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Calendar of Events

(IANJ) Irrigation Assoc. of NJ Winter Technical Seminars & Trade Show:
February 7-11, Holiday Inn-Jamesburg, NJ – SFMANJ member receive member rates! See insert

(NJLCA) NJ Landscape Contractors Assoc 28th Annual Trade Show & Conference:
March 3rd, Meadowlands Exposition Center in Secaucus – See insert

Rutgers University Winter Courses:
February 22-24, 3-Day Athletic Field Construction & Maintenance Course
March 1, 8, 15, 22, Athletic Field Special Topics: Soils, Turf, Athletic Field Construction and Synthetic Turf Products -10% off to SFMANJ members mention this newsletter. To register call 732-932-9271 ext. 630

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January/February 2005
Expo was even more in '04!

By Brad Park, Rutgers University
park@aesop.rutgers.edu

From Tuesday, December 7 - Thursday, December 9, 2004, the New Jersey Turfgrass and Landscape Expo lived up to its billing as "Even more in '04" by providing numerous educational sessions for green industry professionals including sports field managers, lawn and landscape personnel, and golf course superintendents. As usual, the location of Expo – The Trump Taj Mahal in Atlantic City, NJ – proved to be a great location for learning, networking, and playing the slots and table games on the floor of a world-class casino.

The sports field sessions commenced on Wednesday afternoon with talks focusing on construction of natural and synthetic turf fields. Sports Field Managers Association of New Jersey board member Jeff Cramer delivered a talk describing his own personal experiences dealing with sports field construction problems. Jay Warnick, BYU-Idaho, gave a very pertinent talk on synthetic infill system management as many fields in New Jersey are being converted from natural turf to synthetic infill surfaces.

Following the Wednesday afternoon educational session, the Expo trade show resumed and included a new twist for 2004. A Mardi Gras atmosphere was incorporated into the trade show and featured a live Dixieland band, numerous entertainers, and as was customary for the Grand Reception held in past years, good food and cold drinks.

As is commonly the case, managing turfgrass and infield mixes are seldom the limit of responsibilities held by the typical sports field manager; therefore, Don Russo, a recreational facility consulting engineer, was invited to speak on Thursday morning to discuss surface restoration of running tracks.

A highlight of Expo 2004 was the inclusion of renowned sports field manager Floyd Perry to the program. Floyd’s talk titled, “Work harder, not smarter” detailed practical, innovative techniques one can use to improve fields. Floyd spoke again in the Thursday afternoon session and discussed strategies to improve sports field safety and subsequently reduce the potential for costly litigation.

Sports Field Managers Association of New Jersey held its annual business meeting on Thursday afternoon to elect and re-elect board members for the upcoming year. Rob Shortell, a Rutgers student, was awarded a scholarship on behalf of SFMANJ at the meeting. In addition, Ken Mathis, Jeff Cramer, and the Rutgers Center for Turfgrass Science were recognized for hosting the three SFMANJ field days held in 2004.

It’s never too soon to begin thinking about next year’s Expo. Be sure to keep an eye out for New Jersey Turfgrass Association mailings and updates in SFMANJ’s newsletter for program and registration details for Expo 2005. See you in '05! •

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Sports Field Managers Association of New Jersey
Criteria For a Benchmark Infield

By Jim Hermann, CSFM

While working with a local township, the request was made to develop a criteria or set of standards with which each of the infields within the township could be compared. Infields that didn't meet the criteria would be slated for reconstruction.

So many times we as sports field maintenance personal participate in discussions directed toward maintenance strategy on that perfect infield. An infield with ½% pitch starting at a point directly behind the pitchers mound and extending in all directions to a perfectly maintained turf perimeter constructed on a gravel blanket, grown in a sand based root zone and most certainly mowed with a gazillion dollar triplex mower. What's wrong with this picture? I'm sorry but I just can't relate. I have the utmost respect for those involved in the maintenance of such an infield but the truth of the matter is that that's a totally different animal than most of us are involved with.

The purpose of the criteria for a benchmark infield is to provide a reference for all infields. Comparing any infield to these criteria can help maintenance personnel identify potential problem areas. Once identified and corrected, a proactive strategy can be developed to minimize their reoccurrence. This strategy is essential in providing a safe and playable atmosphere for the leagues and teams that utilize these facilities. Based on my experience and to the best of my knowledge, the following represents much of which is desirable in any infield:

Every infield should:

1. Maintain positive surface drainage within a range of .75 to 1.5% slope to minimize standing water or erosion.
   a. At a distance of 50' a 5" rise in elevation would be an approximate .83% slope. At a distance of 40' a 4" rise in elevation would equate to a .83% slope and so on. This is a good reference.
   b. This criterion is field specific. Every reasonable effort should be made to provide positive surface drainage the shortest distance possible to evacuate surface water from the infield to minimize erosion
   c. Crowning from the middle of an infield to the edges would best serve this purpose
   d. Every reasonable effort should be made to prevent funneling of water to minimize erosion

2. Exhibit a smooth transition into adjacent turf areas
   a. Lip management is essential in maintaining this objective

3. Be elevated so as not to allow for surface runoff from adjacent turf areas onto the infield skin
   a. Multiuse facilities are notorious for this error in construction design

4. Provide a home plate with a 1% or 1" minimum rise in elevation from any point a distance of 9' from that home plate

5. Be constructed with ease of maintenance as a paramount objective
   a. Provide an adequate distance between the base paths and adjacent turf perimeter to minimize migration of infield mix into the turf and as such minimize lip buildup.

6. Be constructed with safety as a paramount objective
   a. Be constructed with a consideration for the drainage capacity of the sub base and surrounding soils and as such the potential for a high water table to negatively impact on the playability of that infield
   b. Where a high water table is identified, a subsurface drainage plan should be considered to evacuate that water and maximize playability

7. Provide reasonable accuracy in mandatory dimensions such as:
   a. Baseline and diagonal distances
   b. Pitching distance
   It is interesting to note that the baseline and pitching distances are the...
Rutgers Corner – The Clegg and measuring playing surface hardness

By Brad Park, Rutgers University
park@aesop.rutgers.edu

A common attribute of heavily-used natural turf fields and worn-out synthetic surfaces is unacceptable playing surface hardness. In the case of natural turf fields, soil compaction and surface hardness are the all-too-often results of the disintegration of turfgrass cover. For synthetic fields, older surfaces are often replaced due to surface hardness issues and subsequent concerns over player safety.

A systematic means is necessary to measure and evaluate the surface hardness of sports fields. The American Society for Testing and Materials (ASTM) has developed a set of procedures utilizing a device called the Clegg Impact Soil tester (CIST) to assess the surface hardness of North American football fields (ASTM F 1936-98).

The Clegg Impact Soil Tester (CIST) is a device that can be used to measure surface hardness. The CIST consists of a cylindrical impact missile enclosed in a tube that creates minimal friction. The missile is dropped at a prescribed height of 2.0-ft on the surface to be tested. The CIST is equipped with an acceleration transducer and a hand-held electronic display that allows the user to record values generated by the CIST in units of $G_{\text{max}}$. $G_{\text{max}}$ is a measure of peak deceleration, which is the impact energy of the missile absorbed by the surface. The higher the peak deceleration value ($G_{\text{max}}$), the more energy being returned to the object contacting the surface, or the harder the surface. To put this in perspective, Rogers et al. (1988) found a concrete basement floor produced a value of 1280 using the CIST and was reduced to 260 when the same floor was covered with a carpet pad.

The American Society for Testing and Materials guidelines for testing the surface hardness of North American football fields calls for a “drop test” using the CIST at six specified points throughout a football field, including a goal line, hash mark on the 25-yd line and mid-field at the 50-yd line. According to the specifications, a drop test consists of three successive drops with 3-minute pauses allowed in between individual drops. The $G_{\text{max}}$ values are recorded and the 2nd and 3rd value are added and the sum is divided by two and rounded to the nearest whole number. The $G_{\text{max}}$ value from the 1st drop is disregarded.

Numerous parameters should be reported at the time of testing. In a natural turfgrass system, the surface temperature of the field should be measured at a depth of 0.5-inch. Additionally, a visual assessment of turfgrass cover (e.g. 25%, 50%, etc.) and soil moisture (dry, damp, wet, saturated, etc.) should be made and should be recorded at each test point.

Under a Performance Requirement heading described in the ASTM Standard, the average $G_{\text{max}}$ value at any single test point shall not exceed 200 when tested from a drop-height of 2.0-ft. The standard further notes that the surface system (natural turfgrass or synthetic) should be replaced either in full or in part if one or more of the tested points