TracTurf: Software for Documentation of Pest Management Practices for New York State Turfgrass: 2007 Report

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Abstract

We are developing TracTurf—user-friendly software, specifically designed for professional turfgrass managers in New York State to record, organize and report pest management and fertilization practices. It will consist of 4 programs, TurfLawn, TurfGrounds, TurfGolf and TurfSod. This Excel-based software program, will make record-keeping and reporting for government agencies easier, improve the accuracy and consistency of pest management records, and promote the practice of IPM. A companion resource will guide users. Both will be available for distribution on CD in 2008. This work is funded by the New York State Turfgrass Association and the New York State IPM Program.

Background and Justification

Documenting pest management and fertility practices is a fundamental component of good integrated pest management (IPM), and pesticide records are specifically required by law. Records help turf managers determine trends in pest occurrence and severity, track susceptible areas, observe influences of cultural practices, and assess the efficacy of pesticides and other pest management practices. However, turfgrass managers often lack a practical, organized and efficient system for tracking their pest management practices. User-friendly software, specifically designed for lawns, golf courses and parks in New York State, would lessen the burden on managers, improve the records they keep, and result in improved IPM.

Commercial pesticide applicators are required by the New York State Department of Environmental Conservation (DEC) to maintain pesticide application records, and submit them to the department annually. Both commercial and private applicators are required by state and federal regulations to keep records of their pesticide use. Although they are not required to submit these records, they must be maintained and available for audit. A customized software program would allow turfgrass managers to keep all pesticide records in one file, and generate specific records as needed—including the "Certified Private Applicator Record of Restricted Pesticide Purchase and Use" form that is required by the DEC.

The agricultural crop industry in the U.S. and around the world has had an increasing focus on the traceability of the practices and products used to grow food—often resulting in additional documentation requirements from processors, distributors, retail stores and other marketers and end-users. To help growers face the myriad of reporting requirements from these sources as well as government agencies, the NYS IPM Program developed Trac© Software. Trac is an Excel-based record-keeping program for recording plant protection applications and generating specific forms to meet the requirements of government agencies, processors and growers. Since 2003, TracApple, TracGrape, TracBerry, TracPear, TracCherry and TracStoneFruit have been created to serve New York's fruit industry. Trac effectively streamlines the burdensome task of record keeping and reporting. The current Trac programs keep records up-to-date, generate reports,

analyze pest management strategies and can therefore improve IPM practice. Instead of filling out several forms for different processors, buyers and government agencies, growers enter information once in Trac© software, and the forms required by each buyer and agency are created. The turfgrass industry will also benefit from Trac software.

Procedures

We are creating TracTurf by tailoring the Trac software to meet the needs and requirements of sod farmers, schools, golf courses, parks, and lawn care companies in NY. TracTurf will consist of 4 programs, TurfLawn, TurfGrounds, TurfGolf and TurfSod, which will all be available on one CD. Like the Trac programs for fruit, TracTurf will consolidate and streamline record keeping for turf managers and will automatically generate business and site specific forms that meet DEC and EPA requirements, as well as the pest management needs of individual turf managers. We believe that by making thorough documentation of pest management practices easier, TracTurf will advance changes in plant protection methods that will further encourage and enable the turfgrass industry to manage pests in a cost effective, environmentally sound manner.

Trac works by the user filling in the blanks on data entry worksheets in Excel. Drop-down lists for sites, pesticides, and pests are provided—saving time and preventing typographical errors. The software also generates drop-down lists specific to the user's business. When a pesticide trade name is selected from the list, the program automatically fills in the EPA registration number, restricted entry interval, pre-harvest interval, and calculates the earliest harvest date. Some of the special features of Trac include: comprehensive drop-down lists of sites, pests, and pesticides; automatic EPA registration numbers linked to pesticides; harvest data sheets; and site data sheets—all designed to facilitate managers' record-keeping and reporting of turf protection inputs. The pesticide specific information and the output forms will be customized for turfgrass in New York State. The ability to calculate spray rates, track weather, and record unit-costs of pesticides and fertilizers that enable cost calculations will also be incorporated into TracTurf.

For further information on Trac software, visit: http://nysipm.cornell.edu/trac/ .

Objectives and Progress
Objective 1) Develop "TracTurf"
We are currently developing the software program, which includes:
- Creating a master template in which field records are entered and from which required data are automatically sent to reporting forms.
- Customizing the template for each of the four TracTurf programs to include comprehensive lists and drop-down menus for: schools areas, golf courses, parks, and lawns; pesticides that are legal in New York State; non-pesticidal methods of pest management; and target pests.
- Developing record-keeping and reporting sheets for the DEC, EPA and for personal use by turfgrass managers.

Objective 2) Debug and field-test TracTurf
   • We are debugging software by running it through several mock trials in-house, and correcting any problems found.
   • We will field-test the software with multiple turfgrass managers in early 2008, and will correct any problems found.
Objective 3) Develop an instructional manual for TracTurf
   • We are developing a companion manual to instruct turfgrass managers on how to use TracTurf. The manual will be made available with the software, and on the NYS IPM website.
Objective 4) Copyright TracTurf
   • We are following procedures previously used to copyright TracTurf with Cornell University.

In 2008 we will:
Objective 5) Release and distribute the software to turfgrass managers
   • The software will be sent to all NYSTA members on CD, and a system will be developed to allow non-NYSTA members to obtain the software.
Objective 6) Project Evaluation
   • Each recipient will be surveyed to determine utility and benefits of TracTurf.

Expected Outcomes/Impacts
Progress to date is noted in the previous section. Future expected impacts follow.

An easy and simple software system that stores pest management records and generates the appropriate forms needed for reporting to the DEC and EPA, as well as in-house records, will have great utility. TracTurf will consolidate and streamline record-keeping for turf managers and will automatically generate business and site specific forms that meet DEC and EPA requirements, as well as the pest management needs of individual turf managers. We also believe that TracTurf will advance changes in plant protection methods that will encourage and enable the turfgrass industry to manage pests in a cost effective, environmentally sound manner. Turfgrass managers can better manage their businesses and make more informed IPM decisions if they are able to easily access computer records of pesticide applications and compare pest management practices from year to year, and track costs and efficacy.