

USGA[®]

RESEARCH UPDATE



Data-Driven Research: Science Of Golf

The USGA Green Section provides a vast amount of information on golf course management in the form of reports, articles, and videos available from its Course Consulting Service, publications and websites. But where does this information come from?

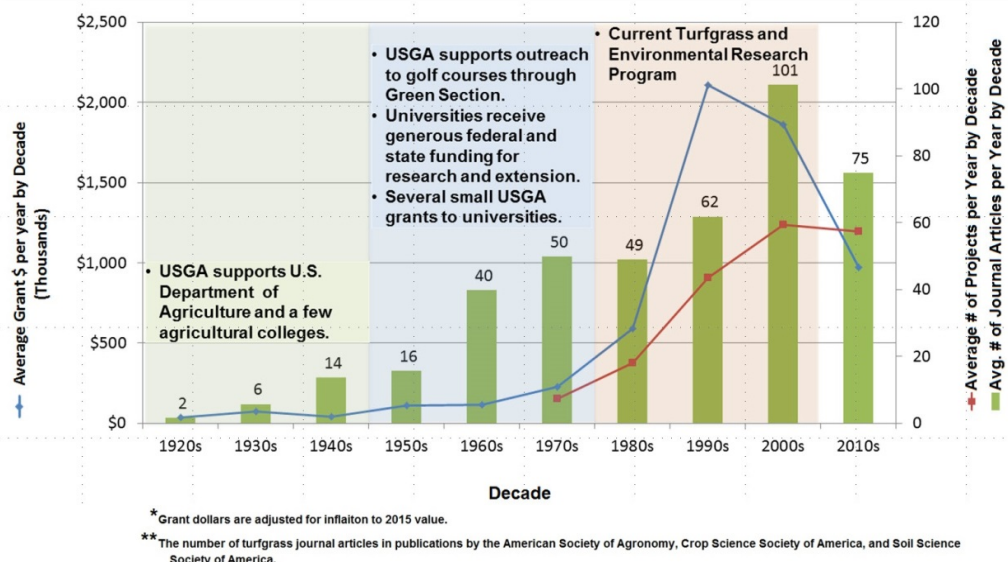
Golf course management information from the Green Section is data driven. The most reliable information source is scientific research funded by the USGA, allied associations, government or private companies. Professors and graduate students at land-grant universities conduct most of the scientific research. Scientists publish their results in peer-reviewed agriculture journals then the scientific results are translated by USGA experts into management solutions for golf courses.



Opening ceremony for the Grass Roots Exhibit at the USDA National Arboretum in Washington, D.C. – Oct. 21, 2014.

The USGA played a historical role in the development of turfgrass research. In the 1920s, the USGA provided financial support to the U.S. Department of Agriculture (USDA) allowing scientists to grow, identify, and evaluate early strains of bentgrass and bluegrass for golf course use at the Arlington Turf Gardens in Washington, D.C. where the Pentagon sits today. USDA researchers also conducted early disease, insect and weed control experiments.

In 1946, the Green Section became a department within the USGA and began providing small research grants to universities and the USDA. In 1952, the USGA Green Section hired agronomists to visit golf courses, write articles and conduct educational meetings. For the next 30 years, the USGA Green Section focused more outreach efforts on educating golf course decision makers.



During the last 90 years, as USGA funding and influence on research increased, so has the number of scientific journal publications.

After severe droughts in the 1970s, it was evident universities needed a financial boost to meet the new challenges facing golf. In 1982, the USGA formed a committee to direct and fund turfgrass heat and drought research. Work toward creating a database of existing research also began at Michigan State University Libraries. Environmental concerns in the 1990s required additional research on the fate of pesticides and nutrients.

The USGA continues to play a critical role funding research to advance the long-term viability of golf. Several notable accomplishments stand out when assessing the progress of the USGA Green Section Research Program:

Water Conservation - In the 1980s and 90s, research supported by the USGA determined how much water golf course grasses use. Today, work continues on researching how grasses respond to periods of drought and the minimum amount of water needed to maintain quality playing conditions. Research indicates golf course irrigation can be reduced 20 to 40 percent.

Turfgrass Breeding – USGA-supported turfgrass breeding at universities and the USDA improved grasses for golf courses. Many kinds of grass now are available that tolerate periods of extreme heat, drought, cold and salinity.

Pesticide and Nutrient Fate - The USGA funded the first self-examination of golf's impact on the environment. The results demonstrate that off-site movement of small amounts of pesticides and nutrients from golf courses were below the health and safety standards established by the Environmental Protection Agency. The USGA continues to cooperate with universities and the USDA on methods to prevent nutrients from reaching ground and surface water.

Turfgrass Information File (TGIF) – Hosted by the Michigan State University Library and supported by the USGA, this online database is the largest collection of turfgrass information in the world. This valuable resource has more than 200,000 articles and more than 1 million searches conducted annually. Full text is available for more than 50 percent of the records hosted on TGIF.



Plots at USGA Field Day Turf Conference at the Arlington Turf Gardens, Washington D.C. - Sept. 22, 1939 (Courtesy of the Milwaukee Metropolitan Sewerage District and Michigan State University Turfgrass Information Center).