

THE EXTRA POINT

STMA NEWS

FROM THE PRESIDENT



Last year's Conference and Show was the first that the association held on its own. The interest displayed by sports turf managers at Dodgertown made it a success. The time is rapidly approaching for the 1990 Conference and Show, and it is going to be even bigger and better than last year.

The Show is "the" place our commercial members have to strut their stuff. They will be at the 1990 STMA Conference and Show in Houston, TX. If you want to see what competing products look like or how they perform side by side, be there.

The dates are January 19-21, 1990. The place is the Wyndham Greenspoint near the Houston airport. The Wyndham is a fine facility for a conference, and there will be an outdoor equipment demonstration area.

The Conference will be a good one, too. The theme is "Sports Turf: Heart of America for the 90s." Sports turf will become the focus, the fulcrum, the pivot point, the heart of America's leisure activities, not only for spectator events, but for participation. Lots of people are going to want playing fields, and they are going to want high quality, safe fields.

Dr. Jim Watson will bring out the exciting aspects that we sports turf managers have to look forward to in the next decade. Dr. Jim Beard will forecast how we are going to be able to manage turf with the ever-increasing demands. The theme session will be topped off by Dr. Dick Caton, telling us how all this is going to be paid for—the "Who and How" of the money.

The majority of the Conference will consist of some of the most knowledgeable people in the business discussing the technical aspects of sports turf management. There will be lectures and workshops. It is the best annual conference program yet, and there have been some great ones.

Send in your conference and hotel reservations now. This is the show of your sports turf management future. The first of the decade.

Steve Cockerham, President

STMA FOUNDER GILL HOSPITALIZED

Harry Gill, head groundskeeper at Milwaukee County Stadium and founder of STMA, was hospitalized in September following a heart attack. At press time, Gill was out of the intensive care unit at St. Luke's Hospital in Milwaukee and back on the phone to his friends and the crew at the stadium.

Gill has been generous with his time and expertise during 20 years at Milwaukee County Stadium. Groundskeepers at high schools, colleges, parks, and other stadiums called Gill at such a rate that he realized an association for them was desperately needed. In 1981, Gill,

George Toma (Kansas City), Dick Ericson (Minneapolis), and Dr. Bill Daniel (Purdue University) created STMA.

Gill has touched the lives of hundreds of professional groundskeepers as well as students. In 1987, STMA created the Harry Gill Scholarship for college students hoping to enter the sports turf industry. Gill also hires college turf students to give them important experience before they graduate.

Gill is responsible for preparing Milwaukee County Stadium for Brewers' games, Packers' games, and special events. He also helped the Brewers build their new spring training facility in Chandler, AZ.

SECOND CHAPTER MEETS

The second official chapter of STMA, the Midwest Chapter, has been meeting monthly at Harper College in Palatine, IL, to organize its plans for the coming year. Four committees have been formed under acting chairman Greg Pety, superintendent of Parks for the Waukegan Park District.

In addition to the Midwest Sports Turf Institute, the chapter hopes to present four workshops in 1990 for Chicago-area sports turf managers. "We are fortunate to have the support of James A. Fizzell with the extension service," said Pety. The chapter hopes to elect its first slate of officers this fall.

MEMBERSHIP DIRECTORY COMING

Ginnie Scharfman, STMA office manager, is putting the final touches on the 1989 Membership Directory. The valuable reference lists the names and addresses of more than 800 STMA members. The directory is the key to sharing information among members. "It gets bigger every year," said Scharfman.

CATCH THE ACTION!

Mark your calendar!

January 19-21, 1990

Annual Conference and Trade Show

Wyndham Greenspoint Hotel, Houston, TX

March 6, 1990

Southeastern Sports Turf Institute

Citrus Bowl, Orlando, FL

March 20, 1990

Southwestern Sports Turf Institute

California Polytechnic University, Pomona, CA



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Moon rises over
Moon Valley
on summer evening.



Bentgrass Beats the Heat at Moon Valley



18th green in front of
newly renovated
clubhouse.

In 1956, L.S. "Dick" Wilson had just finished redesigning the Inverness Club in Toledo, OH. He was thrilled to be able to add to the beauty and challenge imparted to Inverness by his famous predecessors, Donald Ross and Albert Tillinghast.

The Pennsylvania native had cut his design teeth in the East and Midwest with the golf course construction firm of Toomey and Flynn in the mid-'20s. One of his favorite projects was the redesign of historic Shinnecock Hills Golf Course on Long Island in 1931.

When the Depression put a halt on golf course construction, Wilson was able to use his contacts to gain the superintendent's position at Delray Beach Country Club in Florida. Wilson brought to the South his exceptional knowledge of bentgrass, a far superior putting surface to the bermudagrasses available at the time.



The desert is not kind to cool-season grasses. From June through October, maintaining bentgrass greens is a constant process of hand watering, careful mowing, and judicious fertilization.

brother), Wilson was shocked by the stark miles of desert and the rocky, arid canyons. He thought growing bentgrass there would be like growing it on the moon.

He discovered that some private and resort courses did have bentgrass greens but went through hell during the summer to keep it alive. Since summer damage was common, superintendents favored Seaside because they could reseed in the fall.

Ironically, the name of the course he designed became Moon Valley Country Club. Thanks to Wilson, it was one of the first courses in Arizona to have Penncross greens. Moon Valley's greens stood out because they were darker, denser, and recovered faster. They also didn't segregate into patches, something common for other creeping bentgrasses.

Today as in Wilson's time, the desert is not kind to exotic, cool-season grasses. When the summer temperature hits 115 degrees, bentgrass demands intensive care.

Calvin Cross, superintendent of Moon Valley, has been babying bentgrass in Phoenix for more than 30 years. From June through October, maintaining bentgrass greens is a constant process of hand watering, careful mowing, and judicious fertilization. "Once it starts to wilt, it's too late," advises Cross. "And if you don't have good greens, you don't have a golf course. During the summer, you do everything you can to protect the bent and keep your fingers crossed."

In 1985, the 18-hole private course was struggling to survive. Goldwater sold Moon Valley to the membership after he completed the residential development around it. Competition from newer courses was taking its toll. The clubhouse no longer compared to other private courses. The quick-coupler irrigation system needed to be updated at a cost of nearly \$1 million. The members simply couldn't afford that kind of investment without selling part or all of the course. Moon Valley was put on the market.

Karsten Solheim, who is most famous for his Ping golf clubs, was a member of Moon Valley and lived next to the course. He had watched the course and its bentgrass suffer from tight budgets and was concerned that it might be sold to a developer.

Throughout his career, the inventive engineer had overcome numerous roadblocks to technology. The square groove on Ping irons, which increases the backspin

on chip shots, is just one example. The 78-year-old innovator had witnessed or taken part in numerous technological breakthroughs at Hughes and General Electric before he started his own company in Phoenix.

Solheim kept asking himself why Moon Valley could not be restored to championship condition. He was deeply committed to golf, especially junior golf. Any contribution he could make to golf course maintenance would benefit the sport. What were the roadblocks? And could he remove them through science and engineering? He needed a laboratory to explore new theories. Moon Valley could serve as that laboratory, so he bought the entire 160-acre facility.

For the first time Solheim found himself on the receiving end of members' complaints. An avid golfer himself, he appreciated their remarks. He knew the old irrigation system was inadequate, and the clubhouse no longer compared to the competition. He made a promise to the members that he would do whatever necessary to make Moon Valley rank among the top private courses in the Valley of the Sun.

During the Masters at Augusta National that year, Solheim met Alex Rohoza, a member of the famous course's greens committee. For 45 years, the Pennsylvania sod grower had specialized in bentgrass sod for greens.

Rohoza was one of the first to grow Penn-cross sod for golf courses, and in the process has installed greens at prestige courses across the country. As a result, he is widely sought after for his advice on bentgrass management. Before leaving Augusta, the two men struck a deal for Rohoza to rebuild two greens at Moon Valley and install 18 more for a new executive course Solheim had decided to add to the club.

Solheim made it clear to Cross that he wanted Moon Valley to benefit from all available technology. Cross had never been satisfied with the common bermuda fairways, tees and roughs during the summer. "With a quick-coupler system, your course is only as good as your night watermen," he states. "You never have the kind of control you need to solve localized problems."

A Toro VT3 system was installed the first year. More than 2,200 valve-in-head model 650 sprinklers were linked to 42 satellite

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Until World War II, Wilson tinkered with bentgrass, trying to help it survive the hot, humid summers of the South. He took a few design and construction jobs on the side to keep his creative skills sharp.

The postwar boom in the popularity of golf encouraged Wilson to reenter the design business full-time. He started off with a bang, designing West Palm Beach Country Club. It wasn't long before word of his talent spread. He found himself back in the East designing courses with his favorite, bentgrass.

He was aware that Dr. Burton Musser at Pennsylvania State University had developed an improved creeping bent that could be propagated by seed called Penncross. It had distinct advantages over colonial bents, vegetative varieties of creeping bents, and Seaside, the only seeded creeping bent of consequence on the market. Wilson was anxious to put Penncross to use.

Inverness was nearly ideal for cultivation of bentgrasses. Canadian breezes crossing Lake Erie swept over the course much of the year. However, when they stopped and the temperature and humidity rose, dollar spot, brown patch and other diseases would take their toll. To combat this problem, Wilson specified Penncross for Inverness and the results were quite dramatic.

When he stepped off the train in Phoenix, AZ, in 1956 to design a new private course for developer Bob Goldwater (Barry's



Tissue testing, fertilization and an improved irrigation system have produced results at Moon Valley.

Bentgrass Beats the Heat

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controllers. "Three-fourths of the heads are part-circle," Cross reveals. "Three rows of fairway heads follow the contours and don't overlap into the roughs. There are one or two rows of heads in each rough. The heads are grouped in stations of three, but we can run one head at a time if we need to. Greens, banks around the greens, tees, fairways, and roughs can all be programmed separately."

From June through October, Cross assigns two crew members to do nothing but hose down greens. "I guess I'm old fashioned when it comes to greens," he admits. "They are watered every night by the irrigation system, and we can syringe during the day. But I want a trained turf man out there when it's over 100 degrees to touch up dry spots.

"Our soil is tight, so it holds water longer than the soil at some other courses. I check the ET (evapotranspiration rate) listed in the newspaper each day. Our central does not have master water budgeting, so we have to go to every satellite to make adjustments. But I like that. It forces us to look at each hole before we make any changes."

Everything was progressing fairly conventionally until 1986. The irrigation system was having a visible impact on the condition of the fairways. Rohoza was due out to rebuild the greens. Cross purchased new mowers for the fairways and greens. Things were shaping up.

Solheim shared his new challenge with his three sons, Allen, John and Lou. The golf course became a regular topic of discussion among family members. They, in turn, solicited opinions from others in the company. An informal "think tank" on turf started to develop. Each new idea was considered without prejudice.

Bernie Atutis, a specialist in computer-aided design (CAD) technology for Karsten Computer Systems, began to adapt CAD to golf course management. He could produce an image of any part of a course on a computer screen and print it out. The idea was to give the superintendent quick access to important information, including as-built plans for irrigation, utilities, course features, supply inventory, etc.

The deeper Atutis got into the project, the

more involved he became in turf management. He had been a dairy farmer and was also an avid grower of vegetables. It struck him that much of the latest research into the nutrient content of forage grasses for dairy and beef cattle could be applied to golf course turf.

Farmers keep close track of protein and other nutrients in feed. Advances in analyzing the tissues of forage grasses enabled suppliers to custom blend feed. By controlling the diet of their herds, farmers achieved greater milk and beef production.

Allen Solheim encouraged Atutis to dig deeper. With a green light to explore, he happened onto another development in agriculture: custom blending of foliar fertilizers. While this was not new to turf management, a line of fertilizers made in Phoenix was. These "probiotic" nutrients, as Atutis calls them, are not only absorbed by plant tissue, they appear to enhance the natural biological processes in the soil. By improving the environment in the soil for exchange of nutrients, air, and water, the plant's natural defenses against heat, drought, diseases, and insects might also be improved.

When Rohoza arrived in Phoenix to rebuild two greens at Moon Valley, Atutis showed him test plots where the probiotic

fertilizers had been sprayed. Improvements in the density and color of both bentgrass and common bermudagrass were evident. Rohoza was impressed and took samples of the fertilizer back to Pennsylvania for testing.

Atutis reasoned that the diet of golf turf, like that of dairy cattle or vegetables, could be controlled to make up for any deficiencies in nutrients revealed by tissue testing. But the nutrients had to be available, and the superintendent had to have a fast and accurate way to test the nutrient content of turfgrass tissue.

Tissue testing had a reputation for producing inconsistent results. Soil testing can tell the turf manager what nutrients are present in the soil, but not always whether they are available to the plant. Rohoza believed that peaks and valleys in nutrient availability made bentgrass vulnerable to its enemies. If there was a way to provide a consistent level of nutrients to the turf, it could rally its natural defenses with the greatest effectiveness.

Dr. John Shenk, professor of agronomy at Pennsylvania State University, had developed a more accurate method of analyzing the tissue of forage grasses called nuclear infrared (NIR) spectroscopy. Instead of chemically measuring nutrients, Shenk took samples of tissue, dried them, ground them into a powder, and bombarded them with infrared light. The light reflecting off the sample creates what's called a spectrum, which can be recorded by a computer. A rainbow is a simple type of spectrum reflected off moisture in the atmosphere following rain.

The spectrum for plant tissue changes according to its nutrient content. By testing samples of healthy and unhealthy turf, a desirable spectrum could be established. Rohoza and Atutis provided samples to Shenk for analysis. It took hundreds of these samples to identify the spectrums for various deficiencies.



Moon Valley stretches 7,400 yards among mature trees, bunkers and water hazards.

Utilizing the results of Shenk's analysis, Rohoza adjusted the blend of the foliar fertilizers he sprayed on the bentgrass plots to overcome any deficiencies. He noticed an improvement in the establishment rate, density, and overall condition of the Penncross. Meanwhile, Atutis sent common bermudagrass samples from Moon Valley to Shenk for the same type of analysis.

The test results from Rohoza in Pennsylvania and Moon Valley in Phoenix were very positive. Rohoza found that by using the program he could produce two crops of bentgrass sod each year, with very little interference from diseases and insects. By keeping a constant eye on the nutrients in the tissue of the turf, he was conquering many of the problems commonly associated with bentgrass.

At Moon Valley, Cross was noticing a significant improvement in his fairways. "It's not something you see overnight," he points out. "You don't get a flush of growth like you do with ammonium sulfate. You only put down a quart or so per 1,000 square feet each time. First you apply it weekly until you get the turf to the condition you want, and then cut back to once a month or so."

Satisfied his team was onto something, Solheim created Karsten Turf Company in 1987 and bought the marketing rights to the fertilizer for golf courses. He placed Allen in charge of the new company and moved Atutis over from the computer division. The

company's first product was a line of fertilizers they named Turf Anser.

As each green at Moon Valley was rebuilt, Karsten refined its technology. Injector pumps were added to the irrigation system to feed the turf without spraying. Based upon the tissue tests, Cross could inject specific amounts of four or more different nutrients into the water. The valve-in-head sprinklers gave him the ability to control the diet of the turf at up to 2,200 different locations on the course.

Atutis realized that keeping track of such a wide range of information for an entire golf course required the help of a computer. He wanted to make the superintendent's job easier, not harder. By assigning color codes to different nutrient levels, he was able to produce on the computer screen or in a printout the nutrient status of any part of the course. Furthermore, the status of each test site could be tracked over time to gauge improvement or make adjustments in diet. To Atutis this was much like keeping a record for each cow in a dairy herd. "The dairy farmer today can track the production of any cow and compare it to its diet, age, and weight," he states. "Instead of cows, we're dealing with individual greens, tees, fairways, roughs, or any particular site where turf samples are taken. That type of information has led to a tremendous increase in productivity in the dairy industry and can produce the same type of

improvement in turf for the golf course superintendent."

The missing link in the system was a convenient and reliable method of tissue testing, one which a superintendent could use without sending samples to a laboratory. Up to that point, the NIR spectroscopy was a sophisticated and expensive laboratory instrument. However, just as the computer industry has miniaturized and simplified the personal computer, Karsten was able to simplify the NIR process so a golf course could use it.

With the help of Dr. David York, Karsten's plant geneticist, Atutis developed the necessary software and spectrum data to analyze turfgrasses. Now, a golf course superintendent can take turf samples from the course, dry them in a normal microwave oven, grind them into a powder, put them in a tray, and insert the tray into a small NIR scanner in his office. The information from the scanner is fed directly into a 386-type personal computer. In less than ten minutes he knows what nutrients are deficient in that turf sample. Then the superintendent can inject the missing nutrient(s) into the irrigation system for the heads where the sample was taken.

"It easier than it sounds," Cross adds. "I've been a superintendent for more than 30 years, and I never thought I'd see anything like this. The system has a lot of

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Bentgrass Beats the Heat

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potential and really seems to be something that can help superintendents."

Moon Valley now had a tight grip on the fertility of the course. Solheim and Atutis wanted to extend that grasp to water use. There is a sizable difference in the ET rate between a summer day where the temperature breaks 100 degrees F. and a spring day when the temperature never gets above 70. By using the water budgeting feature on his satellite controllers, Cross increases the cycle times to provide more or less water to fit the ET. He knows that if he applies too little water to the turf in the spring it will enter the summer with a poor root system. If he overapplies water he risks problems with anaerobiosis and disease.

"This summer we tied the record of 118 degrees on July 4!" Cross exclaimed. "There were also more consecutive days over 100 than ever before." With such high ETs, golf courses in Phoenix were using up their water allotments faster than normal. Conservation was never so important.

Even slight changes in ET can save large amounts of water. Superintendents in Phoenix were beginning to appreciate the value of weather stations in measuring ET just for their courses.

Moon Valley installed a weather station this year. Data on wind speed, solar radiation, temperature, and rainfall is fed into the computer for tracking and analysis. Atutis is now focusing his attention on expanding the types of analysis the computer can perform related to ET and water use.

The next item on the Karsten Turf agenda is developing technology to increase the moisture reserve of golf course soils. "The industry has only begun to touch on some of the benefits of improving the soil environment," adds Atutis.

Wilson would be pleased to see the condition of Moon Valley today. The 7,400-yard course with its healthy Penncross greens and emerald-green common bermudagrass tees, fairways, and roughs is once again looked upon with pride by the membership. This month Cross begins the process of overseeding with a blend of Palmer and Prelude perennial ryegrass. In March, Moon Valley will once again host the LPGA Tournament.

Karsten Solheim has kept his promise to the members. In the process, he has also expanded the technology of golf course maintenance. Moon Valley continues to serve as a laboratory for turf management. Solheim has also donated funds to help Arizona State University construct its own golf course for turf research.

The members of the Karsten Turf "think tank" continue to search for new technology, as they did at IBM, General Electric and Hughes. They feel as strongly today as Wilson did 34 years ago that bentgrass can be grown in the desert, or on the moon for that matter, as long as there is a desire and a curiosity that leads people to keep expanding the boundaries of technology.



Why wetting agent users are turning to Pene-Turf soil treatment.

A continually growing problem for turf managers is that of compaction reduces pore space, resulting in decreased air and water movement through the soil. Wetting agents are often used to temporarily relieve the symptoms, but wetting agents work only of the surface tension of **surface water**, improving infiltration in the top several inches of the soil.

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Summer Turf Management At Moon Valley



Checking fertilizer injector are Director of Golf Bill Garrett and Superintendent Calvin Cross.

When temperatures hit the 100-degree mark at Moon Valley in June, superintendent Calvin Cross implements a summer management program.

For the next four months, his crew is on constant alert for signs of heat stress.

"You expect the greens to look great in March," says Cross, "but you're lucky if they look half that good in September. By making some adjustments in our maintenance practices, we've been able to keep that spring look throughout the summer."

The first step is to assign two of his crew to hosing the greens. From the moment they arrive at the course in the morning until they go home at night, they travel from green to green, looking for dry spots and syringing. "Once bentgrass starts to wilt, it's too late," Cross points out. "You need to check the greens almost every hour to be safe."

Cross used to raise the cutting height on the walk-behind greensmowers to 3/16 inch in the summer. He has found that by alternating between the brushes on his Bunton greensmowers and the groomer on his Jacobsens from November to May, he can keep the height at 5/32 inch year-round without harm. He points out that neither the brushes nor the groomers are used during the summer. Each day the greens are mowed in a different direction.

Topdressing and aerification are not allowed during the summer. At the first sign of brown patch, Fore is applied to the greens with a walk-behind boom sprayer. "You have to overwater to a certain extent," says Cross. "Fore also helps prevent black

algae in our sand greens."

Fertility is the other area Cross guards closely. Since nitrogen will leach from the sand greens, he used to apply 1/4 to 1/2 pound of ammonium sulfate per month during the summer. Now his last application of granular fertilizer is in May. During the summer he injects minute amounts of "activated" nitrogen and potassium into the irrigation system. "By knowing the ET and watering less, we lose less nitrogen to leaching," he says. "We also test the tissue during the summer to stay on top of any nutrient problems." During the rest of the year, he applies Lesco 15-0-15 SCU to keep the phosphorus low, primarily to prevent *Poa annua* from getting established. No more than 1/2 pound of nitrogen is applied per month.

The trick to maintaining the common bermudagrass, explains Cross, is finding the right height and keeping it there. The roughs are mowed at 1 1/2 inch twice a week with a seven-gang Toro Parkmaster. The fairways are cut daily with Jacobsen LF-100s at 7/16 inch. He has had little trouble with spring transition from ryegrass to bermuda on the fairways and green banks by mowing at this height.

"Our fairways looked better than some other courses' greens this summer," boasts Cross. "The members play even when the temperature goes over 110 degrees! We've come a long way in five years."

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18 NATIONS ATTEND TURF RESEARCH CONFERENCE



During International Turf Research Conference H. Waynagi (right) of Toyo Green, treated Americans to golf at Tokyo's Kasumigaseki Golf Course. They are: (l to r) Dr. Jeff Kranz of Mississippi State University, Dr. Paul Reike of Michigan state University, and Dr. Bill Daniel, retired from Purdue University.

Representatives of 18 nations recently shared their latest turf research findings at the 6th International Turf Research Conference in Tokyo, Japan.

The United States was represented by 62 turf specialists from universities and private industry. Only Japan had more attendees with 709. The U.S.S.R., Czechoslovakia, China and North Korea sent their turf specialists, as well as France, New Zealand, the U.K., Australia, Austria, Canada and West Germany.

Nearly 100 research reports were presented during the six-day event in early August. When the scientists weren't exchanging information, they were busy touring major turf sites in the area. Among these were National Stadium, Tokyo Race Track, Kasumigaseki Country Club, Tokyo Disneyland, and the Ryokuei Kensetsu Turfgrass Research Institute.

The hosts were anxious to teach their visitors about Japan. The country currently boasts 1,600 golf courses and expects to

add 400 more within the next ten years. They also exhibit a great interest in baseball, horse racing, and American football. All the country's sports complexes are used heavily and are considered very important to the nation.

Dr. Jim Watson, vice president and chief agronomist for The Toro Company, was elected president of the International Turfgrass Society to serve until its next meeting in 1993. He succeeds Yoshisuke Maki, professor of agronomy at Akita Prefe'l College of Agriculture in Japan.

"The president is always from the host country," explained Watson, "and we are that country for the next meeting. Right now it's a toss-up among Florida, Georgia or Texas." Other officers from the U.S. include Secretary John Hall and Richard Schmidt from Virginia Polytechnic Institute in Blacksburg, VA. Bill Meyer, director of research for Turf Seed Inc., joined Texas A&M's Jim Beard on the board of directors.

NYSTA TURF AND GROUNDS EXPOSITION

The New York State Turfgrass Association has announced that the 1989 Turf and Grounds Exposition will be held November 7-10, at the Rochester Riverside Convention Center, Rochester, NY.

A trade show will be held in conjunction with the educational program. The latest in turfgrass and landscape maintenance equipment will be displayed in more than 300 exhibits.

The conference program will be expanded this year. In addition to General, Lawn and Landscape Services, Grounds and Athletic Field Management, Landscape Architecture, Golf Course, Grounds Maintenance, Weeds, and Disease and Insect Identification and Control sessions, there will be three special seminars. They are: Estimating and Management Principles for

Landscape Contractors, presented by Charles Vander Kooi; Tree Maintenance Workshop, by Dr. Alex Shigo; and Back To Basics—Turfgrass Management by Cornell and SUNY Agricultural and Technical faculty.

A special White Grub Symposium will also be given. National experts Dr. Paul Heller, Dr. Daniel Potter, Dr. Michael Villani, and Dr. John L. Hellman will all present their latest information on white grubs and their control.

For further information call (800) 873-TURF.

PROGRAM ANNOUNCED FOR GEORGIA TURF SHOW

The 20th Annual Georgia Turfgrass Conference and Trade Show will be held

December 11-13, at the Hyatt Atlanta Airport at Georgia International Convention and Trade Center, College Park, GA. The event is sponsored by the University of Georgia Cooperative Extension Service, the Georgia Turfgrass Foundation, and the Georgia Golf Course Superintendent's Association.

The Trade Show will have more than 100 exhibits. Topics to be covered include: Tricks of Marketing, Issues for the 1990s; Environmental and Regulatory Issues On Pesticide Laws, Movement, and Accidents; Turf Management Topics on Fertilization, Cultivation, and Pest Control for Lawns, Recreational Turf, and Golf Courses; Using Ornamental Grasses, Wildflowers, and Color in the Landscape; and Effluent Water Use.

Conference speakers will include Dr. James B. Beard, Texas A & M University; Dr. Charles Peacock and Dr. Joe DiPaola, from North Carolina State University; University of Georgia faculty; representatives from Georgia Environmental Protection Division; and directors from the Professional Lawn Care Association of America.

Additional information and conference brochures can be obtained through local Extension offices or by calling the East Georgia Extension Center, (912) 681-5189.

HALL-KIMBRELL HOSTS SAFETY CONFERENCE

A national conference on environmental safety for managers of golf courses and other turf facilities will be held on November 8 at the Orlando Twin Towers Convention Center, Orlando, FL. The conference, to be hosted by the Education and Training Division of Hall-Kimbrell Environmental Services, will be held in conjunction with the Second Annual Multi-Conference Event and Exposition: Focus on Asbestos and Other Environmental Hazards.

Nationally recognized speakers in the field of environmental management will be featured at the conference. They will address pertinent issues such as pesticide use, water pollution, underground storage tank leaks, and health and safety regulations.

For additional information and a conference catalogue, contact the Education Division, Hall-Kimbrell, (800) 346-2860 or (913) 841-8034.

ROBERTS APPOINTED TURFGRASS SPECIALIST

Pennington Seed has announced the appointment of Don Roberts as its corporate turfgrass specialist. In his new position, Roberts will focus on research and marketing of turf seed varieties. He will work not only with Pennington's research efforts, but also with agricultural colleges

and universities on an in-depth program of trials and evaluation of various turfgrass seed.

In the marketing area, Roberts will concentrate primarily on golf courses, athletic fields, professional lawn care, and major construction projects. Before joining Pennington in 1987, he worked in the lawn, garden, and nursery industry. He later served with the University of Georgia Cooperative Extension Service, where his emphasis was on commercial and urban horticultural crops. He also worked with the Clemson University Cooperative Extension Services, where he utilized and improved his turf grass skills by working with South Carolina Golf Courses in designing and implementing a Turfgrass Integrated Pest Management Program.

Roberts is a graduate of the University of Georgia, with a major in horticulture and a minor in plant pathology.

FARMERS EXPAND BERMUDA RESEARCH

Encouraged by the successful introduction of NuMex Sahara Bermudagrass, Farmers Marketing Corporation, Phoenix, AZ, has broadened its grass research program by acquiring ten bermudagrass genotypes from New Mexico State University.

Varietal development is under the direction of Dr. Arden Baltensperger. Formerly a professor of agronomy at New Mexico State University, he began his warm-season turfgrass research at the University of Arizona. He will be joined by Dr. Lincoln Taylor of Virginia Polytechnic Institute and State University, who brings additional expertise in cold tolerance breeding. The bermudagrass germplasm, representing many years of research, are being tested at the University of Arizona Research Farms in Tuscon and Yuma, AZ, and several other locations.

NuMex Sahara, the first improved seeded bermudagrass released exclusively for turf, was developed by Dr. Baltensperger and released by New Mexico State University. Commercially introduced this year by Farmers Marketing, the first seed production was harvested and certified this summer, following three years of favorable test results in the National Turfgrass Evaluation Program. The company reports that seed from 100 acres of NuMex Sahara has already been booked, including current shipment for immediate seeding by several prominent country clubs.

In announcing the firm's grass research expansion program, Royce Richardson, president of Farmers Marketing, stated, "We are dedicated to an extensive research effort aimed at the subsequent release of a number of superior grass varieties. The favorable acceptance of NuMex Sahara is encouraging, and we are proud of this first step toward our future commitment."



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THE BEAM CLAY® BASEBALL DIAMOND OF THE YEAR AWARDS

The judges for the 1989-1990 Beam Clay® Baseball Diamond of the Year Awards will be four head groundskeepers representing each of the major league divisions:

AL-East
Harry Gill, Milwaukee Brewers

NL-East
Pete Flynn, N.Y. Mets

AL-West
Jim Anglea, Texas Rangers

NL-West
Steve Wightman, San Diego Padres

Winners will be honored at the annual Sports Turf Manager's Association Awards Banquet and be featured in sportsTURF Magazine. No entry fee is required. So, if you're proud of your baseball facility, why not enter your baseball field in the Beam Clay® Baseball Diamond of the Year Awards contest?

The Awards are sponsored by Beam Clay®, The Sports Turf Managers Association, and sportsTURF magazine in recognition of excellence and professionalism in maintaining outstanding, safe, professional quality baseball diamonds. Entries will be judged in three categories: professional diamonds, college diamonds; and school, municipal or park diamonds.

Send the information below to enter:

1. Age of baseball diamond (year of installation).
2. Geographic location (city and state).
3. Description of maintenance program for turf and skinned areas.
4. Operating budget for baseball diamond.
5. Irrigation: None _____ Manual _____ Automatic _____
6. Total number of maintenance staff for field.
7. Does baseball field have lighting for night games?
8. Number of events on baseball diamond per year.
9. Types and number of events on diamond other than baseball?
10. How many months during the year is the field used?
11. Why you think this field is one of the best?
12. Send two sets of color slides or prints.

Deadline for entries: Entries must be postmarked no later than October 31, 1989.

Mail entries to:
Beam Clay Awards
Kelsey Park
Great Meadows, N.J.
07838



sportsTURF
magazine

AFTER THE SUPER BOWL:

NO REST FOR THE

Day before
Super Bowl XXIII
the field was covered
for half time practice.



The adrenaline had been pumping around Joe Robbie Stadium for months in preparation for Super Bowl XXIII. Everyone from the head office to the grounds crew gave everything they had to meet the expectations of millions of football fans around the world.

As the scoreboard clock flashed the final seconds of the game, groundskeeper Gary Morris felt a tremendous load had been lifted from his back. Standing beside him were Chip and George Toma, the NFL's turf team, and consultant Tom Mascaro. They had battled the elements together to showcase the stadium and natural turf gridiron, which Joe Robbie had worked years to build for his Miami Dolphins.

As the San Francisco Forty Niners celebrated their victory over the Cincinnati Bengals and the NFL crew prepared to turn the gridiron back to Morris, he took stock of the field. The former golf course superintendent was already thinking ahead to a series of events scheduled for the stadium in a few short weeks. There is indeed no rest for the weary.



Geotextile, plywood, and plastic protected the field from the mud events.



Dirt from motocross was hauled in by truck without permanent damage to the field.

After an event like the Super Bowl, you would think the turf and crew would get a brief respite. They certainly deserved one. However, Super Bowl XXIII was just the kickoff for 1989's events at Joe Robbie Stadium. Three weeks after the game, two consecutive professional soccer matches were played on the turf. Another three weeks passed, and two more back-to-back events were held—the "Super Bowl of Monsters [Trucks] and Mud" and a motocross race.

Even the 36-year-old Morris' 16 years of work in golf course maintenance couldn't have prepared him for what lay ahead. His experience included an assistant superintendent position at the PGA National Golf Course and his superintendent post at Emerald Hills Golf Course, both in Florida.

"With all the different kinds of events you have at a stadium, you never know what to expect from the turf," said Morris, a Miami native and self-described Dolphins fan. "I enjoy it! It's more challenging than working on a golf course."

To a great extent, Morris credits stadium manager Glen Mon, who moved from the Los Angeles Memorial Coliseum two years ago, for "helping me through the transition from golf course to stadium." Mon's experience and guidance, as well as Mas-

caro's 40 years of turf knowledge, proved invaluable to the relatively new groundskeeper.

His full-time assistant, Jim Romeo, has been tremendously helpful, Morris added. "Jim is also responsible for the Dolphins training camp at St. Thomas University in Miami, where they have two full-size fields," he said.

While the damage soccer players can do to a field is substantial, the turf can be absolutely obliterated by high-powered dirt bikes and monster trucks, which look like Tonka Toys on steroids with their six-foot high tires and five-ton axles, and by the 16 million pounds of clay dumped on the field for them to play on. Even beyond that, there was no rest in sight for Joe Robbie Stadium.

Basepaths and a pitcher's mound had to be installed for a three-week baseball exhibition series that followed. Then came more soccer games, a rock concert, and still more soccer. By the time the stands had emptied after all these diverse events it was August 14. On that date, the Miami Dolphins squared off against the Chicago Bears in their first 1989 NFL preseason game.

The field was ready. The turf was beautiful. What's more, in essence, it was the same grass on which the Super Bowl had been played, eight months earlier.

How was all this possible for a natural turf field? The answer lay in hard work, technology, planning, and teamwork.

When Super Bowl XXIII was over, it was decided by Morris, Mon, and Mascaro that major renovation of the Prescription Athletic Turf (PAT) field would be postponed until after the monster truck and motocross events were held. Still, some repair and protection chores could not wait.

The logo area in the center of the field was excavated. All of the sod and soil were removed to a depth of five inches. The soil at the bottom of the excavation was then