Company and Cypress Point have restricted access to potable water, which they use on a rota basis between them to prevent pressure losses in the potable water system. They use it to flush their greens once a month, lowering the salt build up. Other courses relied on the heavy rains, whereas some Superintendents found that flushing with the treated effluent actually helped remove some salt build up.

The irrigation regime of almost all the superintendents is to irrigate heavily and infrequently, although a lot of supplementary hand watering is necessary on dry spots and bunker banks (especially south facing). The greens are also syringed which is a light hand application into the air, literally misting the green, to lower the temperature of the grass by evaporation in the summer. This operation only takes about one minute for an average 500m² green, but may need to be carried out three-five times a day, even more on really hot days.

From the Los Angeles area onwards we came across warm season grasses, these were either Common bermuda (Cynodon sp), Hybrid bermuda (Cynodon sp), Kakuei (Pennisetum clandestinum), or a mix of all three (Sanctuary and Desert Forest were the exceptions, as they had Creeping bent fairways). Some Superintendents preferred common; some were trying to make the transition from common to hybrid, while others encouraged Kakuei. Whatever the type, they had all managed to produce good playing surfaces. In fact Bel-Air Country club had just stripped and returfed the entire 17th fairway (a 449 yard par 4) with hybrid bermuda and put it back into play all in one week!

A problem with these warm season grasses is that once they get going they go, to the point where all the edging needs trimming once a week, buggy paths, pathways, bunkers, pop-ups, even the greens edges to stop the grasses encroaching onto the green. Other methods of stopping this encroachment onto the green varied from mild herbicides to a three-foot collar of 100% rye grass around the green. Some courses with newly constructed greens had a slot incorporated into the top of the non-porous membrane that lines the green, to facilitate accurate edging so that the shape of the green remains intact.

For years people scratched their heads looking for a speedy, efficient and economical way of collecting leaves and grass cuttings. Then, in 1966, the engineers at Trilo came up with the perfect solution - an ingenious vacuum sweeper which they called the Trilo Grass Collector. The idea was a huge success and the company's reputation for expertise and quality soon spread worldwide. Thirty years on, Trilo is still leading the way with a wide range of machines that will not only vacuum, but also scarify, cut and collect.

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Some of the golf clubs had a policy of overseeding the fairways on an annual basis with rye grass, to provide grass cover in the colder winter months as the warm season grasses go dormant. At the time of our visit the warm season grasses were just starting to recover from the winter, resulting in a transitional period from cool season to warm season grasses that lasts for a few weeks, giving a stressed/scruffy appearance. The courses that choose not to overseed are either the seasonal courses (i.e. closed over the winter period), or clubs that do not receive a lot of winter play. However, apart from the seasonal courses, all the courses have varying degrees of active growth with the cool season grasses through the winter.

One of the more unusual greens that we encountered was the 6th at Riviera Country Club, referred to by the greens staff as the doughnut green. This was a large green that had a sand bunker right in the middle of it! This green also suffered with shade from surrounding trees.

The Superintendent, Paul Ramina, has undertaken extensive tree work, thinning the crowns and generally improving light levels around the green, even to the extent of using grow lamps, which Paul says has improved the condition of the sward dramatically. The lights are removed for tournament play, but are generally used through the day as much as possible. Other unusual sights were the par five 16th at Oak Tree Golf Club that had a hangman’s noose hanging from a tree near to the green. This is for any golfers to feel free to top themselves if they have a disastrous score on this hole, like Jack Nicklaus who took a 12 in the 1968 PGA. Lightening shelters featured at Sanctuary Golf Club and Cherry Hills Golf Club as they have their fair share of lightening during the summer. The trees that came into play or bordered the tees and greens also had lightening earthing straps to minimise the risk of damage to the trees and golfers.

There are so many other interesting points that I learned during the tour that I could probably write a book on them, or at least my final year thesis. The experience of the tour has given me the opportunity to learn a great deal about the specific maintenance requirements for quite different growing conditions, ranging from coastal and high altitude courses right through to desert courses. At every course visited, we were made to feel welcome, and the Superintendents were very forthcoming with information about their courses and individual maintenance regimes. I was very impressed with their expertise and professionalism and the very high standards that they achieved.

The Grand Tour Scholarship is one of those once in a lifetime opportunities, which I would recommend anyone to apply for, and given the chance I would do it all again.

Colin Mumford

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**Schedule of Grand Tour**

<table>
<thead>
<tr>
<th>State</th>
<th>Course</th>
<th>Designer/Year Constructed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA</td>
<td>San Francisco Golf Club</td>
<td>A.W. Tillinghast, 1918</td>
</tr>
<tr>
<td></td>
<td>Pasatiempo Golf Club</td>
<td>Alister Mackenzie, 1923</td>
</tr>
<tr>
<td></td>
<td>Pebble Beach Golf Links</td>
<td>J. Neville/D. Grant, 1919</td>
</tr>
<tr>
<td></td>
<td>The Links at Spanish Bay</td>
<td>Robert Trent Jones, 1966</td>
</tr>
<tr>
<td></td>
<td>Spyglass Hill Golf Course</td>
<td>Alister Mackenzie, 1928</td>
</tr>
<tr>
<td></td>
<td>Cypress Point Golf Club</td>
<td>George.C. Thomas, 1927</td>
</tr>
<tr>
<td></td>
<td>Los Angeles Country Club</td>
<td>George.C. Thomas, 1927</td>
</tr>
<tr>
<td></td>
<td>Bel-Air Country Club</td>
<td>George.C. Thomas, 1927</td>
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<tr>
<td></td>
<td>Riviera Country Club</td>
<td></td>
</tr>
<tr>
<td>NV</td>
<td>Shadow Creek Golf Club</td>
<td>Tom Fazio, 1990</td>
</tr>
<tr>
<td>AZ</td>
<td>Forest Highlands Golf Club</td>
<td>Tom Weiskopf/Jay Morrish, 1987 + 1999</td>
</tr>
<tr>
<td></td>
<td>Troon Golf &amp; Country Club</td>
<td>Tom Weiskopf/Jay Morrish, 1986</td>
</tr>
<tr>
<td></td>
<td>Desert Forest Golf Club</td>
<td>Red Lawrence, 1962</td>
</tr>
<tr>
<td>UT</td>
<td>Just drove through</td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td>Castle Pines Golf Club</td>
<td>Jack Nicklaus, 1961</td>
</tr>
<tr>
<td></td>
<td>Sanctuary Golf Club</td>
<td>Jim Engh, 1997</td>
</tr>
<tr>
<td></td>
<td>Cherry Hills Golf Club</td>
<td>William Flynn, 1923</td>
</tr>
<tr>
<td>KS</td>
<td>Prairie Dunes Golf Club</td>
<td>Perry Maxwell, 1937</td>
</tr>
<tr>
<td>OK</td>
<td>Southern Hills Country Club</td>
<td>Perry Maxwell, 1936</td>
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<tr>
<td></td>
<td>Oak Tree Country Club</td>
<td>Pete Dye, 1976</td>
</tr>
<tr>
<td></td>
<td>Oak Tree Golf Club</td>
<td>Pete Dye, 1976</td>
</tr>
<tr>
<td>TX</td>
<td>Colonial Country Club</td>
<td>John Bredemus, 1936</td>
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</tbody>
</table>
### Course Card

<table>
<thead>
<tr>
<th>HOLE</th>
<th>FRONT NINE</th>
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<tbody>
<tr>
<td>1</td>
<td>Aldeburgh GC</td>
</tr>
<tr>
<td>2</td>
<td>Ballybunion (Old &amp; Cashen)</td>
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<tr>
<td>3</td>
<td>The Belfry (Barbazon, PGA &amp; Derby)</td>
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<tr>
<td>4</td>
<td>Burhill (Old &amp; New)</td>
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<tr>
<td>5</td>
<td>Carden Park GC</td>
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<td>6</td>
<td>Celtic Manor (Wentwood hills)</td>
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<tr>
<td>7</td>
<td>Fota Island GC</td>
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<tr>
<td>8</td>
<td>Foxhills (Longcross &amp; Chertsey)</td>
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<tr>
<td>9</td>
<td>Forest of Arden Hotel G&amp;C Club</td>
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<tr>
<td>10</td>
<td>The Gleneagles Hotel (King's &amp; Queen's)</td>
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<tr>
<td>11</td>
<td>The Honourable Company of Edinburgh Golfers</td>
</tr>
<tr>
<td>12</td>
<td>Killarney G&amp;F Club (Mahoney's, Killeen &amp; New)</td>
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<tr>
<td>13</td>
<td>Richmond GC</td>
</tr>
<tr>
<td>14</td>
<td>Royal St George’s GC</td>
</tr>
<tr>
<td>15</td>
<td>Royal Wimbledon GC</td>
</tr>
<tr>
<td>16</td>
<td>Sunningdale (Old &amp; New)</td>
</tr>
<tr>
<td>17</td>
<td>West Lancs GC</td>
</tr>
<tr>
<td>18</td>
<td>Woburn (Marquess)</td>
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A future course is under development to include Queenwood GC, Wychwood Park, Rookery Park, St Andrews Bay Development, St Georges Hill, Doonbeg GC, and The Addington due for installation this year.
Tiger Woods safely aboard the 17th green and about to be anointed Champion.
BIGGA’s Greenkeeping Support team was on duty at this year’s Open Championship at St Andrews. The 52-man team contributed towards the smooth running of a magnificent week and witnessed golfing history at the same time.

On the eve of the Championship a unique event took place at St Andrews in the shape of the Champion’s Challenge which involved 20 Open Champions from the past playing in a team match over the 1st, 2nd, 17th and 18th holes.

It was a wonderful occasion graced by many legends of the game, from 88 year-old Sam Snead, winner in 1946, through to Paul Lawrie, the defending Champion.

One man who didn’t play in the event but who will now play every time it is repeated is Tiger Woods.

The man who is now widely regarded as the world’s top sportsman never mind golfer, marched to his first Open in a style which suggested he will win many more.

The significance of this year’s triumph was that he became the youngest ever winner of the Grand Slam - the Masters, US Open, Open Championship and the US PGA and he currently holds all but the Masters at the same time. Indeed he is only the fifth player to join that elite band.

From the moment he cruised through the back nine on the first day the result was never in doubt and his rounds of 67, 66, 67, 69 gave him a record 19 under-par total and a winning margin of eight shots, to go with his 15 shot margin at Pebble Beach the previous month.

Prior to the week he had set a goal of playing all four rounds in the 60s and not going into any of St Andrews’ 112 formidable and potentially score wreaking bunkers. He succeeded in both counts.

In many people’s eyes keeping out of the sand is the key at St Andrews and particularly this year when Eddie Adams and his team renovated them all to produce a set of beautifully revetted bunkers which sent shivers down the spines of all the players.

Such was the fear factor that the bunkers influenced thinking to the extent that they defended the reputation of the course. It is remarkable statistic that although Carnoustie produced a winning score of 290 to St Andrews’ 269, the best individual round of the week was only one different 67 at Carnoustie to 66 at St Andrews.

Eddie Adams and his team - he could call on 70 greenkeepers from the other St Andrews Links Trust courses - were universally praised for the condition of the course which was traditional links at its best. New R&A Secretary Peter Dawson was quoted as saying, “We wanted a hard fast running golf course. Eddie Adams has supplied that and all credit to him for it.”

For his part Eddie, who was able to spend quite a bit of time talking to colleagues in the BIGGA marquee during the course of the week, joked that he had the fastest fairways in the world.
Sergio Garcia is never one to miss a chance for a bit of showmanship. After chipping in for an eagle on the 14th he kissed the pin at the point where the ball had bounced off and down into the hole. Information supplied by BIGGA Greenkeeping Support Team member Mark Ellis, of Stocks Hotel Golf and Country Club.

The pace of play proved quite lucrative for Lee Trevino. With time on his hands he went ball searching in gorse on the 4th hole and was successful in coming out with one. Information supplied by BIGGA Greenkeeping Support Team member Ian Semple, Old Folds Manor Golf Club.

The two men at the centre of the Ryder Cup bookgate saga, Nick Faldo and Mark James were out at different times of day but thanks to St Andrews double greens found themselves on the same putting surface when Faldo was playing the 16th and James the 2nd. No glances were exchanged. Information supplied by the BIGGA Greenkeeping Support Team member, Alan Halfyear, of Rother Valley Golf Centre, Sheffield.

Gary Player's famous black and white trousers created some interest during the second round. During a delay in play Nick Price took a Unisys man, with a black and white shirt, over to Player and asked him to swap shirts so that Gary would be completely matching. Player originally wore the trousers 40 years ago and he revealed that his waist is now an inch narrower. Lee Trevino was a tad upset because his waist is now five inches wider! Information supplied by BIGGA Greenkeeping Support Team member, George Barr, of Ham Manor Golf Club.

Michael Jonzon's caddie didn't expect a stunning back nine on the second day to make the cut. He handed his caddie's badge over to a member of the gallery on the 9th when his player was six over. Information supplied by BIGGA Greenkeeping Support Team member, Robert Hogarth, of Cardrona Hotel Golf & Country Club.

Brian Davis found the easiest way to negotiate the huge 2nd green was to take a wedge. Information supplied by BIGGA Greenkeeping Support Team member, John Wells, of Brocket Hall.

The fine tradition of streaking at The Open, which reached a peak at St Andrews five years ago on the 18th green, was revived during the second round when a female exponent of the art ran across the 16th green. Sandy Lyle was teeing off at the 17th at the time and hit the best drive of his threeball. Information supplied by BIGGA Greenkeeping Support Team member, Alan Halfyear, of Rother Valley Golf Centre.

Tony Johnstone took the "along the ground rather than through the air" nature of the links land conditions to an extreme when he played the 18th hole on Friday. He took putter from 100 yards out. Information supplied by BIGGA Greenkeeping Support Team member, Ian Barr, of Linge GC.

Above: The Champion’s Challenge attracted huge galleries on the Wednesday.
Above: A member of the St Andrews' Greenstaff finishes off the 2nd and 16th greens on the Sunday morning. A check of the watch shows that everything's under control.

Above: Unfortunately, the traditional photograph of the Support Team with the new Champion was unable to be taken due to a decision to keep the area around the 18th green as clear as possible for safety reasons. The triumphant team still celebrated on the 1st fairway later however.
Colin Montgomery comfortably made the cut but his frustrations on the greens nearly got the better of him. When he made his first birdie on the 9th during the second round after a series of missed putts he turned to referee David Garland and said that if he hadn't made it David would have been refereeing a two ball.

Information supplied by BIGGA
Greenkeeping Support Team member, Neil Whitaker, of Arkley GC.

Jack Nicklaus hit what he thought was a fine drive at the 4th but discovered that it had only reached the first grassy mound. "I'm getting old if I can hit a great drive and not even reach the fairway," he said. Information supplied by BIGGA
Greenkeeping Support Team member, Anthony Davies, of Prestbury GC.

Ian Woosnam's caddie had a joke at Lee Westwood's expense during the final round. In the wake of Westwood's statement that he was a golfer not a 400 metre runner, Wobbly got a chunky KitKat from a girl in the gallery and offered it to Westwood. Westwood went over to the girl and gave her two golf balls for it and then got his own back by throwing Woosie's putter into the gallery.

Information supplied by BIGGA
Greenkeeping Support Team member, Iain Barr, of Largs GC.

Jean Van De Velde always seems to find himself in unusual situations in the last round of The Open. This year his tee shot at the 2nd landed near a path on the right side of the fairway and the ball was picked up by a little girl who ran off with it.

Information supplied by BIGGA
Greenkeeping Support Team member, Roger Clark.

Paul Azinger was out in 30 in the final round but found trouble at the 12th when he found thick gorse. BIGGA Greenkeeping Support Team member, Alan Halfyear fought his way into the bush to mark the position of the ball and hold his rake up so Azinger could retreat to the nearest point of relief. Alan emerged covered in thorns having been well reported on both television and radio for his efforts. He was rewarded with Azinger's ball.

The now traditional Scotland England football match saw Scotland build on the success of the win at Wembley in the European Championship play-off second leg with a fine 10-4 victory in the Duffus Park, Cupar. The stars of the show were George Barr, who scored a hat trick, the Scot's attacking minded right sided midfielder who showed remarkable composure to control a through pass from Marshall Blass and then send Russell Black, the English keeper the wrong way.
This picture: Fred Couples discusses his final drive as an attentive BIGGA Greenkeeping Support Team member Steve Outram looks on.

Left: Steve Pope grabs a bite to eat
Far right: Ian Leonard sports a different rake-carrying technique
Below: Paul Murphy and Nick Cain walk the fairways
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