



A Belfry lake at 'low tide'

When I came across the term water farming, it immediately conjured-up thoughts of a country tale about a bunch of yokels who, one bright moon-lit night a couple of hundred years ago, were discovered raking the surface of a large pond, near Devizes, Wiltshire, with good old fashioned, man-size, wooden hay rakes.

Challenged for an explanation by a mounted Excise Officer who happened to be passing (as the result of a tip-off from some local 'grass' who evidently was not welcome in parochial circles) the leader of the group, no 'yokel', replied by saying; "We'm only tryin' to rake this yer moon in off the water, Maister."

When told that it was the moon's reflection they were attempting to reach with their rakes, the yokel's spokesman shrugged his bemocked shoulders, smiled disarmingly and so it is said, answered with, "Thank 'ee fer tellin' us zur, we were a-wonderin' why we couldn't budge 'ee!"

Shaking his head in disbelief, the Excise man rode off into the darkness reflecting that he had been the victim of a fools-errand. In a way, he had. After he had gone the yokels set-to with their rakes to haul up barrels of contraband hidden in the depths of the pond. Not only did the locals get their booty, they carved themselves a niche in the history of the Shires. From that day, all Wiltshire folk became known as 'Moonrakers' – but I digress...

Water farming? My Oxford dictionary reveals that the term can be related to 'A tract of water used as a preserve...' For what, I wondered. Fish, stated the dictionary, oysters or perhaps, I thought, watercress. No, that wasn't it, so I asked my friend, Robin Hume, for clarification.

Now as some of you will know, Robin is top man at Turf Irrigation Services and as such, most of his working hours are spent planning water management schemes around irrigation systems, mostly for golf courses.

"Water farming, ah yes, interesting subject", said Robin. "It's all about water conservation or rather the practice of farming (management) water resources by the collection of surface run-off or similar sources into controlled channels – like a drainage system – and preserving or storing it in a suitable reservoir. "Farmers have been

Understanding WATER FARMING

by CEDRIC JOHNS

doing it for years and we have adapted their ideas to help overcome the problem of water shortages, especially on golf courses."

"What with more and more golf clubs investing in automatic watering, the changing patterns to much drier weather in parts of this country, and the clamp-down by the National Rivers Authority on the use of water supplies, we have been forced to re-assess the whole situation", he told me.

Legislation can be interpreted in many ways but as Robin sees it, any water currently running into ditches, streams, lakes or reservoirs – or percolating through the soil to underground aquifers – is deemed to belong to the nation. In other words, it is considered (by the legislators) to be a natural asset and, as such, its use is controlled by the NRA.

"However", said Robin, "Any water that is collected before it reaches a water course or is absorbed by the soil can, as I understand it, be utilised by the landowner, (in this context, a golf club), for subsequent use without need for a licence".

In effect, water farming or the collection of run-off forms a valuable supplementary source of water for topping up existing lakes or reservoirs where normal supplies are marginal relative to the seasonal needs of irrigation.

Conditions have to be favourable. Because this method of collecting surplus water is very much dependent on natural rainfall, it is important to understand that it is also dependent on topography. There must be sufficient

high ground on a golf course to generate worthwhile run-off.

Soils also play an important role. Limited drainage and heavy soils which quickly become saturated create the best conditions for run-off. Light sandy soil or soils containing a high percentage of gravel are not so helpful – unless extensive pot drainage has been installed to collect and channel surplus water. Alternatively, golf courses covered in densely cultivated turf grass or where large areas of compaction are present provide suitable surfaces for the generation of run-off, even on lighter soils.

Mind you, the practice of water farming is not just confined to trapping surface water. Gary Parker, who heads-up the irrigation business, ISS, in the southern counties, has demonstrated the potential value of collecting rain water from roof top guttering. While completing work on a newly excavated reservoir on a course in Surrey, he spotted several out-buildings clustered close to the excavation. Having mentioned the thought that the roof tops could prove to be a source of additional water for the club, he decided to prove the point. So he rigged up a temporary pipeline linked to the gutters. Gary knew that rain had been forecast, he later told me, but even he had not anticipated the bonus of 4-5mm which fell in a matter of hours. Well it did, and it contributed handsomely to the contents of the reservoir. Apparently tens of thousands of litres of water were successfully channelled from the roof tops via the makeshift pipelines.

Having said that, I am reminded that the Cotswold Edge club took advantage of a small spring on their course to provide a good source of water for their reservoir. Instead of continuing to let the spring rise and trickle away, they dammed the area to create a small lake. Once established, the water was (and is) pumped into the club's reservoir proper and used for irrigation.

Another example which comes to mind relates to the Barton-On Sea club, overlooking the Solent, on the Hampshire coast. With the approval of the NRA, a small stream has been channelled into the clubs recently constructed ornamental lake cum reservoir. For years immemorial, the stream ended its journey to the seas by simply soaking into the porous, crumbly cliff-top soil. In doing so, the stream probably contributed something to the long running saga of cliff erosion along that stretch of coast – but not any more!

Back to Robin Hume – "When considering the economics of water farming coupled to storage facilities, a club must begin by establishing whether or not licence will be granted for summer abstraction from a secure source." he says. In his experience, Robin told me that southern and eastern parts of the country will not be granted licences unless substantial winter water storage facilities are available.

It is therefore essential that any club wishing to be self-sufficient should investigate the possibilities of creating a reservoir and filling it with winter rainfall. This in turn can then be supplemented by farming run-off or similar sources of water.

Talking of self sufficiency, Robin Hume's biggest water management project to-date was that of mastering the multi-million pound scheme completed at The Belfry, at the back end of last year. There, winter water is diverted from a stream into the Brabazon's three in-play lakes and cross-fed into a new off-site reservoir holding 40 million litres of water. Even on a project of this size, water farming – purely incidental in this particular case – helps. According to Robin, the collection of rain falling into the lakes and reservoir is about equal to that lost through evaporation.

When thinking in terms of the volumes stored at The Belfry, that is not so much moonshine as a substantial amount of water.