Maintenance Program for Alberta B. Farrington Stadium

January
Mow 6 times per week at 5/8 inch
Fertilize with 22-3-9 at rate of 1 pound N per thousand square feet
Edge field
Fertilize with 5-5-20 with .42% Barricade at rate of 1 pound N per thousand square feet
Roll infield after games

February
Mow 6 times per week at 5/8 inch
Fertilize with 22-3-9 at rate of 1 pound N per thousand square feet
Edge field
Seed with perennial ryegrass at outfield positions after tournaments
Roll infield after games

March
Mow 6 times per week at 5/8 inch
Fertilize with 22-3-9 at rate of 1 pound N per thousand square feet
Edge field
Hose edges
Roll infield after games

April
Mow 6 times per week at 5/8 inch
Edge field twice

May
Mow 6 times per week at 5/8 inch
Fertilize with 21-0-0 at rate of 1 pound N per thousand square feet
Edge field
Hose edges

June
Mow 3 times per week at 1/2 inch
Deep tine core aerify and remove cores
Topdress with 25 tons of sand
Edge prior to scheduled events
Fertilize with 21-0-0 at rate of 1 pound N per thousand square feet

July
Mow 3 times per week at 1/2 inch
Edge prior to scheduled events
Apply ant control if needed following regular IPM procedures

August
Mow 3 times per week at 1/2 inch
Fertilize twice with 21-0-0 at rate of 1.25 pound N per thousand square feet
Fertilize with 5-5-20 with .42% Barricade at rate of 1 pound N per thousand square feet

September
Mow 3 times per week at 1/2 inch
Edge before first practice

October
Mow 3 times per week at 1/2 inch
Hose edges
Start thinning Bermudagrass for overseeding

November
Hose edges
Solid tine aerate
Scalp and overseed with 450 pounds of Chaparal Perennial ryegrass
Lightly topdress with sand
Fertilize with 6-20-20 at rate of 1pound (P) per thousand square feet
Fertilize with 22-4-10 at rate of 1pound N per thousand square feet
Mow 2 times per week at 5/8 inch

December
Mow 3 times per week at 5/8 inch
Fertilize with 22-3-9 at rate of 1 pound N per thousand square feet

in the 110 to 115 degree range. So, when the season ends in June, we'll pull the bases and put them away but leave the plate and the rubber. We'll clay everything, level the field out, drag it and water it, and basically put it to bed until the August start up for the fall season, unless we need it for an event. We'll keep just enough water on the outfield to keep the grass going."

Average annual rainfall is 7 inches a year. Except for a few good springtime storms, most rains are around a tenth of an inch. A quarter to one half inch is heavy rain. But, during the 2003 season, the greatest challenge was rain. "In March, 4 inches of rain fell, over half of our annual average. Our custom cut tarp did a great job for us," says Wozniak. "Because any soft spots could become slick, we keep the infield as firm as possible. You could actually walk through a standing water puddle and not leave a footprint. So even with the heavy rains, the infield would be playable soon after the rain stopped. The only rainouts came from too much moisture in the turf area."

On a typical practice day, the crew pulls and plugs the bases, and repacks whatever clay is necessary in the pitcher's area, batters boxes and catchers area. The back edge is swept to keep dirt off. The skinned area is then dragged using a 6 x 6-foot drag screen pulled by a field rake. All excess material is scooped up and discarded. The field is then watered with the sprinkler while the other areas the sprinkler doesn't cover are watered with a 1-inch hose. The dugouts are swept. The warning track is hand dragged with a 6 x 3-foot mat and watered if necessary. The bullpens and batting cages are raked and packed, and watered if needed. The infield is watered again, bases installed, and the infield foul lines are chalked. Wozniak meets with the coaching staff and practice begins.

For games, the same process is followed. In addition, complete game lines are chalked and foul lines are painted in the grass using a 3-inch paintbrush. A stencil will be used to paint a logo in the dirt behind home plate. The warning track is dragged by hand and watered using a 50-foot hose and the five quick couplers spaced along the track. After infields, the crew sets freshly painted bases, puts down the batters box and rakes out the spots used. They paint the pitching rubber and home plate and hang up the banners around the stands.

Wozniak says, "Our goal is to have the safety and playability of the field the same for all practices and games. If there are multiple games (double, or triple headers or more), the field rake is used for a quick drag between games while the pitchers area and plate area are raked and packed. This is usually complete in about 5 minutes. If there is more time, we will run the sprinkler until the umpires stop us. Immediately following all games, the infield and practice/warm-up areas are completely prepared for the following day."

Right field has been a persistent problem after it was used as a load in area for construction of the Stadium. Flatbed trucks, forklifts and cranes all did significant damage to the area. Construction was still in process when the team started practice that year, so once the stands and dugouts were built, the crew moved home plate out 8 feet and shifted everything else to accommodate it. That March, they tilled the whole field and removed 12 loads of rocks, nails and other debris left by the construction. Even now, tilling by the dugout areas and stadium will turn up a bit of hidden debris.

Wozniak says, "We've used aggressive aeration to relieve the compaction in right field, and have slowly redeveloped good conditions for growing grass. Our only weed problems have been Poa Annua in the cooler months and purple nutsedge in the area where we moved in the outfield fence from 225 feet to 190 and 210. We've pretty well eliminated both of these. This past March, we aerated wear areas and overseeded in the outfield positions and those spots where we'd taken out the last of the Poa. That little extra attention brought the turf back into top shape after those 41 early games."

In order to keep the field at its best, Wozniak stresses close communication with the coaches and players. He gets the schedule at the start of the season so maintenance procedures can be fit into the travel, practice and game slots. He'll check in with the softball coach regularly to confer on the teams' preferred infield moisture levels and to update her on procedures, even such little things as rerolling the field, since it could affect ball speed during practice. They'll work together to coordinate the fall overseeding program so practices can move off the turf to allow the transition with as little disruption as possible for the team.

Wozniak says, "My crew and I are dedicated to providing the best possible playing conditions for the Alberta B. Farrington Stadium softball field and for all the athletic fields at ASU. We greatly appreciate the support of the coaches, the players, the athletic department and their recognition of our part in the overall ASU athletic program." ST

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MAXIMIZING WATER USE ON ATHLETIC FIELDS

BY **LUKE FRANK**

There are numerous approaches to effective turfgrass cultivation. The use of nutrients, surfactants, soil amendments, and other elements can certainly improve turf health, as can verticutting, regular aerification and other cultural regimens. But when you get right down to it, for most facilities optimizing irrigation system performance and scheduling regimens are going to yield the greatest results.

Irrigation management is vital to the success of any turf management program. There are at minimum three courses of action to take for effective, responsible irrigation management:

- A thorough irrigation system inspection should be performed to evaluate component performance and overall irrigation efficiency, and determine precipitation rates;
- regular scheduling adjustments must be effected according to historical and real-time weather condition; and
- regular irrigation system inspection and maintenance routines must be in place.

The exception is a turf manager who routinely and fastidiously inspects an irrigation system. The rule seems to be responding to damage or a larger crisis, and then cursing the irrigation system for failing.

Take the time to create an irrigation system inspection program and tracking spreadsheet to identify and repair malfunctioning irrigation equipment before it becomes a problem. During the busy season, an irrigation specialist on your crew should be monitoring irrigation functions daily. This technician should continually inspect the entire system as follows: Meters and pumping operations should be inspected daily. Perimeter heads and valve boxes twice weekly. Internal heads and valve boxes weekly. Turf quality every time you're on the site.

Head check

When inspecting sprinklers, use the following guidelines:

- Check the height of each head ensuring discharge is clearing the turf. Be sure the head is level.
- Check the coverage of full- and part-circle heads to ensure the sprinkler is covering the area of its intent and turning completely. Also measure the radius of throw and compare to manufacturer's specs.
- Check the sprinkler housing for damage and remove any sand, grass or other debris.
- Check the nozzle disbursement of each head. Note the nozzle pattern and look for obstructed orifices. Twice yearly, check the nozzle size using a drill bit to compare to the original size.
- Use a Pitot Tube to check nozzle pressure at discharge, and log the data for future reference and comparisons.
- Check for weeping electric valves, which usually indicate debris that should be removed.
- Check any low heads for drainage, which might indicate a valve is weeping or a need for check valves.
- Log all work and keep records of sprinkler model, nozzle size, pressure at head, radius of coverage, and speed of revolution.

Valve check

Use the following guidelines when inspecting valves:

- Check access to all valve boxes.
- Check all wire connections.
- Check to ensure electric valves close and open, both electrically and manually. If a single valve doesn't open, check the solenoid, wiring or tubes. If the problem is electrical, it can be either the common or hot wire. If several zones are

down, check the controller for both input and output power. If the power is good, check the area to the first zone for damage to the hot or common wires. Target areas of recent work.

• Check all gate and ball valves to ensure they open and close, and that all are clear of debris and accessible. Leaking around the top of a manual valve indicates that the packing nut needs tightening. Leaking through the valve indicates either debris lies between the disc and seat, or that the disc is damaged.

•Check the pressure setting on all pressure-regulating valves against logged data to ensure proper settings. A difference of five to 10 pounds can seriously affect intended precipitation rates.

Controller check

Use the following guidelines when inspecting controllers:

• Check connections.

• Check grounding and test once yearly.

• Check irrigation schedules, and test manual operations of the zones that you checked that day.

• Test for continuity, and voltage input and output from the controller.

• Check for and remove debris.

• Test any rain, moisture or shut-off devices.

• Have wire-tracking tools on hand to locate weak or broken wires.

Pipe check

Use these guidelines when checking pipes:

• Traverse the pipe route looking for puddles, flowing water, wet spots, places where equipment suddenly scalped the turf and new lakes or ponds that may have developed overnight.

• With help, activate zones and listen for sounds of water hammer or other unusual pipe noises.

Building a responsive inventory

With your system inspections completed, use your spreadsheet to record system failures. Then you'll know which parts to keep in stock for quick repairs, and you may have identified a more serious problem for which to budget and repair or replace down the road.

Spare irrigation parts should be inventoried and maintained to handle the most common failures, so parts needed for any repairs are on hand. Ensure that the spare parts are of the same make and model as those on the site. Product integrity absolutely plays a role in irrigation efficiency.

You've optimized the performance of your existing system (hopefully without too much investment) and you have your inspection and repair spreadsheet in place. Now it's time to refine your irrigation scheduling.

Developing accurate irrigation schedules requires first-hand knowledge of your system's strengths and weaknesses, and where the greatest management and equipment improvements can be made the quickest.

Catch-can tests (see "Q&A" p. XX) are excellent opportunities to assess your system's performance while determining each zone's precipitation rate. You have to know what at what rate and how evenly your system is applying water. At the very least, run a catch-can test per zone to determine the lower quarter distribution uniformity. This will enable you to schedule to the driest spot in the zone.

Using ET data

ET (Evapotranspiration) data, real-time or historic, should be the cornerstone of your irrigation scheduling. On-site weather stations are not the only source for ET data. Most sprinkler manufacturers or university extension agents can likely provide monthly reference or historical ET for your area, from which you make, at minimum, simple water-budget adjustments monthly, based on historic weather inputs and precipitation rates.

Professional turf managers should have a monthly baseline irrigation schedule and be prepared to make daily or weekly adjustment according to real-time site conditions. Be ready to respond to wind, rain, heat, and humidity conditions on your turf site.

ET has certainly become more mainstream over the years in creating more accurate irrigation schedules, and there are volumes of manuals, guides and other literature that explain in great detail how data is collected and used.

All of these activities are intended to create a proactive turf management program that:

1. Prevents water waste or plant stress and the associated expenses.
2. Prevents disease and erosion that comes from overwatering.
3. Prevents system component wear-and-tear.
4. Prevents turf damage associated with pedestrian and vehicle traffic.
5. Reduces your water and power and manpower consumption. ST

Luke Frank is a veteran irrigation writer and editor. He can be reached at lukefrank@earthlink.net.

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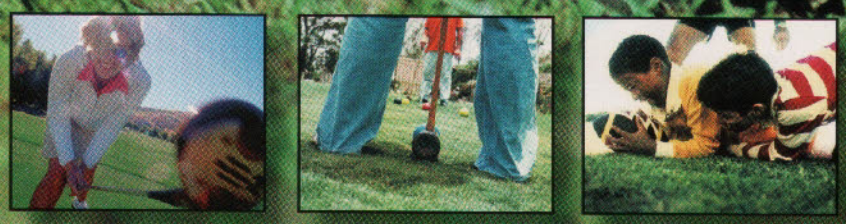

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