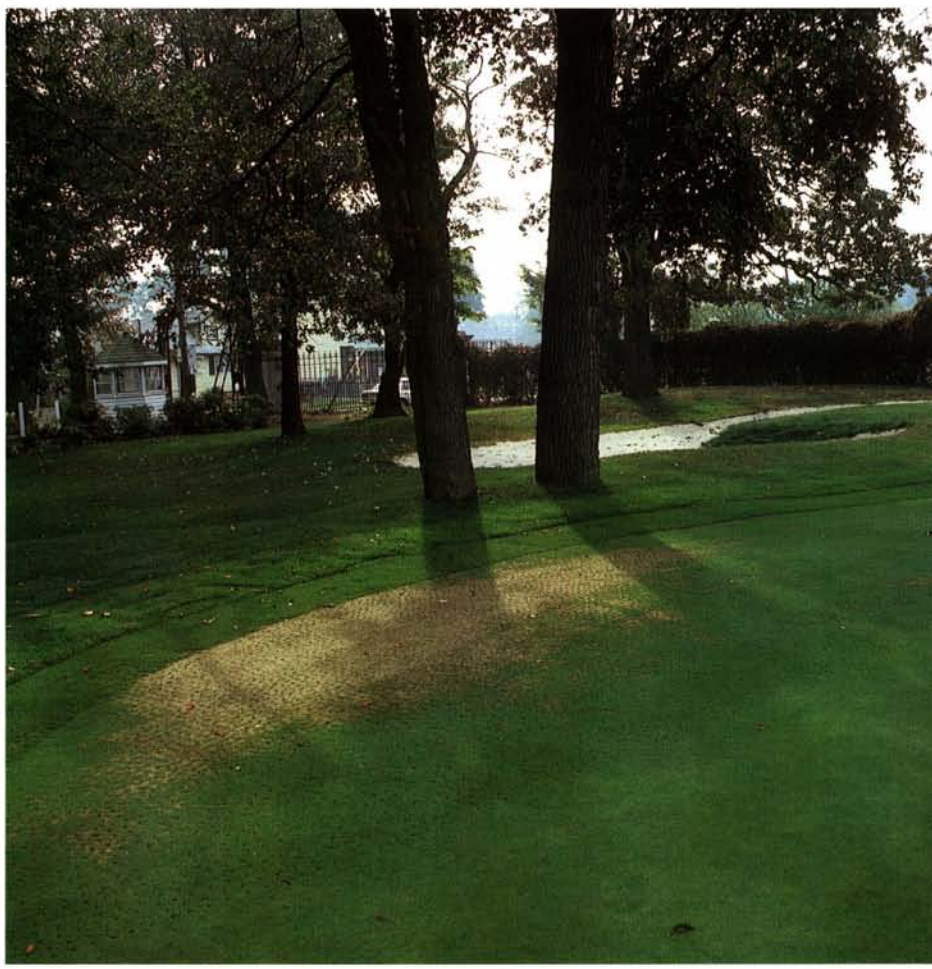
These facts are important to keep in mind when addressing sunlight issues during shorter days of the year when trees located farther to the south of a putting green are likely to block sunlight. Also, don't forget about removing trees that prevent air movement by blocking the direction of the prevailing wind, as well as those trees that were planted too close to a green, tee, or fairway in regard to root competition.

SOIL

Who better to sum up the importance and diversity of soil on golf courses than the legendary architect Donald Ross, author of *Golf Has Never Failed Me*. "A sandy loam is by far the best golfing soil. It provides good drainage and ideal conditions for strong, enduring growth of desirable grasses. It likewise furnishes the exact conditions necessary for the proper playing of golf shots. Soils of a clay mixture are to be avoided if possible. They are difficult to drain and must be given much costly attention to produce satisfactory turf. During the hot months, they are hard and baked. After rains they are apt to be overrun with worms. Unfortunately, such soils are found near a large portion of our major cities."

Next time you are about to pass judgment about the condition of one course versus another, first compare the soils underneath. While the better golf course may be blessed with well-drained native soil that may even meet the USGA recommendations for putting green construction, far more golf courses possess something that is not even worthy of being called "dirt."

How can courses improve poor soil? Usually, the first step is to develop and adhere to an aggressive cultivation program that includes aeration, topdressing, and vertical mowing. Aerating machines can be equipped with solid or hollow tines of various diameters that punch holes into the soil at depths ranging from a few inches to more than one foot below the turf surface. Sand topdressing is recommended to fill the holes and the turf surface to help modify the existing soil by improving infiltration and percolation of air and water into the rootzone and to help reduce compaction. Sand topdressing also helps to reduce thatch accumulation by dilution and, in time, provides firmer, smoother, and therefore faster putting surfaces. Although it is a considerable and long-term investment, many golf courses are now topdressing fairways along with greens and tees in order to improve drainage and playability as well as to discourage earthworm



What's wrong with this section of the green? This is a good example of how removing trees can improve the growing environment on this green by increasing sunlight and removing root competition for water and nutrients.

activity that results in castings on the turf surface. As Donald Ross further commented about poor soil, "In such cases you must simply make up your mind to accept the limitations of such a course and be prepared to cheerfully and continually spend money for its upkeep and betterment."

BUDGET

Money can't buy love or the perfect golf course, but, if spent wisely, it can help produce a better golf course. Starting with the infrastructure, today's state-of-the-art pump stations are capable of delivering more water in a shorter amount of time while using less energy. Ultimately, this results in a drier golf course with less potential for disease and, of course, greater savings for the golf course.

Likewise, new irrigation systems consist of a greater number of smaller sprinklers spaced closer together with individual control to better account for site-specific water requirements based upon different growing environments, turfgrass species, and mowing heights. In dry climates or during extended drought, a good irrigation system is critical to keep the golf course green but not wet. Otherwise, plan on paying overtime or hiring more staff to chase dry spots all over the golf course.

Another option is to simply tolerate areas of brown turf on the golf course. According to Donald Ross, "I realize the difficulty that greenkeepers and chairmen of the green committee have in letting up on the watering. Criticism comes from members when they see the slightest sign of a brown patch. Nevertheless, while I do not think it is wise to let a green go completely out of playing condition during the summer, it would be advisable not to overdo the watering of greens during those months." On the other side of the coin, the importance of having adequate drainage cannot be underestimated, as many golf courses in the Northeast and elsewhere discovered last season during one of the wettest summers on record.

Concentrating traffic on the golf course using plant or artificial materials leads to excessive wear and little or no turf.

LABOR

More than half of most golf course maintenance operating budgets is comprised of labor (salary and benefits). Therefore, the condition of the golf course is often a direct reflection of the resources that are allocated for personnel. The golf course management team should consist of an experienced and well-qualified superintendent, at least one but often two or more assistants to handle important responsibilities like crew supervision, application of chemicals, and maintenance and scheduling of the irrigation system, and at least one qualified equipment technician to oversee the maintenance of a fleet with a value in the neighborhood of $1 million. Of course, if you want those bunkers raked every day, rough mowed twice a week, and someone else to repair your ball marks and divots, then make sure that there is an ample supporting cast as well. Instead of guesstimating whether or not you have the right number of employees for your golf course, one suggestion is to first convert the line item format of your operating budget (i.e., labor, fuel, chemicals, etc.) to reflect the cost of maintaining each part of the golf course (i.e., greens, tees, fairways, bunkers, etc.). With numbers in hand, next work together with your green committee, board of directors, or ownership to develop a golf course maintenance master plan. In other words, determine which areas of the golf course are most important and the level of maintenance each requires. Is walk mowing the greens (vs. riding) or topdressing them more frequently more important than hand-raking bunkers (i.e., hazards) every day? Although these exercises may indicate the need to hire more employees, more than likely they will help your golf course get the most out of the existing staff, given the current economic challenges and budget cutbacks.

EQUIPMENT

It is surprising to find that many golf courses do not have a capital budget to be used toward the replacement of equipment and general upkeep of the turf care facility. Although you will likely pay more for a new fairway or rough mower than a nice new sport utility vehicle, don't expect that they will last forever, as most heavily used machinery (e.g., mowers, utility vehicles, etc.) lasts about 5-7 years before the need for parts and repairs keeps them in the shop more than out on the golf course. As a starting point, at least 10-15% of the total replacement cost of your current

equipment fleet should be appropriated toward the purchase of new equipment each season. If you cannot or choose not to tie up all that money in working capital, then leasing equipment is another option for maintaining a newer and technologically advanced fleet.

TURF CARE FACILITY

Do not forget about the turf care facility. "What's that?" you say. On far too many golf courses, I'm referring to the dilapidated barn that's too small to house all of that expensive equipment, not in compliance with government regulations for pesticide storage and handling, and a poor reflection of the quality of your golf course and the professionalism of your superintendent. Golfers expect nothing less than the best from the clubhouse facility. Do the same for the turf care facility.

GOLFERS, CARTS, AND TRAFFIC

Is it any wonder that there is no such thing as a perfect golf course when golfers fail to repair ball marks and divots, rake bunkers, and follow cart traffic policies? Increasing use of golf carts, especially in conjunction with inclement weather, has resulted in greater turf wear and compaction which, as described earlier, promotes annual bluegrass encroachment and all of the challenges that go along with it. At most courses, gone are the days when the golf course gets a much needed rest from golfers each week or even once a month. Instead of rejuvenation from aeration or other cultivation practices, ball marks and divots abound from golfers in double shotgun outings.

When it comes to etiquette, set a good example by properly repairing more than one ball mark upon reaching the green, picking up your feet when walking to avoid scuffing the turf, and reaching down to pick the ball out of the cup instead of damaging the lip with your putter. In regard to divots, follow the instructions provided by your superintendent. Thick pieces of turf usually will recuperate if properly replaced and tamped down into the divot. Otherwise, fill and smooth the divot with mix (if available) to the level of the turf, avoiding the creation of a mound several inches above it. Take the time to rake bunkers and then place the rake alongside the bunker in a location that is parallel with the line of play. In addition, scheduling times when the management team is present on the golf course to demonstrate proper etiquette to golfers has brought about positive results on many golf courses.

CONCLUSION

These and many other factors determine just how nearly or not so nearly perfect your golf course can be. Although you cannot fool with Mother Nature, you can help ensure the best possible turf and playing conditions day in and day out by improving growing environments, performing essential cultivation, and providing the resources and infrastructure necessary to meet reasonable golfer expectations. Save the unreasonable expectations for that mythical perfect golf course that exists somewhere out there. Instead of trying to be *the* best, just be *your* best.

Striving for a perfect golf course should begin with proper etiquette.

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