Turf students learn by doing

Here are some projects turf students at several universities completed this past academic year. Thanks to Andy McNitt, Pamela Sherratt, Kent Kurtz, Grady Miller, and David Green for their help:

Learn by doing

The Cal Poly Pomona turfgrass program was really launched in 1969 with the hiring of Dr. Kent Kurtz, who brought with him industry experience and the practical approach to turf management was infused into all of the turf classes. "The student needs to see how grasses are installed and established by seed, stolons and sod and how the soil is prepared for planting. They also need to experience aerification, vertical mowing, mowing, renovation, overseeding, and all the aspects of turf management. This is the reason the program has been so successful," says Dr. Kurtz.

Our Lady of Assumption School, Claremont, CA, has had a carnival with rides and booths on their playground turf for many years to raise money for school activities. The playground turf suffered for many years with gas and oil spills from the carnival rides, compaction and unevenness, dead grass and all the ills of a lack of concern.

The site was part of Cal Poly-Pomona class assignments that have students visit challenging situations and try to come up with solutions. Part of it this time was overseeding the school's grounds last winter, part of The Turf Club's community project program to help a non-profit organization each year. Some groups give the club a donation that assists them in traveling to professional meetings like the STMA Conference or GCSAA Conference & Show.

SPORTSTURF Highlights

By Asa High

Transition of overseeded turfgrasses in the southeast can be a difficult period for sports field managers and golf course superintendents. Newer cool-season turfgrass cultivars have proved resilient to warmer temperatures and possess the ability to compete with the underlying Bermudagrass well into the spring and summer months. Thus, turfgrass managers are left with a less than appealing stand of Bermudagrass. I am a University of Florida graduate student working toward combating this dilemma through overseeding research.

As an Environmental Horticulture graduate student specializing in Turfgrass Science, I'm currently evaluating in-season and transition performance of 31 cool-season turfgrass cultivars. Working under the supervision of Dr. Grady Miller and in conjunction NTEP, GCSAA and the USGA, I'm conducting a 2-year NTEP trial at the University of Florida Athletic Association facilities in Gainesville.

Over a 2-year period the overseeded cultivars are evaluated on a number of criteria including: percent establishment, percent coverage, overall quality, genetic color, density, texture, disease resistance, root shear

strength, and transition performance. I will also be working to evaluate modeling methods for predicting cool-season grass transition. Models that will be looked at include Growing Degree Day Modeling and other various models for predicting turfgrass growth.

The implications of this work could have far reaching impacts on turfgrass management and culture. This work could lead to better selection of overseeded turfgrasses for different climatic regions that provide a superior sports turf playing surface. The work could also be helpful to turfgrass breeders looking to breed cool-season grasses with superior in-season performance and excellent transitional qualities. The modeling portion of this research could lead to smoother transition for turf mangers through proper timing of chemical applications to aid in transition.

For more information on this research, contact Asa High at g8trhigh@ufl.edu or Dr. Grady Miller at gmiller@mail.ufl.edu.

Penn State Proud

Penn State has a long tradition of training turfgrass managers. There are currently 240 resident students pursuing undergraduate degrees in turfgrass science at Penn State University. Many more students pursue a degree through Penn State's World Campus, an online education program where students can receive a Bachelor of Science Degree in Turfgrass Science via the Internet.

This summer Penn State students are interning at various golf courses and sports venues around the world. In the sports turf arena Penn State has interns at Fenway Park in Boston, Baltimore Ravens in Maryland, Lakewood Blue Claws in New Jersey, Milwaukee Brewers in Wisconsin, Lebanon Valley College in Pennsylvania, and at Beaver Stadium on the Penn State Campus, among many others.

Of particular note is Aaron Fineberg, one of the SAFE Scholarship winners from last year. Aaron will be interning with Tony Leonard of the Philadelphia Eagles. Along with the everyday maintenance and preparation of the facility for the upcoming season, Aaron's internship project will consist of a study of the chemical control of poa trivialis in high-cut stands of Kentucky Bluegrass.

The objectives of the study include evaluation of the side effects of chemical compounds on the varying cool season turfgrass species present at the time of application, the time needed to see results, and how quickly reseeding can occur.

Having undergraduate students aiding in research in the field gives researchers valuable information regarding real world application of our findings and allows the student and practitioner a greater understanding of the scientific process.

Research Overview

By Jim Brosnan, Ph.D candidate

Little research data exists on the safety or playability of baseball surfaces, especially the skinned portion of the infield. Baseball field managers

place the majority of their effort into maintaining adequate moisture in the skinned areas of the infield. It remains unknown though, how changes in moisture content of this surface affect not only the ball to surface interaction, but the player to surface interaction as well.

As a part of my dissertation research at Penn State University a survey of baseball fields across the United States will be conducted. Fields at all levels of competition will be evaluated for surface hardness and ball bounce. Surface hardness will be measured using both a Clegg Impact

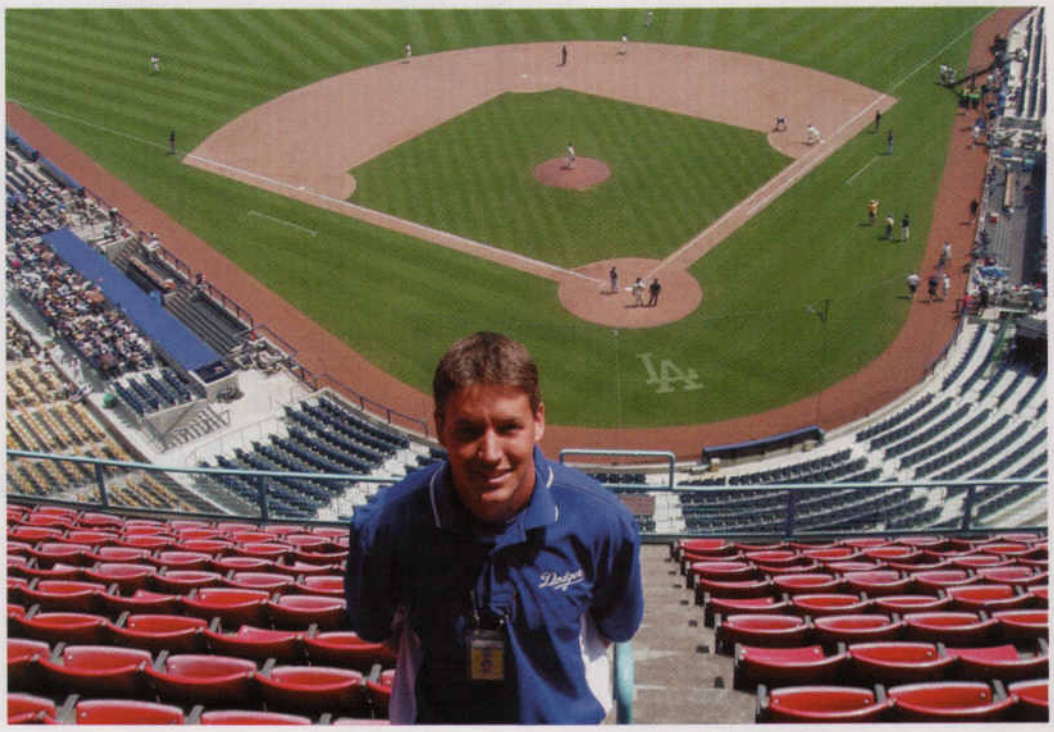
Soil Tester and the ASTM F-355 method.

Ball bounce will be evaluated with an apparatus I developed here at Penn State named PennBounce. This apparatus quantifies ball bounce by measuring the coefficient of restitution (COR) for a playing surface. COR is defined as the ratio of a baseball's velocity after impact with the surface as a proportion of its velocity prior to impact. The apparatus uses infrared chronographs placed twelve inches from the testing surface in an arrangement to obtain the inbound and outbound velocities of baseballs propelled at varying speeds and angles to the surface.

Information regarding soil texture, soil moisture, cutting height, and thatch layer will also be collected. The survey will allow for average baseball field surface conditions to be determined at varying levels of competition.

Upon completion of the survey, field plots will be created at the Joseph Valentine Turfgrass Research Center, University Park, PA. Skinned infield plots, natural turfgrass plots, as well as in-filled synthetic turfgrass plots will be evaluated in order to determine the effects of various management practices have on altering the playability and safety of these surfaces. Specifically, the effects of moisture and inorganic amendments (i.e.-calcined clay) on skinned areas will be investigated.

This project will provide an understanding of how maintenance procedures used in baseball field management effect the playability and safety of the field. It will also provide input into the relevancy of commonly used material testing methods. By gauging actual strain on set forth onto the player due to surface type and correlating that information will values obtained through traditional testing methods (Clegg Impact Tester, etc..), we can begin understand how accurately the evaluation tools we are equipped with today will predict field safety in the future.



Sports turf at Ohio State

By Pamela Sherratt

The Buckeye Sports Turf program at The Ohio State University is now in its fourth year. During that time we have been striving to improve our sports turf research, teaching and extension efforts.

Historically, most of the turfgrass science majors work toward a career in the golf course industry. Out of the 100+ majors it was not uncommon to have just 2-3 that wanted to go on to be a sports field manager. Today, there are 107 turfgrass

science majors and 27 of them are looking for a career in sports turf.

There are currently 18 graduate students in the OSU turf program and 2 post-doctoral associates. Two Ph.D. students recently graduated. One of them, Young-ki Jo, will be going on to the University of Wisconsin as a post-doc to study gray leaf spot and pink snow mold resistance. Some of the graduate student research projects are: characterization of biomass on sand systems; sports turf rootzone materials; phosphorus fertilizer programs; and effects of foliar nitrogen.

Dr. Dave Gardner advises sports turf students and has revitalized the OSU turf club to encourage greater participation from sports turf students. One change has been to make sure that a sports turf student holds either the President or VP position. This year, sports turf student John Koenig is VP.

We are blessed to have great sports turf internships at professional facilities like the Cincinnati Reds, Boston Red Sox, Ohio Stadium, Jacksonville Jaguars, Akron Aeros, and Columbus Crew. This spring we had three students with Dave Mellor at the Red Sox. International internships are also a possibility. The International Program annually sends 3-5 turf students to England, Ireland or Australia. Most recently, Erica Titus worked at Cirencester Polo Club in England, preparing pitches (fields) for England's royalty. Once they have graduated, sports turf students also have the chance to go on to work at professional sports facilities, such as Brian Holtzapfel, who just started a job with the LA Dodgers, or Derrik Grubbs at the Cincinnati Reds.

There is now far better representation from professional organizations such as STMA, and the OSTMA. Students now have professional organization that encourages them to participate and awards student scholarships. In 2004, the OSTMA awarded over $2,000 in scholarships to Weston Applefeller, Erica Titus, Gregg Caspio, and John Koenig. 2005 was the first year of participation in the STMA Collegiate Quiz. 11 students made the trip to Phoenix in January. The OSU team took 6th place in the quiz and is planning for next year. 2005 was also the first year for the Buckeye Sports Turf "Students of the Year" awards. This year was a tie between Erica Titus and Rodney Brockwrath.

CA Poly-San Luis Obispo

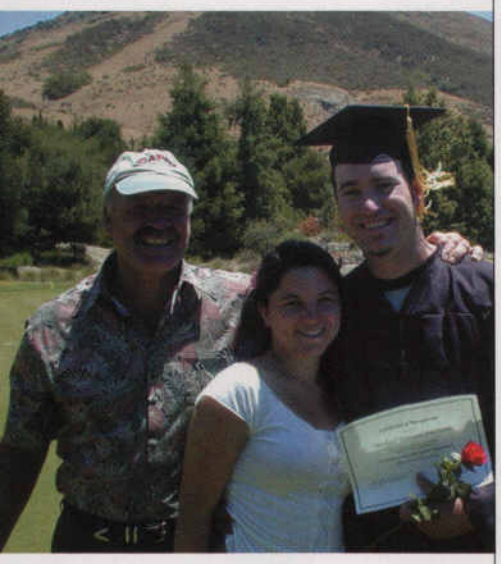
By David Green

Cal Poly's turfgrass program had another exciting year in 2004-2005. Our students continued to diligently prepare for their future, but still found plenty of time to have fun. The year started with the first Cal Poly Turfgrass field day in October.

More than 55 participants were provided updates on cultivar and fungicide evaluations conducted in 2004 and progress reports from the students on their senior project research, which was embraced warmly by the industry. A big thanks goes out to the students who helped make this first field day a success. A second field day is being planned for fall 2005.

In February Cal Poly students attended annual meetings of the Sports Turf Managers Association and the Golf Course Superintendents Association of America. The opportunity to meet and interact with individuals in the turfgrass industry is always a valuable experience that is appreciated by our students. At the GCSAA meeting in Orlando we once again had two teams participate in the Collegiate Turfbowl, a comprehensive 3-hour exam that would challenge the most experienced turfgrass managers. Students competed in teams of four against teams from other universities and found the experience fun and very educational.

In May, the turf club hosted their first golf tournament at Cypress Ridge in Arroyo Grande, CA, raising more than $2000 to assist in funding travel to the annual meetings of the GCSAA and SMA in 2006. Students also had the opportunity to tour several great turfgrass facilities of southern California in their Advanced Turfgrass Production class. Facilities included PetCo Stadium and The Bridges of Rancho Santa Fe Country Club, and a new course under construction



Vellano GC.

This summer our students are once again out among the industry in a variety of internships. These internships include sport field management at the Philadelphia Eagles stadium and at prestigious golf courses such as the Olympic Club in San Francisco County, and Poppy Hills Golf Course in Monterey. We also wish the best to recent graduates as they begin their careers in the turfgrass industry.

Finally, we look forward to the fall 2005 implementation of a turfgrass concentration in the Environmental Horticultural Science major. Developed through a collaboration of the turfgrass industry and Cal Poly faculty, this curriculum will ensure that our students are receiving the best education possible to succeed in California's turfgrass industry. ST

David Green is assistant professor with the Horticulture and Crop Science Department, Cal Poly-San Luis Obispo.