

# JOHN MASCARO'S PHOTO QUIZ

#### Answers from page 17

he green turf surrounded by brown turf is not actually a problem, just a neat situation I could not pass up taking a picture of. Last year, ESPN became a partner in Disney's Wide World of Sports Complex in Orlando and one of the upgrades to the facility has been the installation of miles of cables for televising games played at the facility. In addition to the cameras, many plasma television sets were also being installed all over the complex. With all this new expansion, comes trenching. This particular trench was dug in the area behind the baseball stadium and after the trench was backfilled, the grounds crew installed some sod that had been leftover from a prior baseball stadium turf repair. The base grass was Bermudagrass and it came from the sod farm already overseeded with ryegrass and ready for play when installed in the stadium. When the sod was installed over the trench in this landscape area, the surrounding Bermudagrass was also green and it blended in nicely. However, Orlando had an unseasonably cold winter this year and the surrounding Bermudagrass went dormant, leaving the overseeded grass that was placed over the trench nice and green.

Thanks to Preston Courtney, Sports Turf Manager at ESPN's Wide world of Sports Complex at Disney in Orlando for allowing me to take this photo.

If you would like to submit a photograph for John Mascaro's Photo Quiz please send it to John Mascaro, 1471 Capital Circle NW, Ste # 13, Tallahassee, FL 32303 call (850) 580-4026 or email to john@turf-tec.com. If your photograph is selected, you will receive full credit. All photos submitted will become property of *SportsTurf* magazine and the Sports Turf Managers Association.





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# Watering artificial turf: the state of the art

f you tell someone you're installing an irrigation system on a synthetic field, it's likely you'll be met with a puzzled look, followed with a series of questions like:

"You're doing what?" "Why would you water an artificial field?"

#### "Isn't the reason for having a synthetic field so we don't have to water it?"

But not far into an explanation of what this procedure entails, the incredulous looks disappear, and they grasp the reasons for and benefits of watering these new-generation fields.

In the past, watering systems have often been to small, lacked sufficient range, or not been capable of applying large enough amounts of water to the field surface in a short enough period of time to make them feasible. Now, however, irrigation technology is catching up with the demand for synthetic surfaces and the desire to water them.

Several companies are attempting to build or currently are marketing largescale irrigation heads that can be mounted out of the field of play. For example, Underhill sells the M120 and M160 high capacity pop-up heads for in ground installation. Nelson Irrigation produces a water cannon called the "Big Gun." Hunter Industries sells high-volume ST-90 heads, which are then installed in-ground, on or off the actual playing surface. These heads are equipped with a rubberized top to absorb player impact. Other companies are producing heads or modifying existing ones for this market as well.

Many sports turf managers are divided on the topic of watering synthetic fields. But it is important, regardless of your stance, to consider the health and safety risks that accompany an unwatered artificial surface. They include

### Irrigation&Drainage By Steve Bush, CSFM

higher surface temperatures, as well as costly complications with sanitation and biological control.

It may come as a surprise, but synthetic surfaces have been watered for years. Since the 1970's, field hockey has been played primarily on artificial surfaces. Even today, athletes prefer to play on a watered, older-generation artificial turf instead of the new synthetic generation with fiber strands. This is because while newer fields need to be kept sopping wet due to their fast-draining fiber surface, the older artificial turf acts more like a tray that holds the moisture. The water reduces amount and severity of abrasions incurred by players who fall or slide on the surface. In addition, water helps the ball stay on the ground more consistently, cuts down on large bounces, and cools the surface by several degrees.

The University of Iowa has been a Midwestern field hockey powerhouse since 1982, a period during which they won their conference 17 times, scored two second place finishes, ranked in the Elite Eight or better in the NCAA tournament, and won three runner-up finishes. Due to hosting NCAA games and countless tournaments, the University demands a superior playing surface and optimal field watering system to provide a consistent competitive surface.

However, when Iowa's field hockey facilities were originally built, the initial contractors mounted Rain Bird 1150 golf heads in concrete around the field. These heads did not provide enough water to the center of the field. To compensate for this, three Nelson "Big Guns" were added: one was placed on the goal backstop supports on each end of the field, and a third one was placed mid-field under the bleachers, requiring that the bleacher pads be removed in the process.

The entire process was tedious and made worse by the fact that field hockey requires the field to be watered before the game and at halftime. In response, the university began seeking a system that would eliminate these hassles and get more water on the field more quickly.

When Bush Sports Turf was recruited for the job, we knew it would be a unique and challenging project, especially since the new watering system needed to

Since the 1970's, field hockey has been played primarily on artificial surfaces. Even today, athletes prefer to play on a watered, older-generation artificial turf instead of the new synthetic generation with fiber strands.



be installed into the existing facility. This would mean going under, around and through the existing system, buildings, bleachers and sidewalks. We collaborated with Iowa's superintendent of grounds, Ted Thorn, John Deere Landscapes, Underhill, and Hunter to come up with the final design and system components.

The system would consist of the following: • New water service, Backflow preventer and water meter. New six-inch PVC mainline with all cast iron fittings

• A Watertronics 30 horsepower booster station that would provide an increase from 70 PSI to 115 PSI discharge pressure at 450 gallons-per-minute.

• Six Underhill Mirage M-160 heads, each applying 220 gallons-per-minute

• Six Hunter I-25 high speed rotors

• Custom-made head restraint fixtures for each of the heads

• High-density polyethylene enclosures with laser-cut galvanized steel lids.

• Four quick couplers at each of the four corners

• Hunter ACC decoder control system

with composite pedestal and ROAM remote • A custom warning system connected to PA system

• Emergency system shutoff

The system had to be completely new from the city water main to accommodate the anticipated flow of 450 gallons-perminute, while running two of the Underhill M-160 heads at a time. This would include a new booster, 6-inch backflow preventer, and water meter. The old system used a 4inch mainline that would only accommodate a flow of around 200 gallons-per-minute. The other challenge was that the existing system had to be left intact because the adjacent soccer field and surrounding landscaping was tied to the 4-inch main. In response, we installed the new 6-inch mainline loop around the perimeter of the field. This required hand-digging in several spots, due to existing utilities and directional boring under existing pavement and walks. The longest section of sideline required a 160foot directional bore. All of the fittings were cast iron, with bolted restraining rings and concrete thrust blocks.



>> 160-FOOT MAINLINE glued for directional bore under sidelines.

One problem with irrigation heads in the Midwest is that frost causes them to move up and down, independent of their surroundings. This was an issue with the existing heads on this project, as they had heaved and were sticking up above the concrete. This created a real safety issue. Due to the size of the Underhill M-160 head, we needed a method for keeping the heads from moving up and down and requiring future adjustment. This was especially important since two of the heads were mounted in the concrete at the edge of the field.

We solved this by building a clamping fixture that held the head, as opposed to



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### **Irrigation&Drainage**



>> LEFT: The old heads had heaved because of frost. MIDDLE: I-25 warning head running as Underhill M-160 head comes on. RIGHT: Large heads come on.

mounting it in gravel or soil. The fixture anchors to a concrete footing below the 42-inch frost level in our area. A drain was also installed in each of the footings. Next, we built the fixture using the following procedure:

• The heads were clamped into the fixture at the proper elevation to line up with the enclosure lid. This also allowed the entire head and valve assembly to be preassembled in the shop then bolted in place as a single unit.

• A flexible stainless steel connector then connected the assembly to the mainline, eliminating the need for a swing joint.

• This entire unit was then covered with a high-density polyethylene enclosure with a galvanized steel diamond plate lid.

• The lids were modified by laser-cutting a hole that was the size of the M-160 and Hunter I-25 sprinkler tops.

• Due to the size difference in length, a custom bracket was installed under the lid to keep the I-25 at ground level.

These custom modifications allowed for both irrigation heads to be at exactly ground level at all times and creates a smooth top with no voids between the heads and lid.

Due to their size and the 220 gallons-per-minute that each of the Underhill heads apply, we also incorporated a few safety features into the system. This is important in field hockey systems because the field is watered when players are still on or near the field. The system we installed has a warning device that is connected to the controller, and triggered using a Hunter decoder. Before the system starts, an alarm sounds for 5 seconds before a voice announces, "Caution: field watering is about to begin. Please exit the field." Following the announcement, a Hunter I-25 high speed rotor mounted in the enclosure lid runs for 15 seconds to alert anyone within the heads' vicinity to move. Finally, the M-160s activate and run for 5 minutes. The entire watering cycle takes approximately 17 minutes, and applies nearly 6,600 gallons of water to the field.

If on some occasion the safety measures taken are not enough to get individuals to move, an emergency shut-off button is located on the press box at midfield right between the team benches. This button is wired directly to the controller, and will immediately shut down the entire system when pushed. Once things are considered safe again, the button can be twisted back to the "on" position, and the system will resume.

To tie each of these unique features together, the Hunter ACC Decoder Control System with composite pedestal was installed to run the watering system. This controller was chosen for the many extra features it offered, including the ability to program zones in seconds instead of minutes. This was an important feature because the PA system alarm only runs for 5 seconds, and the I-25 warning heads only need to be run for 15 seconds as a quick warning before the large heads initiate.

Another beneficial feature of this controller is its hidden menu

### **Turfgrass Water Conservation Alliance debuts**

The Turfgrass Water Conservation Alliance (TWCA), a non-profit organization dedicated to improving the environment through water conservation initiatives, made its debut at the Midwinter Conference of Turf Producers International earlier this year.

TWCA recognizes and promotes plants that can thrive using limited amounts of water, helping to preserve our water resources. To accomplish this goal, the TWCA program is designed to recognize plants and other live goods in the lawn and garden industry that provide a clear benefit in water conservation. Products that become TWCA qualified will have successfully met a stringent set of criteria. Consumers will be assured that any product with the TWCA qualified seal provides true water conservation benefits.

The use of water to maintain residential lawns, recreational areas and landscapes, and other non-agricultural uses is often criticized and scrutinized by various governing bodies and the general public. To meet the growing tide of concern over non-agriculture water use, it is imperative that researchers work to introduce new plants and other live goods into the market that can survive under reduced or limited water while still maintaining overall plant health.

To learn more about the Turfgrass Water Conservation Alliance and how you too can make a difference, go to www. tgwca.org or email info@tgwca.org.

#### Products that become TWCA qualified will have successfully met a stringent set of criteria.



>> LEFT: The system's emergency shut-off. MIDDLE: If service is needed, these enclosures allow easy access. RIGHT: Safe walkover field side installation.

that allows you to put heads into station groups. This was a key component, since the main problem with the old system its inability to soak the field as quickly as possible. With the 6-inch mainline, two M-160s are able to run at the same time, which cuts in half the amount of time it takes to water the field. Teams are now able to warm up longer between games and at halftime because they are no longer waiting for the watering system to finish its cycle.

Finally, a Hunter ROAM remote was installed so individual heads or cycles can be started wirelessly from anywhere on the field. It also allows the user to start their pre-programmed cycles or turn on heads individually when needed. This remote has a range of up to 1000 feet, and is easy to use, and installation of the receiver was simple, thanks to Hunter's SmartPort connection on the controller.

As the installation of artificial sports turf fields increases worldwide, it is important to optimize the playing surface with proper field watering equipment. Although much of what is used now for this purpose is new or modified technology, one can only imagine what options will be available in the near future.

Steve Bush Is a Certified Sports Field Manager and owner of Bush Sports Turf, an athletic field consulting and construction company. To get more information contact Steve at Steve@Bushturf.com.



### **Tools**<sup>6</sup>Equipment



#### Hunter XC Controller improved as X-Core

Hunter's XC controller, the entry-level product in their popular controller line, is now X-Core. Compatible with the revolutionary Solar Sync ET sensor, X-Core can be converted to a Smart controller with advanced water conservation technology, regulating irrigation runtimes based on locally measured weather. Now smart, weather-based control is available in every Hunter controller category (AC powered) And with the optional SmartPort, X-Core works with all Hunter remotes, such as the ROAM and ICR, making installation and maintenance even simpler.

X-Core maintains all the innovative features of the XC, such as a 365-day calendar, three independent programs (each with four start times), global seasonal adjustment, and station-controlled sensors that made the XC a blockbuster product.

www.hunterindustries.com

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#### **New Deere** commercial mowers

Looking to simplify the decision process for entrylevel professionals. John Deere announces the launch of the Z700 ZTrak Series.



www.johndeere.com

#### **Turfco launches** new CR-7 topdresser

Turfco introduces the new CR-7 topdresser and material handler designed to handle the mid-range level of topdressing and renovation. The new CR-7 is great for sports complexes with multiple fields and for completing renovation work. The CR-7 uses WideSpin technology, which gives operators the most accurate spread from light to heavy and up to 35-feet wide, makes quick work when topdressing multiple fields. An adjustable spinner angle allows you to drive topdressing into the turf for better integration with a total range of 17 degrees up and down.

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#### 60-hp Jake R-311 rotary mowers now available

Jacobsen has made available the R-311 Turbo rotary mower with a more powerful, turbocharged Kubota V2403-M engine. The 45 hp model is now discontinued.

The new engine provides more torque making the R-311 the ideal mowing solution for the challenging turf conditions often found on sports fields, parks, recreational areas and golf courses.

Further enhancements over the previous 45-hp model include a removable storage console and improved engine bay sealing. Serviceability has been improved by the addition of an angled quick-drain valve for the hydraulic tank, external battery charging posts and replaceable height of cut adjustment brackets.

www.jacobsen.com

#### **Fungicide activator**

SYNC fungicide activator is a proprietary adjuvant technology designed to enhance both contact and systemic fungicide performance. Unlike other adjuvants, SYNC was specifically developed to optimize the performance of fungicide applications at lower spray carrier water volumes. Three years of university trials and thousands of field applications show that tank mixing SYNC with fungicide applications results in optimized disease control, increased fungicide longevity, increased efficacy at lower spray volumes, reduced application times and less interference with play.

www.precisionlab.com/sync

#### HydroSeeder for small and mid-sized projects Finn Corporation's T60 Series II

-inn Corporation's 160 Series II HydroSeeder is a versatile, economical solution for seeding and mulching projects. The unit is available as either a trailermounted model, the T60T, or a

skid-mounted model, the T60S. Both are ideal for yielding professional results on small and midsized hydroseeding applications.

Powered by a 25-horsepower Kohler Command gasoline engine with electric start, the T60 includes a durable steel tank with a 600-gallon liquid capacity. The tank accommodates 1,550 pounds of granular solids or 200-250 pounds of fiber mulch, allowing users to cover up to 7,200 square feet per load with seed, fertilizer or mulch.

www.finncorp.com

#### New Q4 Plus herbicide PBI/Gordon



Corporation introduces new Q4

Plus. an improved formulation of their grassy and broadleaf herbicide containing quinclorac. Previously sold as Q4 Turf Herbicide with 0.5 lbs./acre of quinclorac, the product has been reformulated with 0.75 lbs./acre and will be sold as Q4® Plus Turf Herbicide. The other ingredients - sulfentrazone + 2,4-D + dicamba – remain the same. With the disappearance of MSMA, new Q4 Plus offers more knockout power on grassy weeds. Like Trimec Plus, which contains MSMA, Q4 Plus offers a single product control option for grassy and broadleaf weeds and vellow nutsedge. The fast action of Q4 Plus also gives visual results within 24-48 hours. www.pbigordon.com



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T COULDN'T HAVE BEEN EASY but McNair Field in Forest City, NC won the 2009 STMA Schools/Parks Baseball Field of the Year without the benefit of even one fulltime employee dedicated to its maintenance.

Brian Blanton is nominally the head groundskeeper but he is also superintendent of the town's golf course; he has two full-timers on the links who also work on the baseball field itself, while two other employees maintain all the parks and outside areas of McNair Field. So that translates into very little sitting around time for Matthew Gowan, Chuck Freeman, Bobby Adair and Mike Flynn, not to mention Blanton of course.

Blanton wrote in his award entry: "The challenge of not having any full-time employees dedicated to McNair Field has been a tough one. [Beyond the staffing challenges] we also are under many time restraints. And, keeping the field playable during the wet season in May is still another challenge.

"We have to use our VertiDrain deep tine aerator (3/4-inch holes by 10 inches) to help control water on the field, which works very well. We host many games, including American Legion and Coastal Plains League contests; some weeks we have a game every night.

"We have overcome the many challenges that sod can bring. We get our sod from a nursery 120 miles away, so in order not to make that trip as often, we started growing our own sod, which is cut by the nursery super thick, approximately 3 inches. Our sod grows on top of a tarp that sits on a concrete pad, which enables us to give the same care to it that we give to the field itself. The convenience of having sod at the field after each game enables us to keep the field in great shape."

**SportsTurf:** How has the recession affected your operations?

**Blanton:** Rutherford County previously was a huge textile producer. When all of the plants closed down it left a lot of people unemployed, like the majority of the textile towns in America. The baseball team has really given everyone a reason to come together. Forest City's Town Council members want the field to be as clean and green as possible every game. They look at it as providing a service to the community. They provide me with all the necessary resources to make the best playing surface possible. The field is the "crown jewel" of the town's recreation facilities and operations have only been slightly affected by the recession.

**ST:** What changes to your maintenance plans are you making this year, if any?

**Blanton:** Maintenance plans for this year should remain the same with a few excep-

tions. Due to the fact our ryegrass is thicker than anticipated a couple more vertical mowing sessions have been needed. Also there have been discussions about buying laser equipment and performing the yearly skin renovations ourselves instead of contracting the work to other companies.

**ST:** What's the best piece of turf management advice you have ever received?

**Blanton:** The best advice that I have received was to not be afraid to ask questions when in doubt. There is always someone out there who has found themselves in the same situation and found a solution. I am fortunate enough to have salesmen that were superintendants at prestigious courses in my area. They have a wealth of knowledge and are great resources that allow me to stay updated on what other turfgrass managers are doing for disease prevention and what disease pressure they're experiencing.

**ST:** How do you balance your work and personal time?

**Blanton:** During spring and summer there is very little balance between work and

personal time. Trying to maintain ryegrass at 5/8 inches through the month of June in the Carolina heat is tough. It seems like you're always dragging hoses and chasing hot spots even while using the best wetting agents. With the 75 games played between April and mid-August McNair Field becomes my "home away from home."

**ST:** If you could have any turf manager job in the country for a week, what would it be and why?

**Blanton:** I would like to work on the crew at Turner Field for a week to observe their field maintenance techniques. Some possible questions I would ask is how they transition from rye to bermuda and at what height they maintain their grass at different times of the year. The climate in Atlanta is very similar to that of the Carolinas therefore the experience at Turner Field would give me another perspective on how to keep McNair Field at its best.

**ST:** How do you work with those who use your facilities to promote better turf?

Alabama

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Citadel

Florida

LSU

Maryland

MS State

Miami

Bears

Browns

Cardinals

Chargers

Dolphins

Chiefs

Connecticut

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Georgia GA Southern

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Michigan State

NFL:

N. Carolina

Oklahoma

Penn State

Pittsburgh

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Blanton: The coaching staff of the Forest

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# F.O.Y. I McNair Field

City Owls and I work together to schedule maintenance and practice times. Before batting practice can begin the infield screen must be placed over the field and fungo will be hit off the on-deck mats. I also ask that they limit the number of players standing around the turtle at one given time to limit compaction of the field. The staff and players are always cooperative and helpful at keeping McNair Field the best in the Coastal Plain League.

Achieving the Field of the Year honor would not be possible without the dedication of my crew. I would like to thank Matthew Gowan, Travis Keever, and Tim Blanton. Their countless hours are much appreciated. I also want to give a special thank you to my wife and son for their understanding of my long hours and late nights.



### McNair Field Monthly Maintenance/Fertility Program

#### JANUARY

Mow 1x/week at 1"

#### **FEBRUARY**

Mow 1x/week at 1" Edge 1x/month Drag infield Week 1-Fertilize 16-4-8, spray .5 lb. N/1,000 sq. ft. Week 2-Fertilize 16-4-8, spray .25 lb. N/1,000 sq. ft. & 2 oz. Fe/1,000 sq. ft.

#### MARCH

Mow 3x/week at 7/8" Edge 2x/month Drag infield Hand water dry spots as needed; aerate wear areas with solid tines Week 3-Fertilize 32-3-12, 1 lb. N/1,000 sq. ft.

coated with Barricade .75 ai/acre Week 4-Spray Daconil, 4 oz./1,000 sq. ft.; Subdue, 5 oz./1,000 sq. ft.; Gary's Green, 4 oz./1,000 sq. ft.; and UltraPlex, 3 oz./1,000 sq. ft.

#### **APRIL**

Mow 3x/week at 3/4" Edge 2x/month Drag infield Hand water dry spots as needed; aerate wear areas with solid tines Week 1-Spray Primo, 11 oz./acre Week 2-Spray Daconil, 4 oz./1,000 sq. ft.; Alliette, 4 oz./1,000 sq. ft.; Gary's Green, 4 oz./1,000 sq. ft.; UltraPlex, 3 oz./1,000 sq. ft. Week 3-Deep-tine aerification; spray Cascade, 8 oz./1,000 sq. ft.

Week 4-Fertilize 24-5-11, spray .5 lb. N/1,000 sq. ft.

#### MAY

Mow 3x/week at 3/4" Edge 4x/month Drag infield

- Hand water dry spots as needed; aerate wear areas with solid tines Week 1-Deep-tine aerification Week 2-Spray Cascade, 8 oz./1,000 sq. ft.; Fertilize 24-5-11, spray .5 lb. N/1,000 sq. ft.; Subdue, 5 oz./1,000 sq. ft.; Gary's Green, 4 oz./1,000 sq. ft.; and Banner, .5 oz./1,000 sq. ft. **JUNE** Mow 4x/week at 5/8" Edge 4x/month Drag infield
- Hand water dry spots as needed; aerate wear areas with solid tines
- Skin maintenance-1 ton soil conditioner, nail dragged and rolled
- Week 1-Verticut ryegrass to aid in removal; Fertilize 24-5-11, spray .5 lbs. N/1,000 sq. ft.
- Spray Daconil, 4 oz./1,000 sq. ft.; Alliette, 4 oz./1,000 sq. ft.; manganese, 6 oz./1,000 sq. ft. Week 2-Fertilize 28-3-10, 1 lb. N/1,000 sq. ft. Week 3-Deep-tine aerification Week 4-Fertilize 34-0-0, 1 lb. N/1,000 sq. ft.

#### JULY

Mow 4x/week at 5/8" Edge 4x/month Drag infield Week 1-Spray Revolver to remove ryegrass, .32 oz./1,000 sq. ft. Week 2-Fertilize 28-3-10, 1 lb. N/1,000 sq. ft. Week 3- Fertilize 21-0-0, 1 lb. N/1,000 sq. ft.; spray Primo, 11 oz./acre; and Meridian, 17

oz./acre for grub control Week 4-Fertilize 17-17-17, .75 lb. N/1,000 sq. ft.

#### AUGUST

Mow 4x/week at 5/8" Edge 4x/month Drag infield Week 1-Spray Primo, 11 oz./acre Week 2-Fertilize 34-0-0, 1 lb. N/1,000 sq. ft.

- Week 3-Re-sod areas around home plate and baselines with TifSport Week 4-Spray Primo, 6 oz /acre and Dacopil 4
- Week 4-Spray Primo, 6 oz./acre and Daconil, 4 oz./1,000 sq. ft.

#### SEPTEMBER

Mow 3x/week at 5/8" Edge 2x/month Drag infield Week 1-Spray Primo, 11 oz./acre; fertilize 32-3-12, 1 lb./1,000 sq. ft.; spray Sevin, 6 oz./1,000 sq. ft. Week 2-Deep-tine aerification Week 3-Spray Daconil, 4 oz./1,000 sq. ft.; Alliette, 4 oz./1,000 sq. ft.; and Banner, 1 oz/1,000 sq. ft.

Week 4-Spray Primo, 11 oz./acre

#### OCTOBER

Mow 2x/week at 1" Edge 1x/month Drag infield Week 1-Topdress with 40 tons of sand; sow perennial ryegrass, 8 lbs./1,000 sq. ft.; fertil ize, 5-11-31, 1.5 lbs./1,000 sq. ft. Week 2-Spray Daconil, 4 oz./1,000 sq. ft.; Subdue, 5 oz./1,000 sq. ft.; Banner, 5 oz/1,000 sq. ft.; and Gary's Green, 4 oz./1,000 sq. ft.

Week 4-Spray Daconil, 4 oz./1,000 sq. ft.; Alliette, 4 oz./1,000 sq. ft.; and Gary's Green, 4 oz./1,000 sq. ft.

#### NOVEMBER

Mow 2x/week at 1" Week 1-Fertilize 16-4-8, .75 lbs. K/1,000 sq. ft.

#### DECEMBER

Mow 2x/week at 1" Week 1-Add 10 tons of infield mix; laser grade, roll skin areas and bullpens; and rebuild game and bullpen mounds