such a young age was not only a positive influence, but one that shaped their careers."

Learning to play golf on a public course helped shape their approach to these facilities, says Robertson. "One of the perspectives McCumber Golf takes is not only should a public course be 'playable' to all skill levels, but it must also give the player an opportunity to develop a sense of strategy while learning more about the technique in his or her game.

"Another consideration is that maintenance of the golf course must be cost-conscious," Robertson continues. "Having owned and operated a residential/resort golf complex, Jim [McCumber] believes in making golf operations make sense. So, concisely put, the McCumbers have a philosophy about this business: Make it playable, make it challenging, and make the dollars spent make sense."

#### Designing The Old-Fashioned Way

"The public determines demand, and you have to price yourself accordingly," says Mike Beebe, a golf course project architect and vice president of McCumber Golf, who designed the course at Osprey Cove and oversaw its construction. "To do that, you have to keep construction and maintenance costs down. Of course, it helps to start with a good site, such as one that doesn't have a lot of rock which requires a lot of blasting.

"We take a classic, traditional approach to course design, along the lines of Donald Ross or Albert Tillinghast," comments Jim McCumber. "We like to use the natural characteristics of the site and we don't want to introduce anything foreign or contrived. We want the course to look like it's been there awhile."

There were plenty of natural characteristics to work with at the 900-acre Osprey Cove development site. The land is owned by its developer, the Gilman Paper Company, which has operated in the area since the 1940s. Although the company had selectively removed most of the larger trees during the years, the area was still more or less tree-covered, according to Beebe.

The site borders the St. Marys River basin. The river itself is not visible from the course, but the development encompasses many tidal marshes which are protected by law.

"That was something we had to take into consideration when routing the

Zoysia was used on bunker faces to reduce maintenance. (Left)



The elevation on the site varies less than six feet. Greens are intentionally not blocked by bunkers.

course, but the more positive side is that the tidal marshes are very attractive," Beebe recalls. "We were able to route several of the golf holes along the marsh edge. There are about six holes that play right along the marsh.

"We had one section of property that was an open field area, which used to be a rough nine-hole golf course, and we routed a hole through there," Beebe continues. "So we came up with a nice mixture of holes-holes in the open, holes along the marsh, holes along the trees, and holes along seven or eight lakes that we built."

One feature that did *not* come naturally to the site was elevation, which changes no

more than five or six feet in the area. To create what little elevational changes there are on the course, McCumber used the fill gained from creating lakes, which in turn are used to retain stormwater. However, only 350,000 cubic yards of material were moved during the entire project. "In the construction of some courses, they'll move as much as one million cubic yards of material," Beebe points out. "That gets very expensive quickly."

When designing any course, the architect reveals, McCumber always looks at strategy of the game and maintainability, in addition to overall course aesthetics.

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Tidal marshes required special attention during design and maintenance.

#### Osprey Cove

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Each hole has a minimum of four sets of 328 bermudagrass tees, which allows the course to be both playable and challenging to players of all levels. The Tifdwarf greens are gently contoured and moderate in size. "But most importantly, we've tried to match the size and contour of the green to the shot we're asking the golfer to hit," Beebe emphasizes. "On a 445-yard par four hole, for example, we wouldn't put in a heavily bunkered 4,500-square-foot green. It just doesn't make sense to ask a guy to hit a long iron onto a green like that. What's more likely is that we'd put in a larger green, open at the front so that if a golfer wanted to he could bounce his shot onto the green.

"We tried to place our hazards and route the course in such a way that the golfer has to think about what he must do from shot to shot," Beebe adds. "The neat thing about old-style courses is that they can be played day-to-day by their regular golfers, but they can also be toughened, through maintenance, if you're going to hold a tournament. For example, if Osprey Cove wanted to hold a Georgia State amateur tournament, you could make the course 'tournament tough' by letting the rough grow up, making the greens firm and fast, narrowing the fairways, and using difficult pin placements so that the course would be tough enough for the competition."

Employing design features such as softly contoured greens was as much a function of simplifying maintenance as it was of course playability. Osprey Cove has been designed to require a minimum of hand maintenance. To help achieve this, sharp slopes and bunker faces were avoided.

"Another one of the things we did at Osprey Cove was to use zoysiagrass on the bunker faces—everything else is bermuda," Beebe explains. "Zoysiagrass is slower growing than bermuda and requires less maintenance in terms of fertilizer and mowing. It also has a different color and texture, which makes the bunker faces stand out.

"We want to make sure that the course we design is going to be maintainable with everyday equipment, because once we're gone the superintendent has to maintain the course, every day."

#### Maintenance By Design

"Here at Osprey Cover they didn't move a lot of dirt, so we have a lot of soft contours," says Burr Johnson, 34, superintendent of the course. "There isn't anything real sharp that requires a lot of hand labor. The bunkers probably require most of what little hand labor there is."

Johnson was hired as superintendent prior to the grow-in period in the summer of 1990, and the course opened that year in October. His career in golf course maintenance began after he completed a threeyear program in golf course operations at Lake City Community College in Florida.



Golf and landscape crew at Osprey Cove.

From there he went on to become an assistant superintendent at the famed Ravines in Middleburg, FL. Designed by McCumber Golf, the Ravines is an 18-hole championship course that is open to daily fee clientele.

Johnson later moved on to become superintendent at Palmetto Pines in Cape Coral, FL, and Cotton Creek Club in Golf Shores, AL. He applied for the job at Osprey Cove not long after he first heard it was going to be built. "The Ravines was also a McCumber course, and I had kept in touch with the McCumbers over the years," he says.

During the grow-in period, Johnson and his golf maintenance and landscape crew often spent 12 to 14 hours a day on the course, but today he averages about ten hours a day, with every other weekend off. Next to his crew and the course's soft contours, he lists course owner Howard Gilman [of Gilman Paper] as his greatest ally.

"Because of Mr. Gilman and his desire to keep this course in top shape, we may have a little more money to spend on maintenance than the average public facility," Johnson asserts.

Of course, that doesn't make maintaining Osprey Cove easy.

"Private facilities usually have a little

more time for maintenance than public facilities," says the superintendent, who has worked at both. "Private courses are often closed one day during the week for maintenance, and the members understand that, usually. At a public course, you're trying to get play through. So the tee offs may begin a little earlier, and they may end a little later. That means that maintenance usually starts earlier and ends later. But wherever you are, you just try to do your best."

The greens at Osprey Cove are mowed seven days a week at 5/32 of an inch using Jacobsen Triplex Mowers. Using the same machines, the tees are mowed at 3/8 of an inch. Two to three times a week, depending upon the month in the growing season, the fairways are mowed at 1/2 inch using a Jacobsen F-10 Fairway Mower.

Greens receive 18 pounds of nitrogen per 1,000 square feet, per year. Tees receive ten to 12 pounds of nitrogen per 1,000 square feet, per year.

"We use IBDU and Nitroform products because they give us a slow release of nitrogen," explains Johnson. "That way, we don't get a big growth spurt and we can keep on top of our mowing. It really worked well this spring, which was particularly wet."

When the spring or any other time period isn't particularly wet, Johnson can use the course's Rain Bird Links Master irrigation system, which controls approximately 600 heads on the course. However, natural precipitation usually satisfies the bulk of the course's irrigation needs.

"Basically, we water according to the weather, although last summer was dry and we were glad we had the irrigation system," Johnson admits.

Osprey Cove was overseeded two weeks before it opened in October. Johnson used a Marvel Green Classic blend from Lofts Seed on the greens, at 20 pounds per 1,000 square feet. On the tees he used a sports mix perennial ryegrass at 15 pounds per 1,000 square feet. Using the same seed blend, the fairways were overseeded at 25 pounds per acre.

"We also had to use a fungicide during our overseed period to keep our ryegrass healthy," Johnson points out.

"A lot of courses overseed 'wall-towall," he continues. "We don't overseed the rough here at all, and that saves us 67 acres of overseeding."

Aside from a few bouts with armyworms and cutworms on its greens, Osprey Cove has had few problems with insects. However, the superintendent believes that mole crickets may present a challenge in the future.

"We're starting to see some mole cricket activity and we've been treating the worst areas with Orthene," he says. "We've been trying to wait for the younger ones so that we can get a better kill. Mole crickets are getting worse in this area, and insecticides to treat them keep getting taken off the market. There's quite a bit of research going on now using the parasitic nematode to control mole crickets, and I sure hope that works out."

Whether he's treating mole crickets or fertilizing greens, the superintendent has to be careful with anything he applies to the course because of the nearby, fragile marsh environment.

"We use pesticides that won't leach into the tidal marshes, as well as slow-release fertilizers," he states. "It's really sensitive when you get around the marshy areas, but I think McCumber did an excellent job of routing the course through the marshes without affecting them."

As for the players at Osprey Cove, most seem to feel they're getting more than their money's worth. The course has several interesting holes, according to McCumber architect Beebe, including nine and 18, which finish from opposite directions on a double green. Hole 11 is short 135-yard par three. Between the tee and the green is a "natural waste area" filled with sand and love grass. Directly in front of the green is a deep sod wall bunker.

"Everybody seems to really enjoy Osprey Cove," Johnson enthuses. "It's a fun course, fairly wide open with fairly big greens."

McCumber Golf says it plans to become more involved in upscale public course design and construction because the of growing demand for such facilities. Beebe explains, "A large percentage of the golfing public likes to play on nice courses, but may not be members of the local country club. They don't mind paying \$20 or \$30 a round to play on a public course if the design and maintenance is comparable to that of a private course.

"There is a big demand for high-quality public golf, partly because we live in a transient society," Beebe continues. "Even if a person can afford to join a country club, it doesn't make much sense to do so if that person knows he or she will be transferred in the next couple of years. So the concept of upscale public golf is sound. We're convinced that people want it."

## HUNTER APPOINTS **MANAGERS**



Lynda Wightman, a Hunter Industries sales representative for more than six years, has been named district manager for San Diego and Orange counties. She will represent the company's Professional Series and Institutional Series sprinklers and will work directly with distributors, irrigation specifiers, landscape architects and contractors, irrigation consultants, and municipalities.

Mike Kearby has been named Hunter's regional sales manager. He will coordinate the regional sales program for new Hunter golf course irrigation products and will also provide technical and educational support.

## MILORGANITE **CELEBRATES 65th**

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## NFIB BACKS TAX CHANGE BILL

The National Federation of Independent Business/Arizona, is supporting a bill to repeal a tax on environmentally hazardous products and replace it with a registration fee that would be less damaging to small businesses.

SB 1170, spearheaded by state rep. Herb Guenther, would replace the 8.5 percent tax on the retail price of such environmentally hazardous products as motor oil and household and automotive paints with a \$10 registration fee for retailers. The funds would be used to clean up groundwater at hazardous waste sites throughout the state.

Jill Andrews, state director of NFIB/Arizona, said the 8.5 percent tax, scheduled to go into effect in June, is excessive and businesses will have difficulty complying with it. She added that business and trade associations supporting SB 1170, which include the Arizona Chamber of Commerce, the Arizona Retailers Association and the Retail Grocers Association, have estimated that the environmental tax would generate about \$55 million.



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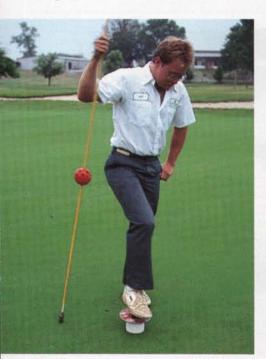
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Penncross green at Las Colinas Country Club in Irving, Texas. Photos copyright: Larry Kassell.

# Bentgrass Southern Style

By Michelle D. Sterbakov



Jerry Lemons changing cup at Old Hickory.

reeping bentgrass, the "Rolls Royce" of grasses according to one golf course superintendent, has expanded its range of popularity in the past 10 years. Even in the South, where this cool-season grass traditionally is susceptible to various ailments, many superintendents say it's worth the struggle to maintain creeping bentgrass greens.

creeping bentgrass greens.

Jerry Lemons, superintendent of Old Hickory Country Club in Nashville, TN, says golf course superintendents in his area with bentgrass greens call the time period between Memorial Day and Labor Day "90 days of hell." Greens maintenance during the summer months requires almost constant attention, and at times, a sixth sense ability for troubleshooting. Still, many golfers prefer bentgrass because it provides excellent putting quality.

"They used to have bermudagrass at this course," notes Lemons. "But even in the summer months it wasn't consistent. And in the fall they overseeded spots in the fairway with ryegrass. Instead of playing on bermudagrass, golfers would end up playing on ryegrass throughout the winter while the bermudagrass was dormant. I had used bentgrass at the course I last worked at in Kentucky. One reason I was hired here was to convert this course to bentgrass. It's more difficult to maintain than other types of grasses, but with use of proper fungicides, pesticides, and irrigation and mowing practices, it will work."

One of the most widely used creeping bentgrasses is Penncross, an aggressive turfgrass developed at Pennsylvania State University by Drs. Burton Musser and Joseph Duich. Lemons uses a newer bentgrass on the Old Hickory Country Club course-PennLinks, a less aggressive turf developed by Duich more recently.

"We think it the finest and most true cutting grass that handles our southern climate," Lemons comments. "Many people are skeptical about it compared to Penncross, which they know more about, but people who have used PennLinks have

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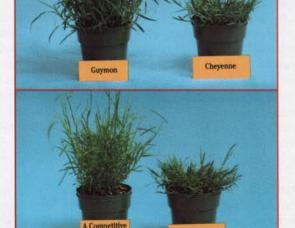
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#### Bentgrass

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never regretted it. On the other hand, I know of some supers who have used Penncross and now wish they used PennLinks.

"With PennLinks you get better cuttingthere's no grain and there's no need for verticutting. That eliminates the need for one maintenance practice that's common with Penncross. Also, the PennLinks blades are superb. They're fine and upright."

Lemons believes that one of the biggest problems with creeping bentgrass is isolated dry spots. These areas often must be hand watered to provide uniform turf. Aeration and treatment with wetting agents are also helpful in solving problems with dry spots.

Another problem, says Lemons, is some greens chairmen who think the course should be "U.S. Open-ready" throughout the summer. This causes problems because in the humidity, the cutting height needs to be raised for the turf to withstand traffic. "We try to grow creeping bentgrass nine months a year," he says. "During the three summer months we just try to keep it alive."

The Vintage Club in Indian Wells, CA has been using Penncross since its inception 10 years ago. Jeff Markow, superintendent of the course, says that Penncross is on 35 of the 36 holes on the golf courses. The remaining hole needed to be replaced last year, and Markow decided to try Penn-Links there. Markow says the Penn-Links green has not been in place for a full year, so he does not know how it will handle the summer heat in the desert climate.

"The bentgrass provides an excellent putting surface, but when growth slows down in the summer, there is a small problem with traffic and wear," Markow notes. "The turf actually tolerates quite a bit of it-it's just not as aesthetically pleasing during the summer.

"It's not difficult to maintain the turf during the summer. But it does require diligent care. We have very limited disease problems because we're in a desert climate. The only time we really have to worry is at the end of the summer when we get some humidity.

"Mainly, with humidity it's important to have good cultural practices," Markow states. "We do frequent syringing during the summer, and verticutting and light topdressing during the season (not during the summer). In the summer we promote as much rooting as possible, then we just leave the turf alone. We raise the cutting heights

as signs of distress appear. We'll skip some mowing if it's needed.

Humidity is the biggest problem for southern golf courses using creeping bentgrass, most superintendents say. In fact, south of central Florida, it's nearly impossible to manage creeping bentgrass during the summer, according to Dr. Milt Engelke at the Texas Agricultural Center in Dallas. He has conducted research on the heat and drought resistance in bentgrass since 1985. Humidity causes many disease problems in bentgrass and a lot of stress for superintendents.

Humidity is the biggest problem for southern golf courses using creeping bentgrass.

"Palmer and Nicklaus use bentgrass on their courses in Florida," Engelke remarks. "But it causes the superintendent stress because of its biological shortcomings in Florida. The only way some plants can survive in that environment is to alter the environment. There is some success at growing bentgrass in Florida, but at what cost?

"In the breeding program we've targeted those problems. If we can get little or no stress where there is very high heat and humidity, then we can move toward those zones. We will grow bentgrass in Florida, but not yet. We're learning more and more, and it will take time-maybe up to 15 years. In the meantime, we're hoping our work on warm season grasses such as zoysia and bermudagrass will be positive enough so that golfers and superintendents will be satisfied with that turf."

A few golf courses in Florida, such as Audubon Country Club in Bonita Springs (near Naples on the southwestern coast of the Gulf of Mexico) overseed with bentgrass in the winter so that the club's members can at least enjoy it at that time of year.

"During the summer we use bermudagrass, and during the winter we verticut and overseed with SR-1020," explains Walter Owsiany of the Florida golf course. "During the winter, our turf is about half bentgrass and half bermudagrass. Our members, especially retirees who live up north in the summer and come here for the winter, want or even expect to play on the bentgrass. Sometimes it does get cold here in the winter-our average temperatures fall into the 50- to 60-degree range at night."

Owsiany points out that a comparison between bentgrass and perennial ryegrass for overseeding should consider more than price per pound. Seeding rates for bentgrass are lower since there are almost 20 times more seeds per pound than perennial ryegrass.

L.R. "Skip" Maul at Innsbrook Village Country Club in Ruidosa, NM finds bentgrass management challenging, not because of the humidity as much as the high altitude where the course is located. During the summer, ultraviolet rays hit the course harder than most places, and the winds blow more. Both of these factors are detrimental to the survival and healthy growth of bentgrass.

"Water management is very important," states Maul. "We do a lot of syringing and hand watering. We can't use too much water or that will hurt the grass. We have to know when we've done just enough. And we have to use just the right amount of fertilizer."

The course in New Mexico has been there for 20 years, but Maul just reseeded with bentgrass in May 1990. Originally, the course had Seaside bent, but Maul switched to Putter. He had used Putter bentgrass previously at another course and was satisfied with it.

"When I first got here, the greens were desiccated," Maul reveals. "I thought it would take a year to get healthy turf, but it only took two months. We get a lot of rain, which makes bentgrass susceptible to disease, but the Putter shows resistance to all patch diseases. Putter is a real hardy bentgrass. It's very disease tolerant with normal maintenance.

"We run a lot of preventative maintenance. We start applying fungicide during the last two weeks in May. We look for high humidity and heat, because patch disease will really hit fast and hard up here. We don't wait for the sun to get to the turf before we treat it. We can't afford to lose any turf. We use the fungicides four months a year. I use chelated iron to enhance the color."

Like most superintendents using bentgrass, Maul allows the turf to grow higher at certain times during the year to help prevent diseases. While creeping bentgrass can often be cut to 1/8-inch, Maul lets his grow to nearly 3/8-inch during the winter because short-cut, frozen turf gets damaged easier when there's still traffic on it. And he also mows higher if he runs into heat stress during the summer.

For Maul, the biggest problem is *Poa annua*. "Verticutting and overseeding in the spring and fall help control Poa, but it's still a constant struggle to keep it away. Last week I bought 75 pounds of seed so I can go next week and get out the Poa. Some courses just give in and use it, but it doesn't work nearly as well as bentgrass. Poa really likes it wet."

The Bethesda Country Club in Bethesda, MD was among the first golf courses to use bentgrass turf on its greens. The course opened during the 1920s and began using C-series creeping bentgrasses. Dean Graves, who has been superintendent at the course for the past two years, notes that there are six different ages of the courses. The older ones still use Cohansey, while the newer ones are of Penncross.

"Penncross is a darker green, more aggressive grass that withstands summer heat better," says Graves. "I'd like to convert the More superintendents have become educated about bentgrass management.

Cohansey greens but that would cost \$1 million, to completely renovate all the old greens and start from scratch. You can't reseed if you want immediate results. It would probably take four or five years to do that. It's less expensive, but it's more time-consuming.

"To care for the greens, I usually just try to keep them as dry as possible. I apply pesticides as needed. In the summer this is a very high stress area for diseases. I do spoon feedings of fertilizer and hand water often to accommodate the turf as much as possible." "In the past five years, it's gotten easier to manage bentgrass. New aeration equipment has become available, new fungicides are being used, and in general, more superintendents have become educated about how to grow bentgrass properly," notes Lemons.

In addition, new types of creeping bentgrasses have been developed in recent years and more are still in the works. Dr. Engelke, whose work is sponsored by the United States Golf Association and Bentgrass Research, Inc., a group of southern golf course superintendents, is optimistic that conditions for bentgrasses will soon be improved.

Two years ago, bentgrass test plots were seeded at test locations across the U.S. and Canada. The first results have just become available and are very pleasing, according to Engelke. When the new bentgrass goes on the market, which he hopes will be two to three years from now, close to \$1 million will have been spent on the research.

"We're trying to get bentgrass better adapted to its environment," Engelke says. "There is a very good chance for success, and we will all benefit from it."



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## WALDEN TO HEAD GOLF CAR MANUFACTURERS' ASSOCIATION



L.T. Walden, executive vice president of E-Z-GO Textron has been named president of the National Golf Car Manufacturers' Association.

"It's indeed an honor to serve my outstanding associates and peers in this leadership role," Walden said at the organization's first quarter business session in Orlando, FL. "As I exercise my duties, you can count on me to do everything possible to live up to the confidence and trust that this fine group has bestowed upon me."

Walden joined E-Z-GO in 1962. In 1981, he was appointed director of service and distribution and in 1983 he was named vice president of customer service. He became vice president of sales and marketing in 1985 and was named executive vice president shortly thereafter. In November 1990, he became acting general manager for the entire organization, in addition to his executive vice president post.

# URBAN HORTICULTURE WORKSHOP

Environmental factors unique to the urban environment create significant stresses for woody plants. A workshop sponsored by the Cornell University Cooperative Extension Urban Horticulture Institute will hold a four-day workshop for professionals Aug. 6-9 called Successful Establishment of Urban Trees.

This intensive workshop will focus on four primary categories: site assessment, soil modification, plant selection and planting techniques. The format will include lectures, laboratory exercises, field trips, and a project. The participant will learn how to critically interpret a planting site, know when and how to change it for the better, and to make informed decisions about existing and possible plantings on the site.

For course information call Becky Parker at (607) 255-3090. For information on registration or accommodations, call Mary Beth Lombard at (607) 255-6290.

## RAIN BIRD NAMES AWARD WINNERS

Rain Bird Golf Sales, Inc., of Glendora, CA, has named Steve Eisele golf salesman of the year.

Eisele is golf sales manager at Sprinkler Irrigation Corporation, a distributor of Rain Bird equipment. According to Ed Shoemaker, vice president for Rain Bird's golf division, Eisele has been responsible for the installation of more MAXI Systems in his area than all other central control systems combined.

Hydro-Scape Products in San Diego was named Rain Bird Golf Distributor of the Year.

Since becoming the exclusive Southern California Rain Bird golf distributor three years ago, Hydro-Scape has tripled the company's market share.

Jim Frederick has been named winner of the first annual Don Parker Service Award by Rain Bird. Frederick is the irrigation service manager of Conyers, GA-based Lawn & Turf, and was recognized for his outstanding efforts to upgrade the industry via training of contractors and end users and in conducting high-level service schools.

The Don Parker Service Award was introduced this year to honor longtime industry leader Don Parker, who died last year. Parker pioneered many service concepts now standard in the industry.

### **MARK MAHANNAH**

Mark Mahannah, 85, one of the pioneer members of the American Society of Golf Course Architects, died March 18.

Mahannah began designing golf courses in 1946, and designed more than 80 golf courses throughout the country. The Florida architect was elected a member of the ASGCA in 1961 and a Fellow in 1976.

### VALENTINE HONORED



Left to right: Charles H. Cadiz, Jr., P.T.C. Director & Chairman of Distinguished Service Award Committee and Richard Valentine, Bryn Mawr, PA.

Richard E. Valentine, golf course consultant of Bryn Mawr, PA, has received the Distinguished Service Award from the Pennsylvania Turfgrass Council. Presented to individuals who have exhibited outstand-

ing service to the turfgrass industry, the award is the organization's highest honor.

Valentine recently retired as golf course superintendent at Merion Golf Club in Ardmore, PA.

# FIRMS PURSUE HESSTON ACQUISITION

Allis Gleaner Company, the holder of Deutz-Allis Corporation, a U.S. farm equipment manufacturer and marketer, and Fiat Geotech S.p.A., a manufacturer and distributor of farm equipment worldwide, today announced that they have entered into a Memorandum of Understanding calling for Deutz-Allis to purchase all of the shares of Hesston Corporation, a manufacturer and distributor of hay and forage equipment in the North American market.

The proposed acquisition does not include the Woods division and the distribution of Fiat tractors, and has been prompted by a requirement of the U.S. Department of Justice that Fiat Geotech divest its existing U.S.-based Hay and forage machinery business before completing its acquisition of Ford New Holland.

The acquisition provides Allis Gleaner with the opportunity to add a major product line to its company, further strengthen its distribution network and continue to position itself for further growth opportunities.

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