## **USGA** RESEARCH UPDATE



## USGA Recommendations: The Revision And Key Changes



O ver the past year, a team of scientists, laboratory technicians, golf course builders, architects, superintendents and USGA Agronomists worked together to revise the USGA Recommendations for a Method of Putting Green Construction. The review team met frequently to identify and evaluate possible updates to the 2004 version of the Recommendations. The process included trips to research facilities, testing laboratories and putting green construction projects.

The 2018 USGA Recommendations will not be drastically different from the previous version. The changes reflect advances in putting green research, technology, testing methods, and construction and maintenance techniques. Additionally, the potential benefits and pitfalls of alternative construction methods are recognized and discussed in the USGA publication, "Building the USGA Putting Green: Tips for Success." A variety of text, video and multimedia resources will also be published to communicate the principles and methodology behind the Recommendations.

Some of the notable revisions to the USGA Recommendations coming in 2018 include:



- The Micro-Deval abrasion test (ASTM D6928) has been identified as the preferred method to evaluate the mechanical stability of gravel under ordinary construction. This test replaces the L.A. Abrasion test (ASTM C131).
- Expanded discussion on selecting gravel is now included. There is evidence that placing low-pH rootzone mixtures over high-pH gravel materials may contribute to the formation of iron oxide layers at the rootzone and gravel interface. If given the option, selecting a neutral-pH gravel is recommended.
- Perimeter drains are now to be located at all low points along the perimeter of a putting green cavity, not just the lowest point.
- Cleanout ports should be installed upstream and downstream of the putting green on the main drainage lines.



The updated Recommendations include new information about material testing and how to select gravel, sand and organic amendments.

- The recommended infiltration rate (Ksat) does not change, but the section discussing the physical properties of the rootzone mixture has been enhanced to better explain the water-holding characteristics of a rootzone mix. The infiltration rate of the mix is de-emphasized while the importance of moisture retention is highlighted.
- The confidence interval for the infiltration rate has increased to 25 percent to account for the variability of this laboratory test.
- There is expanded information on utilizing various organic amendments, along with specifics regarding their chemical and physical characteristics.
- There is more explanation regarding the importance of quality control testing and appropriate testing intervals.



Page 2 of 2