

It Was 20 Years Ago Today...

The Turfgrass Information Center at Michigan State University.

BY CLIFF HAKA

Every successful discipline advances when its literature becomes more accessible. The discipline grows, contributes to communal knowledge, and thus enhances society. In this respect, turfgrass is no different than medicine or chemistry. Attempts to test a theory or address a problem start with the identification of relevant research or articles dealing with the practical application of research findings. This typically starts by consulting an index that gathers articles under subject headings, as *Index Medicus* does for medical inquiries.

Looking back to the late 1970s, turfgrass research had a significant problem — there was no publication that indexed the current literature of turfgrass. Dr. James B. Beard's outstanding *Turfgrass Bibliography: From 1672 to 1972* indexed the literature of turfgrass for the years indicated, but for years beyond 1972 there were only general indexes, such as *Agriculture Index*, to consult. These more general indexes provided few citations to turf-related materials for systematic research, practical application, or the education of new turf managers. As a major sponsor of turfgrass research, the USGA Green Section was well aware of the problems created by the absence of such an index. "Funding requests would be received by the USGA Turfgrass Research Committee proposing to duplicate studies that had already been supported and completed, but the investigators had no way of knowing this," recalls Jim Snow, National Director of the Green Section. "Worse yet, the results could not be provided to practitioners, such as golf course superintendents, so that the findings could be applied."

Why was there no index to the literature of turfgrass? It was a matter of economics. Indexes are expensive to

produce. First, there must be access to the literature itself. Next, staff must be hired and trained to review individual articles, assign appropriate index terms from an established thesaurus, and possibly write a short summary or abstract of the article. Finally, the results of this process need to be compiled for delivery to the end-user. This is a labor-intensive process that requires a substantial number of subscribers to establish a sustainable model. This explains why, for example, there are numerous indexes for business topics, since virtually every university, college, and junior college offers courses in business. Consequently, there is a huge market for business indexes at the libraries of these institutions. But in the 1970s there were relatively few institutions offering turfgrass programs, a fact that discouraged commercial index publishers from producing an index for turfgrass. Thus, a niche for control of and access to the literature of turfgrass research remained open for some non-profit organization with an existing strength in the subject to meet the small but growing demand for information.

THE RIGHT PLACE, THE RIGHT TIME

In the early 1980s, the USGA Turfgrass Research Program approached Michigan State University (MSU) to have the Libraries start producing such an index. Why MSU? Primarily because the MSU Libraries already had a substantial collection of turfgrass literature, built with the O.J. Noer Collection as a foundation. So the cost associated with accessing turfgrass materials to index them was already being handled. So it came to pass in 1984, with substantial financial support from the USGA, that the Turfgrass Information Center

(Center) was established at MSU, with the explicit charge of producing an index and abstracting service for turfgrass literature, and making this available to turfgrass students, scholars, and practitioners. The dissemination device came to be known as the Turfgrass Information File (TGIF). The first records went into this electronic database in 1984, 20 years ago.

THE EARLY YEARS

Now that we are well into the era of the Internet, it may be difficult for some to understand that remote access to an electronic database, which is what TGIF is, was virtually impossible in 1984. During the early years, as records began to build within the database, the only way to conduct a search and capture the results was to call or write the Center staff. Staff would transpose the question into a search strategy that was run against TGIF, providing a list of citations and abstracts for relevant articles, much as it does today. These results were then sent back to the requestor via mail and later fax. This laborious process was not particularly encouraging, and substantial frustration ensued. Technological advances during the late 1980s eventually allowed subscribers to "dial in" to TGIF and search the database directly. In theory this provided the "direct access" that users desired, but the reality of searches conducted over regular phone lines proved far less satisfying. Lost connections and the inability of users to construct effective searches when the connection did persist continued a trend of user frustration.

However, one important activity never faltered. The staff continued to index the literature, and the amount of materials covered within TGIF was

exploding. Searches on an ever-wider variety of topics were now producing substantial lists of relevant materials, if one could only get to the database. Fortunately, just at the point when user frustration seemed as if it would cause the effort to be abandoned, the Internet and World Wide Web arrived to provide the mechanism that would make TGIF and every other electronic database easily accessible throughout the world.

THE CHALLENGE CONTINUES

With a mechanism for successful delivery finally in place, additional attention was focused on the following factors:

Searchability.

For those using today's Google search engine, concerns about how to search a database might not seem to be much of an issue. But in the mid-1980s search engines were not developed, nor were the texts of articles adequately encoded so as to allow for free-text keyword searching. This is why TGIF initially appeared with a sophisticated "power search" that required users to be extremely precise in their searching. The complexity of this search was a challenge for many users, however, and so, with the advent of more effective keyword searching capability, the decision was made to provide an alternative search option requiring the user simply to enter one or more keywords associated with the desired topic. This, along with the continued availability of the "power search," provides appropriate TGIF access for users at all levels.

Full Text Availability. Upon reviewing the results of a TGIF search and reading the abstract of retrieved articles, users frequently wish to read the full article. Unfortunately, most TGIF users are not located in the immediate proximity of a library where these materials can be consulted. A process has always been in place where-

back to 1929, with the exception of the latest two years.

- Whenever available, Web links to full-text access provided by other publishers, including universities, organizations, and the commercial press.

The Center is aggressively pursuing further opportunities to provide additional full-text access, but the vast

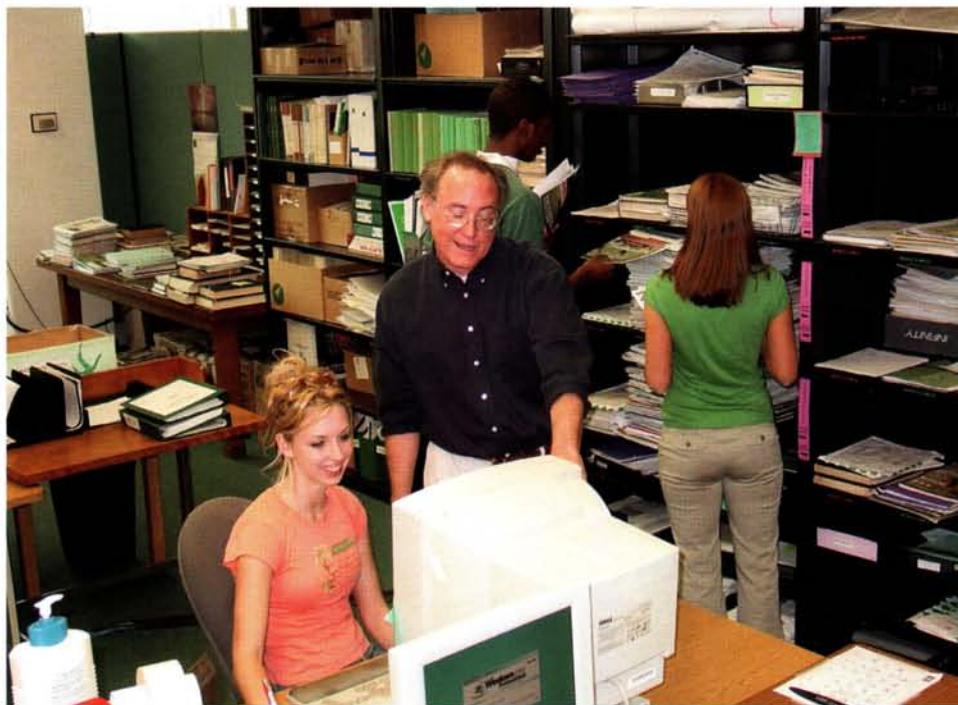
majority of the indexed literature is under copyright protection. This requires the copyright holder to grant the required permission before TGIF can include these items. This is a slow process, but one that will be consistently pursued.

Pre-1984

Materials. Since its inception in 1984, TGIF has focused on indexing *current* literature, but it has not had the resources to go back and comprehensively index materials

published prior to 1984. During the last two years, generous grants from the Toro Foundation have allowed this work to commence, and approximately 40% of the pre-1984 materials have now been processed. We look forward to the time when all retrospective materials have been incorporated into TGIF, thereby facilitating historical research initiatives.

Fiscal Sustainability and the Campaign to Endow the Turfgrass Information Center. Generous support from the USGA, as well as from the MSU Libraries, allowed the Center to operate and produce the TGIF during the early years when there was a minimal amount of subscription-generated revenue to support operations.



The staff at the Turfgrass Information Center review individual turf articles, assign appropriate index terms from an established thesaurus, and write a short abstract of the article. These efforts result in a searchable database of turfgrass literature for turfgrass researchers, practitioners, and students.

by users can request that a copy of the desired item be sent to them from the MSU Libraries for a nominal charge. This is not the same as immediate access, however, which is what a superintendent dealing with a pesky turf infestation would prefer. Therefore, extensive efforts have been made to provide direct access to full text from the TGIF whenever possible. This has produced the following full-text access to date:

- All USGA Green Section-sponsored research reports submitted between 1983 and 2000.
- All *USGA Green Section Record* (and predecessors) articles back to 1921.
- The complete back file of the *Journal of Turfgrass Science* (and predecessors)

Is the turfgrass literature of your association or organization being made available to the TIC? If not, then make it happen!

The expectation was that subscription revenue would eventually swell to allow the Center to be self-supporting. Unfortunately, that hope has not been realized, and subscriptions still cover only a fraction of the associated costs. Therefore, the Center still operates at a significant yearly deficit. The operation of the Center continues because the MSU Libraries underwrites the costs not covered by subscription revenue. This situation is unlikely to be allowed to continue indefinitely, however, as budget fluctuations, such as are currently being endured, force hard decisions regarding expenditures. Bluntly put, libraries don't normally produce indexes, but rather they simply purchase from among those that are available. This reality brought the Center to the brink of termination in the late 1990s. What saved the Center, and consequently TGIF, from extinction was a decision to pursue a fund-raising campaign to establish an endowment of sufficient size that the interest would cover the majority, or possibly even all of the annual costs of operating the Center. This would ensure that, should a future director of the MSU Libraries be required to withdraw some or all of the annual support for the Center to achieve budget reduction targets, funding would be available to ensure the continuation of the Center and the production of TGIF. This was the motivation to initiate the Campaign to Endow the Turfgrass Information Center, which was started with a pledge of \$1 million by the USGA. Generous donations from the American Society of Golf Course Architects, the Golf Course Superintendents Association of America, the Royal and Ancient, the Scott's Company, Arthur Hills, Harriett and James B. Beard, and others have

pushed the campaign well beyond the \$1.6 million level, but there is much left to be done to assure the ongoing financial stability of the Center.

RECENT ACTIVITY

The process of indexing and supplying copies of indexed materials requires a collection of these materials to be assembled. The MSU Libraries continues to subscribe to a wide array of turf-related periodicals, but the overall collection has been significantly enhanced by two recent acquisitions. The first of these is the slides of O. J. Noer, which have been received from the Milwaukee Metropolitan Sewerage District, with the O. J. Noer Foundation as trustee. This unique collection provides visual documentation on turf topics over a range of decades and gives the TGIF an opportunity to include visual images to complement and enhance text descriptions.

The Center has also received a gift of the collection of Dr. James B. Beard, which is generally acknowledged to be the finest personal compilation of turf-related material in existence. It includes international coverage of the turfgrass research and management literature, including books, periodicals, and technical reports. With its arrival, the Center became the strongest public repository of turfgrass literature in the world.

TODAY AND BEYOND

Although the existing collection is outstanding, new publications are constantly appearing. The staff of the Center must be alert to identify and acquire all appropriate literature, for without the literature in hand, the indexing and abstracting cannot occur. Toward this end, we encourage your consideration of the following question — Is the

turfgrass literature of your association or organization being made available to the Center? If not, please consider encouraging those responsible to make this happen.

As this collection continues to grow, so does the indexing of this material within TGIF, which is rapidly approaching 100,000 entries. This enables users to search effectively on topics as diverse as seed priming, disease control trials, new cultivar management issues, tree removal politics, green speed agronomy, bermudagrass genetics, and cultivar alternatives, as well as other non-golf but turf-related issues such as managing lawns in shade.

Beyond the continuous indexing of current literature, the Center is focusing on the completion of retrospective indexing prior to 1984, providing additional direct access to the full text of indexed literature, and the completion of the Endowment Campaign to guarantee the ongoing sustainability of the Center and thereby TGIF. It is our hope, upon securing sufficient funding for the Endowment, that subscription access to the Turfgrass Information File can be ended, thereby insuring that all students, researchers, and practitioners, regardless of financial standing, can access the TGIF and thereby assist in moving the turfgrass industry forward aggressively.

We hope that you will consider supporting this Campaign so that 20 years from now those involved in turf can look back with pride, knowing that a key component of the turf industry, an index to the literature of turf, was insured by your actions.

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