A call to action
A new initiative spearheaded by industry leaders offers hope for basic turfgrass research. BY KEVIN N. MORRIS

The annual value of the turfgrass industry in the United States is estimated to be between $40 billion to $60 billion. This figure includes the cost of establishing and maintaining turfgrass on golf courses, athletic fields, parks, home lawns, roadsides, sod farms and grounds of commercial buildings. Turfgrass covers an estimated 50 million acres in the United States, making turf the fourth largest U.S. crop. There are more than 31 million acres of irrigated turfgrass in the country, making turfgrass the largest irrigated U.S. crop.

U.S. research
Turfgrass research in the United States is almost exclusively conducted by state universities or private, for-profit companies. Private companies conduct research on fertilizers, new grass cultivars, pest control products, etc., for their own internal use. The information obtained from for-profit companies' research is proprietary and most often not released to the public. However, for-profit companies supply funding to university researchers to test products and help develop recommended rates and uses.

There are several nonprofit organizations such as the U.S. Golf Association, Golf Course Superintendents Association of America, National Turfgrass Evaluation Program and Turfgrass Producers International that also fund turfgrass research at state universities. The USGA has the largest research-funding program, averaging about $1 million annually. NTEP, GCSAA, and TPI collectively fund about $1 million in turfgrass research annually. There also are various state and local turfgrass organizations that provide funding to state university researchers. Private companies and not-for-profit organizations support an estimated $10 million in turfgrass research annually.

Many states have at least one university with a turfgrass research program to serve the needs of the citizens and the turfgrass industry in that state. Funds for those research programs come from the aforementioned entities; state government funding; and through the federal government's Department of Agriculture, Cooperative State Research, Education and Extension Service. CSREES, which has an annual budget of $1 billion, provides funding to state universities for agricultural research, education and extension related activities. These funds are directed to scientific disciplines and crops, including turfgrass; however, most of that funding is used for faculty salaries or extension activities. Little, if any, CSREES funding is directed to turfgrass research. Therefore, the activities of state university researchers are limited to what the states, private industry and organizations are willing to fund.

Applied research
Almost all turfgrass research dollars are provided by the turfgrass industry or industry associations to fund applied research rather than basic research. Applied research involves solving problems that are seen in the field by end-users such as golf course superintendents or agronomists. The shortcoming of applied research is its reliance on short-term problem solving.

Basic research tackles the tough problems. For example, basic research unlocked the secret that day length significantly affects plant growth and development. Basic research resulted in the development of hybrid seed corn, a huge advance in corn production. And more recently, the Human Genome project, a successful effort to identify the location of genes for disease...
which conduct basic research scientists nationwide, most of research might not pay future rewards, but if it does, the rewards are often large man traits, is classic basic research. This type of research is not seen as increasing the understanding of basic biological processes is too risky or long-term for private industry to fund. Other types of research, such as environmental research, are appropriate for government support because they clearly benefit society at large.

For NTRI to get off the ground, funding has to be appropriated by Congress. NTRI proposes $450,000 be appropriated for each research scientist position within USDA-ARS – $300,000 to hire a researcher and staff and purchase equipment at an ARS location, and $150,000 for that researcher to conduct cooperative research with universities. If NTRI is fully funded ($32.4 million),
this will allow ARS to hire 72 turfgrass researchers and allocate more than $10 million annually to universities through cooperative research.

NTRI will be implemented by research teams that will frequently involve multiple research locations spread throughout several states to ensure the right mix of scientific skills is available for a systematic research strategy. The research dollars will be coordinated by and through the ARS budget. In turn, ARS will work with university and private industry researchers to establish research teams.

NTRI envisions that research should seek to adapt results from other agriculture or biological research areas, rather than starting anew for each project. In addition, all aspects of grassland agriculture will benefit from a coordinated, national effort to collect, evaluate and preserve grass germplasm.

NTRI consists of six broad research areas: water, germplasm, pests, environment, soil and integrated turf management. Within each component are several research priorities. For instance, in the water component, there’s a need to improve turfgrass water-use efficiency and irrigation efficiency and to investigate the use of recycled or saline irrigation water. The germplasm component focuses on collecting valuable germplasm, developing a better understanding of the genetic systems and genes in turfgrass species, and using this material and knowledge to develop and release improved germplasm leading to improved turfgrass cultivars.

Progress to date
Throughout the past five years, the National Turfgrass Federation had many meetings and contacts with many government officials. It has stressed the size and scope of the turfgrass industry, the important issues facing the industry and the need for federal research dollars to solve these problems.

The NTF convinced Congress to allocate funding for ARS to hire a research scientist in Maryland, conduct cooperative research in Utah and hire a full-time research scientist in West Virginia. And in the ARS budget proposed by President Bush for fiscal year 2007, an additional $1.88 million has been allocated for turfgrass research. If the additional funding is still in the final budget passed by Congress later this year, this will allow ARS to hire three to four researchers and develop cooperative projects with universities focusing on turfgrass water use issues. The NTF also is asking Congress to include funding for five additional research positions.

To learn more about NTRI, visit www.turfresearch.org or www.turfinitiative.org.

Contact your senators and representatives in Congress to let them know the importance of federal funding for turfgrass research by USDA-ARS. Ask them to support funding for the National Turfgrass Research Initiative. Ask your local and state turfgrass associations and supplier companies to make a contribution to the National Turfgrass Federation. The future of the turf industry is at stake. GCN