

A Report on the New Grasses Being Developed for Golf

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THE SUMMER drought of 1988 has once again reminded all of us involved with golf of the fragile nature of our water supply, and of our dependence on the amount and quality of that water. It seems particularly timely that turfgrass breeders who receive major support from the USGA for development of moisture-conserving new grasses for golf met recently. The meeting provided an opportunity to exchange research ideas and report on the progress each breeder is making toward that goal.

Funding for this breeding work is part of a 10-year research project guided by the USGA Turfgrass Research Committee. It is the objective of the Research Committee (comprised of university and industrial research specialists, GCSAA members, and USGA Green Section personnel) to:

- Substantially reduce water use on golf facilities.
- Substantially reduce maintenance costs.

- Encourage young scientists to become leaders in turfgrass research.

The Research Committee decided early that several methods would be used to reach these objectives. One of the primary means is through extensive plant breeding programs to develop new water-efficient and cost-efficient grasses. Tremendous progress has been made, and exciting developments are underway. Here is an update:

Bermudagrasses are being developed by Dr. Charles Taliaferro and a research team at Oklahoma State University that will be seed-propagated, cold-tolerant, and fine-textured, useful for golf courses in the northern half of the bermudagrass belt. Dr. Taliaferro noted that the breeding method he uses will increase the frequency of favorable genes for the selected characters. Desirable plants can be used as parents in the creation of a new bermudagrass variety, or individual plants can be vegetatively propagated. Dr. Taliaferro hopes to be able to field test parent

lines for seed production and turfgrass quality characteristics. If all goes well, a new bermudagrass with the desirable characteristics may be released as early as 1991.

A second bermudagrass program, directed by Dr. Arden Baltensperger, of New Mexico State University, resulted in the release of an improved seeded variety in the spring of 1987. A Nu Mex Sahara bermudagrass breeder seed field has been established near Yuma, Arizona, and three foundation seed growers have been selected because of their reputation for producing high-quality bermudagrass seed.

Some seed of Nu Mex Sahara should be available in 1989, which will be the first commercially available new grass from the USGA/GCSAA research effort. Nu Mex Sahara bermudagrass is an improvement over common bermudagrass, because it has shorter leaves, shorter internode, greater density, and somewhat better color.



In attendance were (left to right) President John Segui, of the GCSAA; Gordon Scott, USGA Green Section Committeeman; Dr. Peter Hayes, Director of The Sports Turf Research Institute, of England; and F. Morgan Taylor, Jr., of the USGA Executive Committee.



*Dr. Charles Taliaferro,
Oklahoma State University.*



*Dr. Arden Baltensperger,
New Mexico State
University.*



*Dr. Milton Engelke,
Texas A&M University.*

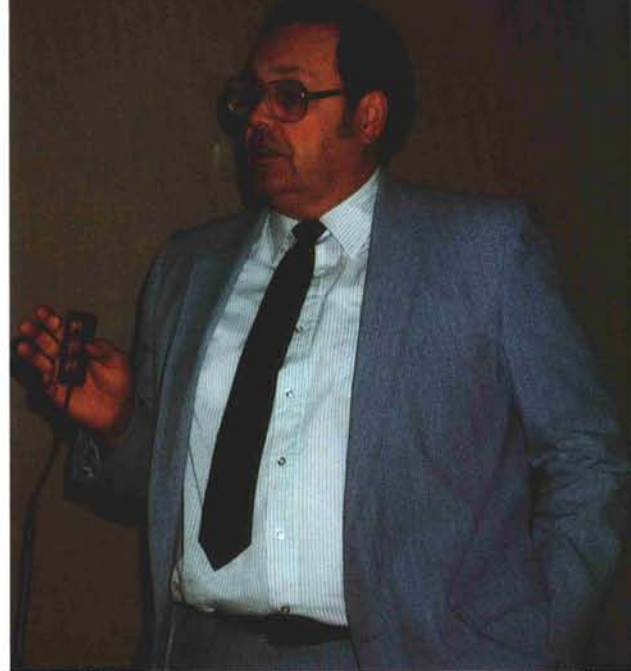
Dr. James Beard, of Texas A&M University, reviewed his plant stress mechanism research for the plant breeders.



*Dr. Terrance Riordan,
University of Nebraska.*



*Dr. Robin Cuany,
Colorado State University.*



*Dr. Donald White,
University of Minnesota.*



The Research Committee and plant breeders toured the research farm of Turf Seed, Inc., in Hubbard, Oregon.

Dr. Milton Engelke, of the Dallas Station of Texas A&M University, is improving zoysiagrasses for tees and fairways. Someday he feels zoysiagrasses from his program will also be suitable for greens. Two new zoysiagrasses from his breeding efforts, currently labeled DALZ 8501 and DALZ 8502, are vegetatively propagated grasses that have an improved ability to recover rapidly from divoting, scarring, and general injury. This is a major breakthrough, since slow recovery from injury has been a major drawback with zoysiagrass. Dr. Engelke expects the zoysias to be available for commercial increase in either 1989 or 1990.

THERE IS great interest in developing improved native grasses for golf use, because of their ability to survive and give good cover under stress and low moisture conditions in areas where they are adapted. Such grasses may be used in play areas, such as fairways, and possibly tees, but they would be particularly useful in non-play or out-of-play locations on a course with minimum maintenance.

Dr. Terrance Riordan, of the University of Nebraska, discussed a buffalograss improvement program that has developed turf types adapted to the plains states. He noted that the summer drought and high temperatures in the

central Great Plains slowed vegetative growth of the buffalograsses that were under drought stress in some locations this summer. He felt, however, that this species has fared much better than Kentucky bluegrass or tall fescue, and that a simple irrigation would increase quality and color, and allow it to resume growth. He states the release of the first improved buffalograss, NE84-315, is on schedule. Wider ranges of adaptation for buffalograss are also being investigated.

Dr. Robin Cuany, of Colorado State University, is breeding four native western grasses for turf use. These grasses include alkaligrass, blue grama, fairway wheatgrass, and inland saltgrass. Dr. Cuany

has amassed a large amount of native grass germplasm, and is quite far along on the production and release of an improved alkaligrass he has developed.

Dr. Charles Mancino, of the University of Arizona, is studying mesquitegrass, a native Arizona strain that hasn't been used for golf. Research efforts will focus on seed quality and improved germination through selection and imposed treatments. Other primary goals, according to Dr. Mancino, are the reduction of leaf texture and plant stature, and the development of soil-stabilizing plant materials.

DR. MILTON ENGELKE, of Texas A&M, is also working to improve creeping bentgrass. Specifically, he is selecting for high-temperature stability,

resistance to pythium, resistance to thatch development, wear tolerance, and sustainability for commercial sod production. Dr. Engelke uses a heat bench for screening creeping bentgrasses with advantageous characteristics. He reported his research team has developed two synthetic varieties that should have superior performance under both high soil and air temperature conditions with improved quality, resistance, and color. He will test his new grasses under various environmental and cultural conditions in the near future.

At the University of Minnesota, Dr. Donald White has been collecting and, through breeding studies, attempting to improve annual bluegrass, or *Poa annua*, for use on golf course greens, tees, and fairways. Often considered a weed, *Poa*

annua has many positive turf characteristics that Dr. White hopes to focus on. For example, he has found plant types that survive under much higher temperatures than thought possible with this cool-season grass. At present, he has 7,000 crosses that need investigation, so the variation in his plant material is tremendous. Dr. White noted: "We're just beginning to discover some of the basic mechanics of *Poa annua*. We're surprised at what we're finding."

As the turfgrass breeders concluded their 1988 reports, there was obvious enthusiasm. There is growing confidence that this is one research project likely to achieve its objectives. Turfgrasses for golf that will have reduced water requirements and maintenance costs may be a reality in the not too distant future.

Employee Development: Management's Responsibility

by **GREG YOUNGS**

Superintendent, Milwaukee County Parks & Recreation

MILWAUKEE County's Department of Parks, Recreation, and Culture administers to and operates 62 swimming and wading pools, 16 golf courses, 134 tennis courts, nature centers, boat launching sites, marinas, the Mitchell Conservatory, and the Whitnall Botanical Gardens. In all, the park system spans 14,754 acres and encompasses 137 parks and parkways, three beaches, and extensive roadways. Staffing requirements to maintain the park system include 700 full-time employees and 1,200 seasonal or part-time employees. Obviously, it is important that each individual understands his role in achieving department-wide success. But how is success achieved? The answer is through a well-trained work force.

In any large organization, management has a responsibility to provide resources necessary to achieve successful results. However, when budget cuts are mandated, training programs are considered as expendable, and they're the first to go. In Peters and Waterman's book, *In Search of Excellence*, the authors studied private and public organizations in the

United States, and found successful organizations had an obsession with employee training. They concluded that this obsession maximized the organization's productivity, effectiveness, and employee growth levels. Therefore, the training we offer our employees ensures they are aware of what to do, when to do it, and how to do it well.

If an organization properly identifies needs and formulates training programs that address these needs, it can expect positive results for its efforts. These are some examples:

1. Improved employee morale: Proper training reinforces the employee's status as a member of the team, critical to the success of the organization.

2. Increased employee versatility: Employees can fill vacated positions with confidence, because they have a clearer understanding of what is expected.

3. Reduced turnover costs: This is directly associated with lack of training during early employment period. Often, the employee does not understand what is or isn't acceptable job performance, and then, when subsequent disciplinary

action is taken, he is disillusioned and often quits.

4. Less direct supervision: A well-trained staff allows the supervisor to spend time fine tuning the operation.

5. Improved user relations: Proper training equips employees to deal with public inquiries with confidence, relaying information in an intelligent manner.

6. Better utilization of resources: Trained employees take better care of equipment. They handle materials and supplies carefully, avoiding costly mistakes.

7. Improved quality results: The natural outcome of knowing what to do, when to do it, and how to do it well is efficiency.

8. Reduced complaints and grievances: Labor unions and associations expect an organization to provide its employees four things:

- a. Reasonable compensation.
- b. A safe working environment.
- c. Proper training to do the job.

d. The appropriate tools and materials necessary to complete the assignment. Proper training satisfies three of the four.