Information Management



BY STEVE AND SUZ TRUSTY

ffective sports turf management requires coordinating multiple factors over the long term. The sports turf manager must: establish standards and develop a maintenance program to meet them despite highly variable conditions and circumstances; train staff to carry out the program; track the various components of the program; monitor and control field use; document program results; and incorporate all of the data collected to adjust the program as needed to produce positive results.

Managing the information stream necessary to produce and administer a comprehensive field maintenance program is as important a tool as performing field maintenance procedures in reaching the ultimate goal-providing safe, playable fields.

To achieve a goal, everyone working in the program must have a clear definition of what that goal is. Bill Whirty, park operations supervisor for the City of Fort Collins, CO, says, "Our program is dedicated to providing our field users with safe ballfields which play consistently well from park to park." This sets the basic standard for the field maintenance program. The program's other elements focus on meeting and maintaining that standard.

The paper trail

For programs with multiple fields at multiple sites and crews operating independently at those sites, a paper-based system can communicate maintenance details as well as provide a method of tracking them.

Whirty used a safety checklist for each type of field to develop a routine maintenance schedule. This is combined as a "Safety and Maintenance Checklist" and gives the on-field staff a written reminder of each facet of the program. The checklist

reduces the risk of a crew neglecting a task or only partially completing one. Each line item on the checklist has a box to be checked "no" or "yes" if repairs are needed.

The staff member making the inspection records when repairs are necessary. Problems are then classified according to their impact on field safety and playability. The checklist makes it easy for the inspector to mark specific inspection line items: one asterisk indicates a priority safety improvement repair, while double asterisks mean a dangerous condition that requires immediate attention. On the checklist form, a blank at the end of each inspection line item provides a spot to record the scheduled repair date and then the actual repair date.

A separate form lists the "Specific Field Maintenance Program" for the year for each field. This form lists maintenance procedures and provides a space for comments, followed by a series of spaces in which the date is to be recorded each time the procedure is performed. This form can be tailored for each field within the program and for the specific maintenance procedures each crew would generally perform. Whirty's form includes the following general headings: mowing, aerification, fertilization, fertigation, overseeding, sodding, pesticides, and other. Subheads under mowing list: height, frequency, mower type, and crew hours.

Whirty's program also includes a "Field Maintenance Request Form" that shows a diagram of the field, and provides blanks designated to list the field location and number, the date, and who reports the problem. Boxes are provided on each side of the perimeter of the field layout diagram to note the compass directions (north, south, east, west). The staffer circles the problem area on the field diagram and writes a brief problem description.

Whirty notes that the inspection frequency for each area depends on how intensely the athletic facility is used. Obviously, increased use will require increased inspection and maintenance and the number of checklists used for each field will document this as well.

All the data gathered on these forms provide a day-by-day record of the maintenance program. That information needs to be compiled and analyzed in order to fine-tune the program for the next year. This can be done with additional paper forms or on a computer system.

Tracking on the computer

Tim Moore, CSFM, ballfield coordinator for the Maryland National Capital Park & Planning Commission, Silver Spring, notes that using the computer to store information is much like using a storage building. Information is entered into a database and stored for later use.

Information from paper-based maintenance checklists can be entered into the database by a crewmember, supervisor, or office staff personnel, whichever best fits the facility's overall system. Additional information can be added to the same database, or stored in a different but compatible database, to provide more comprehensive information. Moore recommends tracking degree-days, daily temperatures, humidity, rainfall amounts, and any other weatherrelated data that will be beneficial in developing and carrying out the maintenance program.

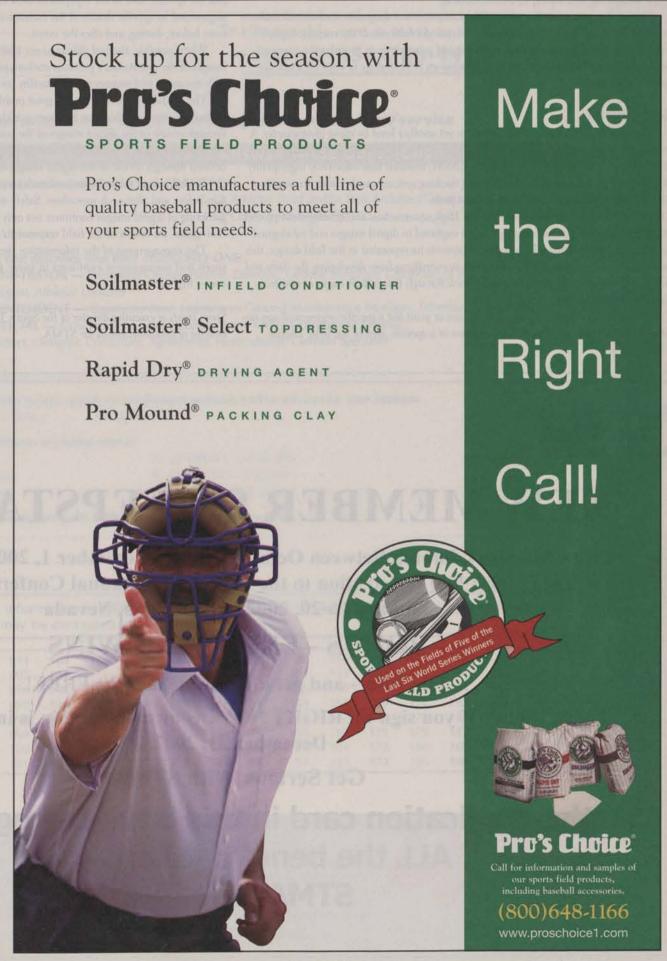
Equipment and material use and labor hours expended also can be tracked within a computer database

An inventory control database could be as basic as recording materials received, such as fertilizer, pesticides, soil amendments, or irrigation parts, and noting when those items were removed from inventory for use. A more detailed program would tie material use to specific fields. This could be set up as part of the basic inventory control program, requiring that materials be allocated to individual fields when released for use. Or, it could be tied to specific fields by including the information in a specific field maintenance reporting form.

The same form also could record the types of equipment and the amount of time each piece of equipment was used at each specific field. Labor hours expended, further broken down to the number of hours expended by each individual, also could be recorded for each specific field.

By entering the costs of materials, equipment use per hour or minute, and the direct salary and additional support costs associated with each of the staff, the computer can be used further to track these maintenance components. This could be done for individual line items, for example (20-10-5 fertilizer from a single manufacturer or supplier); with the cost (xx cents per lb.).

The information, once stored, could be retrieved in various forms to fine-tune the program. Group line times (such as all fertilizers) could be developed to compare the amount of fertilizer used overall, the amount used per type of field (baseball, softball, football, soccer, etc.), the amount used per specific field, and the costs related to each of the categories. Use and costs of equipment, materials, and labor with in-house field maintenance could



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be compared to same components and costs for contracted field maintenance.

Special projects, such as field construction or renovation, could be set up as separate databases or incorporated as group line items in the master database.

The computer then becomes a tool for tracking your budget. Enter the expenditure information in the established categories to track actual costs against budgeted costs. Moore notes the computer can generate weekly, monthly, quarterly, and/or year-end reports that provide credible, realistic data to use in justifying your maintenance program, budgeting, and asking for future funding.

Moore also points out the value of the computer as a diagnostic tool on turf maintenance issues. All the maintenance procedure information and the meteorological information stored in a database for current and previous years provides the ammunition to help in problem diagnosis or to develop an IPM strategy to ward off a turf disease or weed pest.

Going digital

Tracking the information flow can go to yet another level by using photography. A recent behind-the-scenes tour of Invesco Field at Mile High in Denver, conducted by Ross Kurcab, CSFM, and Abby McNeal, CSFM, revealed how effectively high-quality digital cameras and well-defined computer tracking systems can become investigative research, documentation, and management tools.

Every step of the Invesco Field at Mile High construction and development project and the ongoing maintenance program are captured in digital images and catalogued for retrieval. With so many high-tech components incorporated in the field design, this background information is a valuable asset in everything from developing the daily and weekly maintenance program to moving back through the as-built stages of construction for problem-solving.

With this tool, they can pull up on screen or print out a specific segment of any onfield event for review and track the condition of a specific area of the field. Digital images are taken before an event from various angles to show overall field condition and field condition in those areas most likely to be impacted by the event.

An on-field concert will be tracked from the moment the first piece of equipment moves through the tunnel until the last piece of equipment has been removed. The digital shots document such details as where the forklifts and cranes entered the field, how the protective system was set up for this, and where the movement took place. Also tracked with data are the timing aspects of each of these details by day and hour and the specific data of the equipment used and the materials being moved. All this is augmented by specific details of the maintenance practices and of the weather conditions before, during, and after the event.

When possible, the turf management team also will take or track down digital images of the entertainer's previous stadium-site performances and discuss the event with the sports turf manager of that facility (or facilities) to better prepare.

The digital documentation is a great problem-solver. For example, a defined-area surface moisture problem can be more quickly tracked to a sprinkler connection leak through review of the digital images of the construction as-builts in that area. The details necessary to program the winter bench area set up requirements were better defined through review of the digital images of the set up at the old stadium.

Digital images track the steps of each maintenance procedure and the field condition before and after each procedure. Safety and playability are the prime goals, so the gathering of digital images continues not only before and after, but also throughout each game, for review of the field response to the player action.

The management of the information stream segment of the art and science of sports turf management continues to move ahead-with the profession—to an ever—higher level.

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