Protocols for an IPM System on Golf Courses

Collaboration produces a standard for golf course IPM.

by MARY C. OWEN and RANDALL G. PROSTAK

STRONG population growth and a steady increase in tourism have given golf and other construction a huge boost. State and local leaders, faced with managing this growth and development, have struggled with decisions about how golf courses can be assets to their communities. Decision-makers have often specified integrated pest management (IPM) in orders of condition and permitting documents, but there has been no clear standard by which they can measure and evaluate the IPM plans proposed to them.

It's no news that the public is concerned about the use of pesticides where they live, or that they often associate golf courses with pesticide use. They want and expect their community leaders to protect them and the environment. So, how do we educate the public and decision-makers about IPM as a positive means of managing properties in relation to the environment?

Michael Iacono, CGCS at Pine Brook Country Club, in Weston, Mass., has been a leader in IPM efforts in the state of Massachusetts. Mike recently represented the Golf Course Superintendents Association of New England (GCSANE) on the Massachusetts IPM Council. The Council, a coalition of industry, education, government, and public interest groups, identified the need to develop IPM certification programs as a means of educating the public and setting a standard for sound, scientifically based IPM.

Mike asserts, "As superintendents, we all recognize that we implement IPM to a certain extent. We understand the need for quality and high standards, and the need to take action based on scientific knowledge. We need to recognize professionals who implement IPM as different from those who do not."

GCSANE, also recognizing this need for a consistent, feasible, and definable standard, partnered with the University of Massachusetts Extension Turf Program in the Golf Course IPM Project. The principal project objective was to develop economically and operationally viable and environmentally sound IPM protocols for golf courses.

Eighteen golf course superintendents and assistants from GCSANE worked diligently over three years to write, refine, field-test, and pilot the IPM protocols in their operations. The courses varied by geography, ownership/management type, age, maintenance intensity, operational budget, traffic, and proximity to environmentally sensitive areas. The University of Massachusetts Extension Turf Program provided leadership and scientific technical expertise for the project. An advisory committee representing a broad range of golf course, green industry, community, media, and regulatory interests provided review and input.

What is *Protocols for an IPM System on Golf Courses*?

Protocols for an IPM System on Golf Courses outlines the basic elements of an IPM system. It can be used to develop, implement, document, and verify IPM in a golf course management system. It can be used to educate and inform anyone about the components of an integrated pest management system.

The *Protocols* details the components of an IPM system. It is structured as a workbook supplemented with record keeping forms and associated information. The user is able to document the parts of an IPM system already in place, identify those items that need to be expanded or added, analyze management, and plan for changes that will lead to a more complete IPM system. The *Protocols* document is neither a replacement for other record keeping nor a substitute for technical resources on specific pest management. It is designed for use on all golf courses anywhere when supplemented with regionally specific pest management information. In the case of mandated or regulated IPM, the *Protocols* can also be used to audit or verify IPM implementation.

Protocols for an IPM System on Golf Courses also presents a model for an IPM system. It can be used during the design, permitting, and construction phases of a new golf course to establish a plan for the development of a site-specific integrated management system.

Charles Passios, CGCS, has been involved with permitting at several golf courses. "The *Protocols* create an even playing field for consultants who are working in the permitting phase of course development. And, while the uniqueness of each site demands an individual IPM plan, the *Protocols* provide a framework upon which to build." Mr. Passios contends, "There is no substitute for a golf course superintendent's expertise on the permitting and design team, and the *Protocols* alone cannot replace this expertise."

Regulatory officials, community decision-makers, educators, and others wishing to understand the components of an IPM system can refer to the *Protocols* to understand what constitutes an economically and operationally feasible, environmentally responsible golf course IPM system. It is already being used as a teaching tool in university turf management programs in the Northeast.

What Did We Learn Along the Way?

Over the three years we learned and affirmed several critical items. Golf course superintendents must set and uphold very high standards when determining and labeling their management as a true IPM program. The development and implementation of an IPM system will require a substantial investment of staff time and resources. *Protocols for an IPM System on Golf Courses* provides a technically sound framework for future golf course IPM certification programs.

The *Protocols* has proven to be a valuable management tool. Superintendents involved in the pilot program reported positive changes in record keeping and other management practices as a result of using the *Protocols*.

Robert Ruszala, GCS at Hickory Ridge Country Club, in Amherst, Mass., developed an elegantly simple but tremendously effective overlay map for his course. What Mr. Ruszala had intuitively recognized as a disease pattern became clearly documented.

Establishing an IPM system on a new course may take several growing seasons. Richard Zepp, CGCS at Cyprian Keyes Golf Club, in Boylston, Mass., says, "Management during establishment and grow-in is radically different than for a mature, established course. The pests and pest complexes change as the golf course evolves. You are just beginning to establish the site-specific knowledge base that you need for a sustainable IPM system."

What's Next?

In January 2001, the Northeast Center for IPM developed a golf course IPM working group as part of a project funded by the National Science Foundation Center for IPM. The working group includes land grant university researchers and educators, USGA staff, golf course superintendents, and representatives of EPA, environmental advocacy groups, and environmental regulators. This group has endorsed the *Protocols* as appropriate and useful for the northeastern United States, and will work to develop additional and supplementary IPM website information.

The UMASS Extension Turf Program will continue to evaluate the effectiveness of the *Protocols*. The UMASS Extension Turf Program, in collaboration with the Northeast Golf Course IPM Project, is producing information for community decision-makers regarding IPM on golf courses, with particular emphasis on the *Protocols*.

There is much more work yet to be done to improve the degree of implementation of IPM systems on golf courses: more research on specific pests and pest management techniques, demonstrations of sound golf course IPM, clear measurement and assessment of IPM impact on pesticide selection and use over time, and continued communication and collaboration among researchers, educators, consultants, golf course superintendents, and community members.

Jim Skorulski, USGA Agronomist, Northeast Region, who serves on the UMASS Golf Course IPM Project Advisory Committee, says, "From a practical standpoint, implementation of a total IPM system on a golf course remains a challenge. The demands of golfers for near perfection of putting surfaces and other areas, and time restraints make IPM on a total system level a difficult goal to reach. However, the *Protocols* provide an excellent structure for analyzing and increasing the level of IPM being implemented." Use of the *Protocols* over time will make this an even more useful document.

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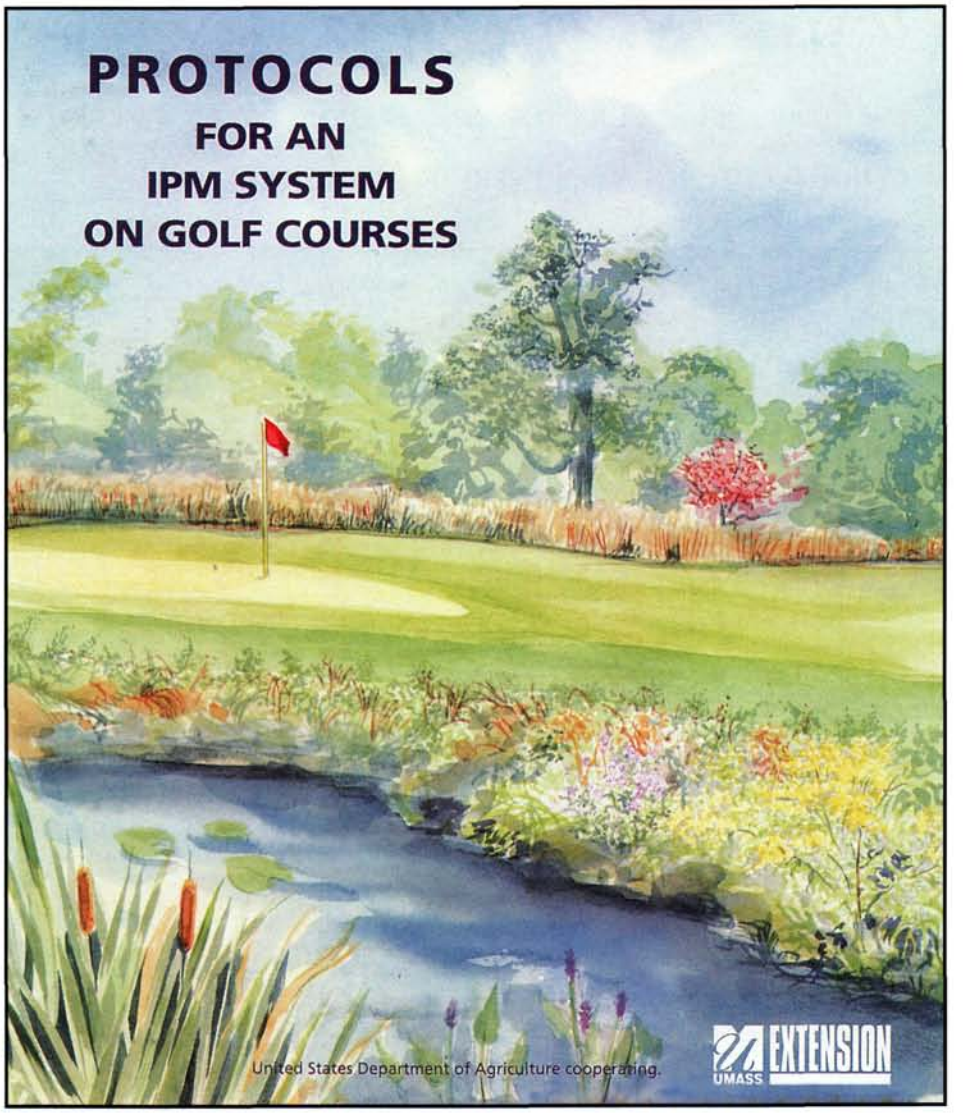

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Copies of the *Protocols for an IPM System on Golf Courses* are available for $49.95 each (including shipping and handling) through the UMass Extension Bookstore at the following address. Refer to item #TF-PROT. Discounts are available for 10 or more copies.

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