

important feature of the fertilizer storage area is a racking system that has a high weight capacity (18 tons) and is capable of being loaded with a forklift. Other characteristics include:

- Averaging 1,500 square feet and featuring a high weight racking system that can be loaded using a forklift;
- Seamless flooring made of nonskid metal or concrete that's treated with chemically resistant paint;
- Exhaust fans and emergency wash areas; and
- Meeting OSHA and federal and local EPA compliance.

**Mix/load area, storage combination facility.** The principle goal of this area is to provide an environment that promotes efficient mixing of chemicals and water-soluble fertilizers while maximizing safety and minimizing environmental risk. Some maintenance facilities have created a combination facility where chemical and fertilizers are close to the mix/load area. Features include:

- Being a minimum 600 square feet and connected to the chemical storage facility;
- All-steel or masonry building made of non-combustible materials;
- Three bays, one drive through bay as rinsate/mix load pad, one to store products and one to store spray equipment;
- The door height of the entrance should be large enough where the club's equipment can be parked for filling;
- Two available water sources – potable water for eyewash and safety shower and nonpotable irrigation water to fill the sprayers;
- Exhaust fans with the volume capacity that can exceed six air changes per hour;
- Electric to code with wires in sealed conduit between inner and outer walls;
- Concrete filled steel pipe to protect corners of the building and entryways; and
- Air gap quick cam hose hook ups.

**Equipment cleaning.** The Clean Air and Water Act is specific about what can and can't be passed as effluent from the wash-down from an equipment cleaning area. When a club is renovating or building a new facility, the wash-down area should strive to meet three objectives: (1) it must contain 100 percent of the oils, greases, solvents, fuels and any other contaminants found on the equipment; (2) it must be compli-



Equipment storage with designated parking areas. Photo: McMahon Group

ant with state and federal environmental protection agencies; and (3) it must be affordable and within the budget of the capital project. Other characteristics include:

- Creating a blowing station that has the ability to remove materials from the equipment prior to washing;
- A wash pad that's 750 square feet (30 X 25), allowing two machines to be washed at one time; and
- Water recycling systems that are compliant with state and federal EPA requirements.

#### ENVIRONMENTAL RESOURCES

Resources for dealing with environmental issues, including the sale, storage and use of pesticides, include the U.S. EPA Web site ([www.epa.gov/pesticides/regulating/storage\\_resources.htm](http://www.epa.gov/pesticides/regulating/storage_resources.htm)) and the GCSAA's Web site ([www.gcsaa.org](http://www.gcsaa.org)). Interestingly, the federal EPA doesn't have regulations regarding the sale and use of fertilizers. Those requirements are defined at the state level. With regard to water and rinse containment, federal legislation has yet to be adopted. It's best to review those requirements at the local level.

#### FOLLOW GUIDELINES

Many times, a maintenance facility is constrained by the physical size of the building site, where the complex is located or by the funding capacity of the operations. When considering the installation of a new facility or a renovation of an existing facility, it's important the best general practices are observed:

- Ensure the safety needs of the staff are met.
- The facility is organized to minimize the cost of labor and supplies.
- Chemicals and fertilizers should have a defined storage place that can contain a spill.
- The maintenance facility complements the strategic needs of the golf course.
- Compliant with all federal and state EPA and OSHA guidelines.
- Compliant with all local zoning guidelines.

For the physical facility, it's best to see if plans address the following areas:

- Overall site circulation;
- Staff and fleet parking;
- Outdoor storage bins for topdressing sand, bunker sand, mulch and other materials;
- Green waste disposal and recycling;
- Chemical storage and mixing areas;
- Fertilizer storage;
- Fuel storage;
- Equipment wash and rinse containment;
- Equipment storage and circulation;
- Equipment maintenance, including a lift and parts storage; and
- Administrative offices, staff locker and break room. **GCI**

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# CLOSER TIES

Carolinas superintendent forms relationships with a group of international greenkeepers

One of the best aspects of our industry is the free exchange of information and the relationships that are forged. I was able to experience both at their finest on a trip to England in January with nine other GCSAA members from throughout the country. Among them was esteemed Carolinas GCSA colleague, Bob Farren, CGCS, from Pinehurst. The group of 10 golf course superintendents had been assembled through the efforts of Bernhard and Co. as part of an exchange program between the British and International Golf Greenkeepers Association and the GCSAA.

For the past seven years, 10 members of BIGGA have been sponsored by Bernhard and Co. to attend the Golf Industry Show to have a first-hand look at the golf industry in the United States. This year was the first time the program provided a trip to the United Kingdom for U.S. superintendents.



A sod-stack bunker at Ganton Golf Club, which hosted the 2000 Curtis Cup and the 2003 Walker Cup. Photo: Todd Pippin



By Todd Pippin

### NOT MUCH RESEARCH

BIGGA's annual conference and show is hosted in northern England in the town of Harrogate, which is where our week-long trip began. We started with a short road trip to the Sports Turf Research Institute in Bingley. Unlike in the U.S., university turfgrass research in the U.K. is almost nonexistent. The primary functions of the STRI are to provide the facilities and staff the means to carry out this research and provide consulting services based on their findings. In many ways, the STRI provides services similar to those of the USGA Green Section, albeit on a much smaller scale.

We toured the 20 acres of plots and saw first hand some of the current research being investigated. Everything from varietal trials, slope stabilization and even the surface for a greyhound run. We could have easily spent the remainder of the day talking shop with the staff but a visit to an area club was set for the afternoon.

### THE REAL DEAL

What a treat we had in store for us at Alwoodley Golf Club in Leeds. Alwoodley has the distinction of being the home club to the great Alister MacKenzie, Ph.D., who has crafted many classic courses all over the world. We met with club historian Nick Leefe, who provided us with some history of Alwoodley and MacKenzie's involvement with the club, as well as detailing the many design changes that have happened throughout the years.

With daylight running short, a walking tour of the course gave us our first look at golf in the U.K. Wow! What an eye-opening experience. There was nothing at all manufactured about it. There wasn't a huge industrial machine that had produced what was before us. This was the real deal. Simple, straightforward, unadulterated golf. The club's cart fleet consisted of a grand total of six trolleys (that's a golf cart for us Yanks), and if you couldn't walk and play a round in less than three hours, something was terribly wrong. It was obvious golfers on both sides of the pond might play by the same rules but certainly not the same game. With the sun setting on the course, we had our first day under our belts. What a great start.

### TRADE SHOW TECH

The bulk of the week allowed us to attend the BIGGA Turf Management Exposition, which consisted of educational opportunities and a trade show. It was truly an international event, with the opening ceremonies hosting then-president of the GCSAA, Sean A. Hoolehan, CGCS, and then-president of the Canadian Golf Superintendents Association, Neil Blayney. Both presented the current state of affairs for their respective organizations, and both emphasized how critical it would be to strengthen our alliances on a global scale. This became a recurring theme for the week.

We all face similar problems worldwide. Rounds are down, waiting lists at clubs are a thing of the past, and it's becoming more difficult to attract qualified labor. There's also the looming threat of losing many pesticides, if not all of them. For example, Switzerland has implemented a complete ban of pesticides throughout the country. Only under eminent threat of a national public health crisis can they be used. With a population of just more than 60 million, less than 2 million play golf on some level annually in the United Kingdom, and this number is shrinking yearly. Anything sound familiar yet?

One informational tool that was launched at the BTME opening ceremonies was the World Turfgrass climate map developed by the Royal & Ancient ([www.bestcourseforgolf.org](http://www.bestcourseforgolf.org)). Currently, it's just a platform, only allowing users to view simple statistics and distribution of turf by region. However, after spending some time with it, one can see the map has endless possibilities as an information-sharing tool. I'm sure we won't see its full capability for several more years.

The trade show was surprisingly large, occupying four halls at the convention center. Almost every imaginable facet of the industry was represented except the big three. Textron, John Deere and Toro weren't present at the show. The major manufacturers follow an alternating annual conference schedule, and 2007 was an off year. Even so, more than 6,600 unique visitors passed through the convention center halls perusing the latest the industry has to offer.







The traveling team - Back (left to right): Mike Morris, CGCS; Robert Murtaugh, CGCS; Todd Pippin, Ken Williams, CGCS; Roger Stewart, CGCS; Bob Farren, CGCS; and Gregg Blew, CGCS. Front: Bob Becker, David Phipps and Dave Ward, CGCS. Photo: Bernhard and Co.

Midweek, we joined the previous 60 BIGGA delegates who enjoyed the exchange program and saw the next 10 named for the trip to Anaheim, Calif., this past February. A great group and organization hosted us for the evening, making us feel at home with a wonderful dinner to end Harrogate week for all the delegates.

The Alwoodley Golf Club in Leeds, England. It has the distinction of being the home club to Alister MacKenzie. Photo: Todd Pippin



#### A TRUE CLASSIC

Our final day was spent at Ganton Golf Club. Ganton hosted the great Harry Vardon as its head professional from 1896 to 1903, earning three of his six British Open titles, and the U.S. Open in 1900 during this tenure. I thought Alwoodly was impressive, but this was just phenomenal. Head greenkeeper Phillip K. D. Baldock hosted us for almost the whole day, walking the course and touring the clubhouse. Labeled as the finest inland links course in the country, it was easy to see that this was as good as golf gets. Like many classic courses, the professional has outgrown these links with the latest drivers and balls. You could still see, though, this was a real test for the rest of us mortals.

As host site for the 1949 Ryder Cup when Ben Hogan was on the winning team, the 2000 Curtis Cup and the 2003 Walker Cup, this track was made for the serious player. The member list comprises an elite and international flavor. The cost to join is a mere \$1,800, and everyone is assessed for operations at the end of the year. The wait list is endless. The club secretary told us they print a list in the monthly newsletter of those who have moved from the wait list to full member, members that have passed away and those on the wait list that have died before making it. I wasn't quite sure if I should chuckle or be humbled by the clout the club carries. So I did both.

#### SHARING RESOURCES

Having seen it first hand, all eyes truly do look to the West for the standards of conditioning. But are we missing out on how to make a golf course here in the U.S.? In our pursuit of excellence, have we bypassed the heart of the game and created something entirely different?

After the week there, I returned with more questions than answers. A return trip is definite. The friendships forged with the group I traveled with will last a lifetime, as well as those made while there.

It might not fit the schedule for an annual visit, but Harrogate week is a must for all to attend at least once during their careers. Our future relies on standing on a common ground, forging friendships and sharing our resources to follow the road to success. **GCI**

*Todd Pippin is golf course superintendent at The Club at Longview in Weddington, N.C. He can be reached at 704-443-2535 or todd@pippin.com.*



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# NEW on the market

*Demanding course conditions inspire new turfgrass varieties*

Researchers continue to develop turfgrass varieties that are designed to withstand today's demanding golf course conditions. Here are some of the newer cultivars, which were developed to offer protection from factors including dwindling water quality, low height of cut and heavy play.

COMPILED BY HEATHER WOOD



## BARENBRUG USA

Baroness Kentucky bluegrass is performing well in different locations throughout the country. It tops the National Turfgrass Evaluation Program list for drought tolerance. Baroness has high turf quality and is very dark green. It's a small, seeded variety, which means it has twice the seed as other bluegrasses. Barenbrug offers a new coating for this variety called Zeba, a nontoxic, biodegradable, starch-based, absorbent coating that forms a hydrogel to provide moisture on demand to increase germination and establishment efficiency. Every Kentucky bluegrass variety sold by the company must pass its wear simulation program.

**Barnique Kentucky bluegrass** performs well in NTEP trials. Barnique tolerates wear and is lighter green than Baroness. It also has small seeds and is available with the Zeba coating.

**TurfStar perennial ryegrass** is a blend that contains high-quality varieties, is guaranteed *Poa annua* free and has a high germination rate. This fall, the company introduces TurfStarXPC perennial ryegrass mix. XPC stands for extra *Poa* cover. The mix has lighter-colored perennial ryegrass varieties in it, which allows for concealing *Poa*. It also contains Bargold, a fine-leaved, perennial ryegrass variety and exhibits wear tolerance. It also withstands close mowing – as low as one-fifth inch – which is uncommon for perennial rye.



**SOS plus Panterra** is for overseeding Bermudagrass. The SOS program allows users to create a regional specific overseeding mixture based on climate and desired transition speed. SOS was developed in conjunction with David Chalmers of Texas A&M University. It's based on Panterra, an annual ryegrass with favorable turf characteristics.

**Barbados hybrid seeded Bermudagrass** is finer-leaved than Princess 77 and Riviera and exhibits spring and summer density. It's aggressive in the spring, which allows for smooth transition from winter overseeding stress. In the fall, Barbados exhibits a more open turf, allowing for better establishment of overseeded cool-season grasses. Barbados is closing the gap between seeded varieties and vegetative varieties; in several trials it ranks higher than the vegetatives. It can be cut to one-sixteenth inch and is only available with the Zeba coating.

For more information, visit [www.barusa.com](http://www.barusa.com).



**FIREBIRD**  
TURF TYPE  
TALL FESCUE

## BURLINGHAM SEEDS

**Firebird tall fescue** is one of the darkest tall fescues available. It has improved brown patch resistance, is slower growing and requires less maintenance. It's highly rated in drought tolerance and is ideal for primary or secondary roughs, bunker facings or around the clubhouse in sun or shade for traditional tall fescue usage areas.

**Zodiac chewings fescue** has been the No. 1-rated chewings fescue in turf quality in the last two NTEP trial years. It's fine textured with improved disease resistance and ability to mow at short cut heights of one-half inch. It's ideal for Northern climate fairways and tree-lined greens surrounds or for dormant overseeding in the South.

**Overdrive perennial ryegrass** has broad adaptability and is resistant to gray leaf spot. It's slower growing, which requires less mowing, and has high endophyte for better stress tolerance. Overdrive has summer active growth, which helps it recover from stress.

For more information, visit [www.burlingham-seeds.com](http://www.burlingham-seeds.com).



## ENVIRONMENTAL TURF

**SeaDwarf seashore paspalum** is a true dwarf paspalum, which means it delivers fast green speeds and high-quality greens. SeaDwarf may be used for high-quality, tee-to-green golf courses, offering superintendents just one grass to manage. SeaDwarf is drought tolerant, requires up to half the water for irrigation needed by Bermudagrass, and may be irrigated with a wide range in water quality - from potable water to brackish, effluent, even seawater with proper maintenance. The way it grows enables it to heal twice as fast as Bermudagrass from divots and sports-related damage. SeaDwarf is environmentally friendly and is highly salt-tolerant. It requires as much as 75 percent less nitrogen for fertilization than Bermudagrass. Additionally, salt can be used as an herbicide.

**Aloha seashore paspalum** was developed by the University of Florida. Fine-textured with a deep green color, Aloha requires

as much as 75 percent less nitrogen for fertilization than Bermudagrass, as much as 50 percent less water for irrigation, and can be irrigated with a range of water sources - from potable water to brackish, effluent, even seawater with proper maintenance. Salt can be used as an herbicide. The cultivar tolerates salt spray and salt water inundation. Aloha can be used in combination with SeaDwarf for longer roughs and color contrast.

**PristineFlora zoysiagrass** also was developed by the University of Florida. PristineFlora zoysia is a highly shade-tolerant grass with a fine texture and rich green color. It can be used for golf and ornamental use. It works well on golf course tees and fairways. It's faster growing than many other common zoysiagrasses, allowing it to heal from wear. It also tolerates most herbicides.

For more information, visit [www.environmentalturf.com](http://www.environmentalturf.com).



## LESKO

**Noble Eagle perennial ryegrass** blend contains three advanced-generation cultivars of turf type perennial ryegrass derived from three unique genetic backgrounds. All three varieties - Notable (Exp AF), Prototype (exp DCM) and Attribute (exp CIS PR270) - have demonstrated ideal turf performance at varied mowing heights and maintenance levels in the current NTEP trial. The varieties have good turf density ratings and have shown resistance to gray leaf spot. Noble Eagle is a premium ryegrass blend and is blue-tag certified. It works well in high-traffic areas such as golf course tees and fairways.

For more information, visit [www.lesco.com](http://www.lesco.com).

**JACKLIN**  
S E E D

## JACKLIN SEED BY SIMPLOT

**4-Season Kentucky bluegrass** is an elite variety with remarkable spring green-up. Its year-round performance earns the "four-season" designation. It features a darker green color, improved disease resistances and heat/drought tolerance.

For more information, visit [www.jacklin.com](http://www.jacklin.com).



## SCOTTS TURF-SEED

Developed by Pure Seed Testing in cooperation with the University of Georgia, **Sea Spray paspalum** is the first release of an improved, seeded seashore paspalum. Ideal for temperate to hot, humid coastal climates, it's extremely salt tolerant and is drought and shade tolerant. Bright, blue-green in color, it's ideal for use on turfgrass areas irrigated with effluent water or subject to naturally high saline conditions.

For more information, visit [www.turf-seed.com](http://www.turf-seed.com)



## SEED RESEARCH OF OREGON/PICKSEED

**Tyee creeping bentgrass** was the top-rated bentgrass in the NTEP greens trials on sand and at or below one-eighth-inch height of cut. It's derived from plants that survive and thrive under heat and stress. It's extra density helps keep *Poa annua* away.

**007 bentgrass** was developed by Richard Hurley, Ph.D., in cooperation with Rutgers University for performance and high dollar spot resistance. All individual parental clones of creeping bentgrass used in the development of 007 were selected for improved dollar spot resistance, medium bright green leaf color and a vigorous, uniform, moderately dense growth habit. Recommended uses include seeding or sodding putting greens, tees and fairways. It will adapt well to low mowing on greens or for reduced fungicide use on fairways and tees.

**MacKenzie bentgrass** has the density required for low heights of cut on greens, especially at the reduced fertility often used with the more aggressive lateral growth needed for fairways. Once established, it has the density to withstand wear in all seasons and for all uses. It has high summer performance and a winter-active growth. The cultivar was developed from bentgrass clones selected from high stress environments.

**SR 1150 bentgrass** was developed to form a vigorous, moderately dense bentgrass fairway, tee or green under lower maintenance conditions. The development of SR 1150 traces to genetic studies on dollar spot resistance by Stacy Bonos, Ph.D., of Rutgers University. SR 1150 won't form thatch as readily as more dense varieties. It has a bright, dark green color and a moderate leaf texture. It demonstrates high resistance to dollar spot, brown patch and pink snow mold.

**SR 4600, Harrier and Zoom perennial ryegrasses** have high resistance to gray leaf spot. All varieties show excellent turf quality. Zoom has shown the highest turf performance under all conditions in the 2004 NTEP trial.

Headstart 2 and Calypso III ryegrasses are two varieties that complement these cultivars because of their dark green color and high resistance to dollar spot and red thread.

**Bandera Texas x Kentucky hybrid bluegrass** has been shown to have excellent drought resistance and recovery because of its deep extensive rhizomes. Another Texas x Kentucky hybrid, **Spitfire bluegrass**, combines the darker color of Midnight Kentucky bluegrass with the drought and heat tolerance of Texas bluegrass.

The company is introducing new high-endophyte fine fescues that show superior turf performance for all usages, from fairways to unmowed roughs.

**SR 5250 (SRX 52961) strong creeping red fescue**

is heat tolerant and can be used from full sun to shade in a broader area than older creeping red fescues. It has shown wear tolerance when cut at fairway heights and can be established with other fine fescues, Kentucky bluegrasses or perennial ryegrasses.

**SR 3150 (SRX 3961) fescue** can be used on fairways to unmowed roadsides. Traditionally, hard fescues were used on shade sites of home lawns or golf course roughs but the advances in SR 3150 enable this variety to be used from sun to shade and high to low maintenance sites. High endophyte levels enable it to resist surface insects and help provide protection against diseases such as dollar spot. Improved heat and summer stress resistance further expand its uses.

**SR 5130 (SRX 51G) chewings fescue**, the latest of this cultivar from the company, has shown ideal performance under traffic stress when cut at fairways heights. It performs well under shade. Resistance to dollar spot, summer patch and red thread contributes to the high performance of this variety. It can be used in mixtures with other fine fescues, Kentucky bluegrasses and perennial ryegrasses.

For more information, visit [www.sroseed.com](http://www.sroseed.com).



### TEE-2-GREEN CORP.

Recognized for its distinctive bluish-green color, **Crystal BlueLinks bentgrass** had top-rated performance in the 2005 NTEP trials. Multiyear field trials indicate it maintains remarkable disease resistance to significant turf diseases such as brown patch, dollar spot and copper spot.

**Alister colonial bentgrass** is guaranteed to be free of crop and weed seed, features a bright color and exhibits solid winter growth. It's recognized for improved leaf spot and take-all patch resistance. Alister isn't as aggressive as creeping bentgrass, which enables it to coexist with fine fescue or thrive under low-maintenance conditions.

For more information, visit [www.tee-2-green.com](http://www.tee-2-green.com).

PlatinumTE  
P A S P A L U M

### TURF ECOSYSTEMS

**Platinum TE paspalum** has no genetic-based grain. It exhibits dwarf-like transformation characteristics as height-of-cut is reduced below 0.125 inch, forming shorter internodes and smaller, narrower leaves as the grass is groomed. The cultivar exhibits continuous growth that provides wear tolerance and divot and ball-mark recovery. It has a low nitrogen requirement because of high nitrogen uptake, but when a growth enhancement is needed, the cultivar rapidly responds to additional nitrogen applications.

For more information, visit [www.platinumte.com](http://www.platinumte.com). GCI

*Editor's note: If there are other new varieties that aren't included, please send the information to Heather Wood, Web editor, at [hwood@gie.net](mailto:hwood@gie.net).*





After 20 years of planning and spending \$63.3 million dollars, The Crossings at Carlsbad opened to the public last month. Photo: carlsbadimages.com