

With spring comes renewed sense of optimism

As I write this, the icy fingers of winter are loosening their grip. The snow is receding, I can see patches of brownish green sward and temperatures are forecasted to reach the 60s this weekend.



Andrew Overbeck, editor

This means two things: 1. My wife and I have reached a détente over the proper thermostat setting in our house (for some reason my argument that, "If it was 60 degrees outside you'd be out there wearing shorts," never goes anywhere); 2. A new golf season is on the horizon.

By the time this issue is published, golfers will be peppering superintendents with questions like, "How come this place isn't as green as Augusta?" But you can't blame them, and I doubt many of you will. After this brutal winter, golfers and superintendents alike are itching to get back on course, eager to see what a new season holds. With spring comes a renewed sense of optimism.

From the Midwest to the Mid-Atlantic to the Northeast, much of the country got pounded this winter. Places that usually don't

get much snow got dumped on: parts of Pennsylvania, Virginia, Indiana, Ohio and North Carolina got 80-plus inches of the white stuff.

The snowfall totals for the eastern half of the country, however, are

welcome news. Groundwater supplies, depleted by last year's drought, have been recharged. Instead of starting the season under water restrictions, this year courses will gladly tolerate a prolonged "mud season."

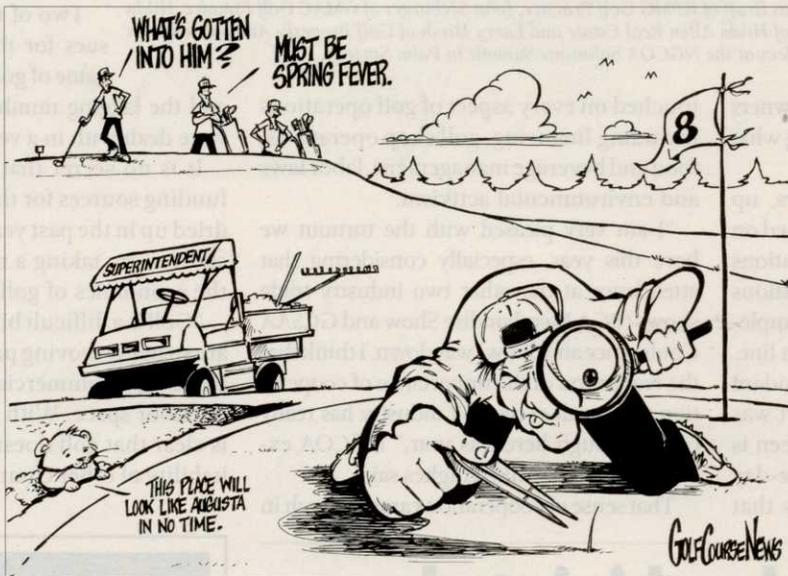
Golf course operators are looking forward to relieving pent-up golf demand as well. Because of last year's drought and a longer than expected winter, there should be plenty of golfers ready to hit the first tee once courses re-open. This could give many courses the revenue spike they sorely need.

While the Eastern half of the country is counting its collective blessings this spring, the drought situation out West is becoming increasingly dire. Throughout parts of the

Southwest, Mountain West, Northwest and Central Plains, drought worries will loom large this year. Water restrictions are already being shaped in Nevada and many of Colorado's reservoirs are less than half-full, despite higher snowfall totals.

through the season.

We here at *Golf Course News* know that superintendents are a creative lot. Now we're going to prove it. In our new monthly feature, SUPERideas, we will showcase a superintendent and their innovative idea (see page 6). If you



Although the City of Denver has reopened its courses after closing them due to drought conditions in January, it will clearly take much more than optimism for courses out West to make it

have a SUPERidea you would like to share, e-mail me at aoverbeck@golfcoursenews.com. If we publish your idea, we'll send you a *Golf Course News* golf shirt. They are available in three colors: white, white and white.

POINT

Three good reasons to stick with USGA greens

By JAMES FRANCIS MOORE

As most are aware, the tremendous boom in golf course construction experienced over the past decade has resulted in thousands of new courses across the country. Often, these new courses offer the best greens the game has ever seen. These greens enjoy the combination of excellent drainage, architecture that is in keeping with the changes in the game and the finest grasses researchers can produce. Older courses are finding it difficult to compete and many have realized they must update their facilities if they are to keep their existing players, much less attract new ones.

Given the importance of putting in golf, it is no surprise that many courses are rebuilding their greens. When they do, the USGA feels very strongly they should follow the guidelines for greens construction the Green Section has provided for over 40 years.

Our staff is frequently asked to explain why we feel so strongly about the USGA method (or "specs" as many call them). After all, the USGA does not make a dime on the procedure and in fact has spent hundreds of thousands of dollars over the years on scientific research to improve it. There are many reasons we continue to recommend greens be constructed in this manner, with the following three being the most important.

HISTORICAL PERFORMANCE

The USGA method was first published in 1960. Since that time thousands of greens have been built to the method. Today there are functioning greens that were built before the superintendents



James Francis Moore

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COUNTERPOINT

California greens offer many advantages

By DR. MICHAEL HURDZAN

While I am a great believer in the USGA method of green construction, for it is the most highly studied method available, I don't believe there is any one best way to build a golf green and rootzone.

My point of view is a result of 40-plus years of seeing greens built out of every imaginable combination of sand, organic matter, inorganic matter and soil, and yet all of them produced acceptable quality putting surfaces for their time and place. Consequently, I have come to believe that if there is indeed a preferred method, it must be the one best suited to any given combination of microclimate, irrigation water source, turfgrass, construction budget, maintenance goal and golfer expectations – and it is not always the USGA method.

However, as we learn more about the complex interactions of the physical, biological and chemical aspects of golf green rootzones, many more scientifically sound construction methods or modifications will be found to be successful. One of these is the California method of green construction.

A common misconception is that any 100 percent sand green is a California green, and that is simply not true. The difference is the particle size of the sand used for construction. California greens require sand that falls within a very narrow range of particle size distribution. A USGA green falls within a wider range of particle size distribution. So you cannot take sand that is good for USGA greens and deem it suitable for use in California green construction without lab testing.



Dr. Michael Hurdzan

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USGA greens have 40 years of success

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managing them were born.

This year marks the 50th anniversary of the Green Section Turf Advisory Service. During that period, USGA agronomists have visited thousands of courses with greens built to every method imaginable. While we have seen many greens fail due to poor construction techniques, we simply have not seen greens fail due to problems with the USGA method itself. True, even USGA greens are rebuilt periodically, but this is to obtain new architecture, convert to better grasses, and/or to correct layering that occurs through mismanagement. As a result, the USGA green has more than 40 years of outstanding success and performance to its credit. No other method or modification can come close to this track record.

VIABILITY

The original 1960 USGA guidelines were revised and republished in 1965, 1973, 1982, 1989 and 1993. If the method is so good, why constantly change it? The USGA constantly reviews its recommendations to make certain the method keeps up with the many new challenges of green maintenance. Consider just a few of the changes in golf course maintenance over the past few decades. Lower cutting heights, increased play, poorer quality water and greater golfer expectations all place additional demands on greens. To meet these challenges, and keep the method viable, the USGA funds the largest turfgrass research effort in the world. A significant portion of this research is directed toward learning more about green construction. As insights are gained, they are evaluated by an international committee of experts representing all aspects of golf, including architects, superintendents, agronomists, builders and turfgrass scientists. This effort has not only resulted in better USGA greens, it has helped reduce costs – both in construction and maintenance.

DOCUMENTATION

The USGA guidelines are extensively documented. If you choose to follow the method, you will have no problem finding plenty of information regarding all aspects of the construction process. In addition to step-by-step guidelines, the USGA and others have published extensive quality control procedures. Sand and gravel plants, as well as other material suppliers, recognize the USGA method as the standard for green construction and thus strive to ensure their products meet the

specifications outlined in the guidelines. Physical soil testing laboratories use protocols developed for testing USGA greens mixes. And like the method itself, these procedures are the subject of USGA-sponsored research to improve them and better meet the demands of our increasingly litigious society.

With all this going for USGA greens, why build anything else? The most common response is that they cost too much to build. The USGA recognizes that one of the greatest challenges facing golf is affordability, and that a key component of this is the cost of course construction. There are many ways to build more affordable golf courses – reduce the number of bunkers, reduce fairway acreage in favor of rough and/or naturalized areas, and reduce the number and severity of features, which in turn will reduce the amount of dirt moved during construction.

In terms of reducing greens construction cost, why not reduce severe contouring so 5,000-square-foot greens can provide enough hole locations to make 7,000-square-foot greens unnecessary. Smaller greens that receive plenty of light, air movement and have multiple entrance and exit points will always outperform the larger green lacking such conditions.

How about learning to use the ranges provided within the guidelines when it comes to rootzone materials? The unfortunate

tendency within the industry to demand rootzones that drain in excess of 12 inches per hour has resulted in many locally available sands being ignored in favor of sands that have to be trucked from miles away – and therefore cost much more. How about recognizing that USGA greens drain wonderfully without mechanical pumping systems that drive the cost of construction through the roof – and are unnecessary on a properly built green? Leaving organic matter out of the rootzone to save money makes no sense if you then add tons of far more expensive inorganic amendments and a witches brew of products with little or no scientific credibility. Leaving out the gravel layer saves money up front but research indicates that without this layer, moisture levels vary widely. Money saved on gravel may be spent many times over in hand watering.

Yes, the Green Section believes strongly in the USGA method. The method is historically and scientifically proven, is constantly undergoing improvement to ensure it remains viable, and it is extensively documented. And while you can build greens more cheaply, we feel strongly the advantages of the USGA green make it the better value by far. These are the main reasons it is the most widely used method throughout the world.

James Francis Moore is the director of the USGA Green Section's Construction Education Program.

California method has its place

Continued from previous page

For California greens, 90 to 100 percent of the particles must be between 0.1 and 1.0 mm and 50 to 70 percent of it should fall within the 0.5 to .25 mm range. This allows for consistent performance, the sand stays very stable in the rootzone mix and it has a predictable air flow and water holding capacity.

Before deciding which type of greens construction to use, my approach is to identify possible problem sources and select a rootzone with the most stress-combating physical properties, be it USGA, California, or some well-thought-out modification of them. Factors that would cause me to lean more toward the California method include water quality problems, cation exchange capacity (C.E.C.), reduced water use, better air flow and cost.

One important factor is water quality. Although USGA greens drain more quickly than California greens, California greens drain more thoroughly. Therefore, water that may be high in salts or bicarbonates, or have a high SAR, will keep moving through the profile. In addition, the California green will initially have a low C.E.C., meaning less buildup of aluminum, sodium, or other cation salt(s). The old myth that California greens need more water is just that, a myth, for research has shown that California greens move water more slowly through the profile than the USGA method, and so they use less. This also means slower or less

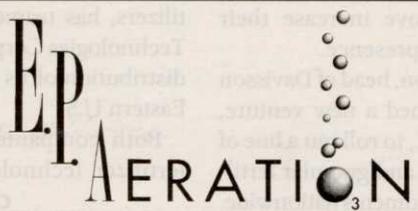
leaching of materials from the rootzone.

Recent research has also shown that pure sand has better air flow than sand amended with organic matter, which is a plus if an air exchange system is planned. The best system for air movement is a USGA green, but without any organic material blended in. And yes, the USGA recommendations allow for pure sand, with zero organic amendment.

Cost is often a significant factor in green construction, with California greens costing much less than the USGA method or variations thereof. The reason, of course, is that once sand has passed by laboratory criteria for California construction, it is hauled directly from the sand source to the green with no cost involved for a gravel blanket or amending the sand with organic matter. The difference can be in excess of several hundred thousand dollars on a 18-hole golf course, which might be better spent for an upgraded irrigation system or more sod.

There is no magic to the California construction method, but rather it is plain old plant and soil science. The fact that California greens are easier to build and cost less are secondary factors, however, because in many site specific situations they simply perform better than other methods.

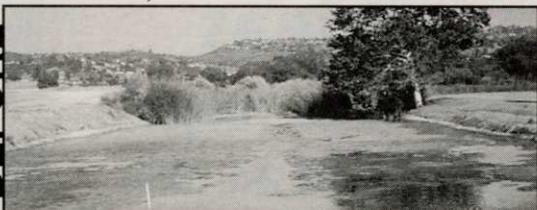
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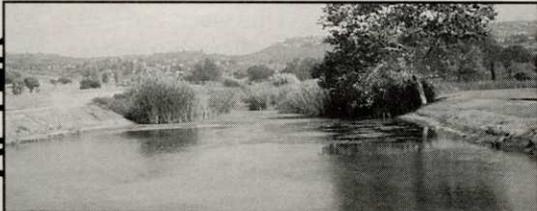
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