



Managing golf courses in the Arabian heat

MAIN: 2nd hole at The Els Club Dubai

LEFT: 5. Sea Isle Paspalum grass at the Al Hamra Golf Club

INSET LEFT: The 11th tee at The Els Club Dubai

Greenkeepers are all too aware of the problems caused by excess water – what about the issues posed by heat? Laurence Pithie travelled to a sweltering United Arab Emirates to find out

The UAE is a federation of seven Emirates or principalities, the capital and largest being Abu Dhabi. Gaining immense revenue from oil, areas of the desert have been transformed as investment has been used to create a modern city and infrastructure consisting of commerce, retail, residential and tourism, not to mention golf courses, marinas, sporting arenas, race tracks and so on.

Travelling within the UAE is relatively cheap, thanks to fuel costs that the western world can only dream of. Filling the car for £10 is quite a novelty along with the seven lane Sheikh Zayed highway that bisects Dubai.

The UAE's population of almost 8 million inhabitants, 2 million of whom live in Dubai, is served by 19 golf courses, albeit with some nine hole layouts.

The Emirates Majlis course was the first grass course in 1988 followed by almost one each year until the downturn in the global economy took effect.

Most of the newer courses are integrated into larger housing communities or linked to hotels that help guarantee success.

Fortunately this market is again on the increase and Dubai reputedly enjoys one of the highest hotel occupancy rates in the world. Peak season is from October to April with annual roundage varying from 20,000 to 60,000.

Some of the more popular sites are also floodlit, allowing golf to be played until midnight as darkness occurs much earlier throughout the summer than in the UK.

Winter temperatures are around 20C, whereas summer temperatures are frequently above 40C and therein lies the considerable challenge of keeping the turfgrass alive, especially when rainfall is negligible.

THE GOLF COURSES

I visited several courses with Richard Crocombe, BIGGA International Member and Course Superintendent and Project Manager for Orient Irrigation in Dubai.

The majority of courses I explored were designed by **Harradine Golf**, making best use of the flat desert landscape and enjoyable for all levels of golfer.

Along the coastal fringes of the UAE where the golf courses are located the land largely consists of dune sand which is high in salt content, of a fine particle size and



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prone to wind blow in the form of sand storms. The warm season grasses consist of either Bermuda or Paspalum although some high-end courses overseed with cool season rye in the winter on tees, fairways and semi-roughs for either tournaments or presentation.

Drainage to greens is standard and on the fairways, this can range from soakaways to piped networks. Fairway drainage is important in order to allow effluent irrigation water to move through the profile as quickly as possible, thus avoiding the build-up of high sodium levels.

Treated Sewage Effluent (TSE) from adjacent housing communities, hotels or from the municipality is widely used for irrigation purposes.

On the Jebel Ali resort course, an on-site desalination plant provides clean drinking water for the hotel, apartments and clubhouse which is then recycled as TSE for the golf course and hotel grounds - good use of this precious commodity.

At the height of summer up to 12mm of water will be applied each night to replace the amount lost in ET. This equates to over 1 million gals (4,545m³) of water per night being used per 18 holes.

Compared to the amount used on a typical UK course this equates to just two nights watering!

More than three nights without water in the summer would place the turf under serious stress. Whereas northern European courses tend to have around 48Ha of natural turf, a typical course in Dubai will have well under half that amount due to water availability.

Apart from narrow strips of semi-rough, all external areas are of a 'desert' landscape and are managed as such. Great use is made of bunkers for similar reasons, with washed sand sourced from the dunes or imported silica sand from neighbouring Saudi Arabia.

GREENS

Most newer greens are of a good size throughout the UAE, being largely built to USGA standards or similar. Either local 'red' or 'sweet' sand is used for construction or imported silica sand. pH levels are generally high, often between 7.5 and 8.0.

Bermuda TifEagle or TifDwarf are the most common grass types, although newer courses are switching to Paspalum Sea Isle varieties or Platinum TE.

The latter has higher heat and salt tolerances which gives it an advantage over Bermuda, but it has

to be managed more aggressively to combat thatch levels. In both cases, superb putting surfaces can be attained with mowing heights varying from 2.5mm in summer to 3.5mm in winter.

Root depth typically varies between 75 and 150mm in depth with OM levels dependent on thatch control measures. Green speed averages around 9 feet for visitor play to well over 11 feet for tournaments.

Mowing is by walk mowers only with up to 14 cuts per week; this in addition to 'turf ironing' 3 times per week. Fertiliser input is considerable compared to the UK, since these are 'hungry' grasses and growing all year round.

Nitrogen input can vary from 350 to 500 kgs/Ha per annum, likewise Potassium, whereas Phosphate levels are low. All greens tend to receive high levels of Calcium (various sources) to combat the sodium build-up with applications being 'little and frequent' namely every week but depending on the time of year.

Aerifying and top dressing practices are similar to the UK but with far more verti-cutting and light scarifying required. Insects are more of a problem than disease, with leaf feeding cutworms, army worms and root feeding white grubs being the chief pests followed by nematodes.

The key challenge with greens is to manage salinity levels within the root-zone by regularly flushing or drenching the greens to force downward movement of salt accumulation. The other main challenges are to control thatch and firm up surfaces and to maintain this during the peak winter season when the growth rate is relatively slow.

MANAGEMENT

All courses in the UAE require intensive labour; with 18 staff for every nine holes being the norm. Around 20% of the time is taken up managing the peripheral desert landscaped areas which involves weeding, trimming, pruning and watering.

These areas vary in style and can range from palm trees to lower growing shrubs that can tolerate the heat of the desert sun. Presentation and attention to detail such as bunker and cart path edging is intensive, especially with prices of up to £200 a round.

Most Superintendents are either British, Australian or Kiwi, with the rest of the crew from India, Pakistan, Sri Lanka and the Philippines.



MAIN: Desert style landscaping at Jebel Ali Golf Resort
BELOW: Feeding green with walk boom



On some of the larger properties, the deputy may also be from the 'west'. Staffing structures are very different to that of the UK and it is fairly common for the majority of staff to be limited to just a few different tasks, such as bunker raking, fairway mowing or hand watering.

Language can be a challenge but most will have a basic understanding of English since it is the second language throughout the UAE.

Superintendents need to have good management and organisation skills when working with large crews as well as a sound agronomical understanding of managing warm season grasses and the aspects of salinity.

This is not something that is likely to be encountered in the UK. Just surviving in temperatures in excess of 40C is a challenge in itself!

Whereas grass has to endure these temperatures 24/7, at least staff and golfers can take periods of shelter in air conditioned buildings or cars.

It was a strange experience to witness about 30 staff suddenly appearing in a fleet of run-arounds late in the morning and after quick refreshments, discovering that they had all gone to sleep for about an hour in adjacent housing accommodation. I've never seen a maintenance compound with so many people so eerily quiet!



SUMMARY

Managing golf courses in this environment is indeed a challenge, with turf wholly reliant on receiving water, which in the heat of the summer, may not always be available in sufficient quantities.

Superintendents working in the UAE require a high level of skill and dedication, often working six days a week or more.

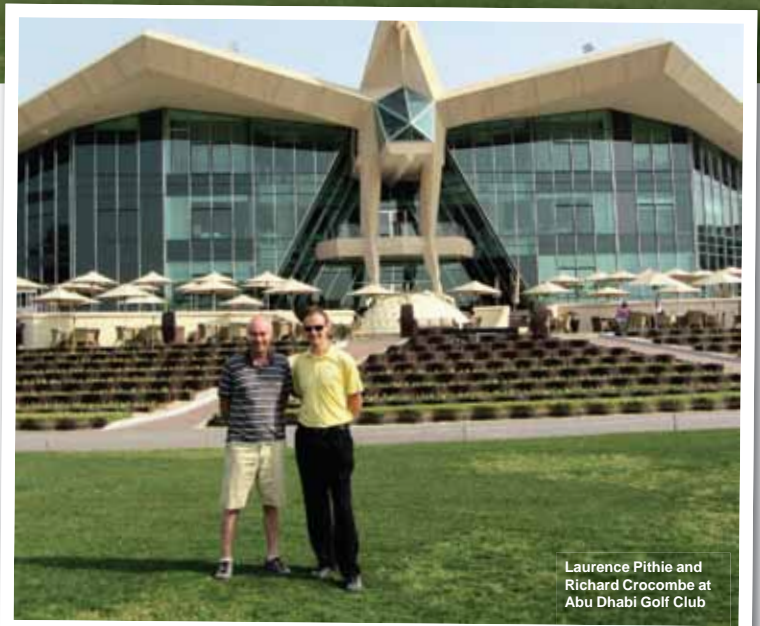
The rewards and experience gained can be high and everyone I met during this time had produced golf courses to a high standard in turf quality and presentation.

about the author



Laurence Pithie MG

Laurence Pithie MG is grateful to Peter Harradine of Harradine Golf who helped in arranging the course visits to the UAE and to Richard Crocombe for taking the time out of his busy schedule and for his considerable knowledge of turfgrass management in Dubai.



Laurence Pithie and Richard Crocombe at Abu Dhabi Golf Club