



from the Irish Sea and you have the recipe for superb links golf.

But the word which is most often used in connection with West Lincs is “tough”. If you can play well around West Lincs you can play.

But it can be tamed. The longest hole-in-one in the British Isles occurred at the club’s 7th, a 393 yard par 4, made by one of the club’s, at the time, Assistant Pro, Peter Parkinson, on June 6, 1972.

The club itself is steeped in history and many of those with close associations to the club featuring strongly in the annals of the game.

One of England’s greatest amateurs, Harold Hilton, who won The Open Championship on two occasions, was Club Secretary before going on to become the first Editor of *Golf Monthly* magazine.

Club professional, Sandy Herd, won the 1902 Open at Hoylake while one of his succes-

“We are fast running and the greens are small, so you have to be accurate and position the ball in the right areas of the fairway. Thinking your way round is very much the key to success”

John Muir, Course Manager, since 1984

sors, Arthur Havers, also won The Open, in 1923 at Troon, before defeating Bobby Jones and Gene Sarazen in a challenge match in the States.

BIGGA features in the club’s more recent history. The late Northern Regional Administrator, Doug Bell, had previously been West Lincs’ Secretary and was in post when the inaugural Hayter International Challenge Match, pitting the Americas against the Rest of the World, was played over the course in September, ’96.



The Americas greenkeepers won a pulsating match 10-8 before the return was played in Atlanta, Georgia, the following year.

They are events which live long in the memory of those who had the privilege of being there.

John Muir has been Course Manager at the club since 1984 and has earned a fine reputation for the quality of golf course he has continually produced since then.

"We are burnt to a crisp at the moment.

"We just don't get rain at West Lincs. It can be raining in Liverpool or Southport but will miss us," revealed John, as we spoke at the beginning of July.

With his 27 years of experience at West Lincs, John is well placed to comment on the strengths of the course.

"It is a wonderful, old fashioned links and if you are a good golfer and a student of such things you could easily be playing 100 years ago.

"We are fast running and the greens are small, so you have to be accurate and position the ball in the right areas of the fairway.

"Thinking your way round is very much the key to success."

On that word "tough" John also has some interesting thoughts.

"We are regarded as tough because there are no weaknesses

on the course Perhaps there aren't the memorable holes of some courses, but we don't have any weak holes and the pressure doesn't let up."

"Also because we are on a large site it sometimes appears that the fairways are narrow and all you can see is rough,"

John is looking forward to the BIGGA National Championship and welcoming greenkeepers from all over the country to his course.

"I'm hoping that the weather is good in the run-up and that the players get the opportunity to play the course at its best," he said.

Last year's BIGGA National Championship sponsored by Charterhouse and Kubota, at The Berkshire, was won by former Leicestershire County Captain, Paul Frith, playing off scratch.

Paul shot a two round total of 143 to win in a card play-off from +2 man, Laurie Tremlett, with 1 handicapper, John McLaughlin, a single shot behind.

It takes some high quality golf to become BIGGA's Champion Golfer and that is bound to be the case again this year.



BIGGA National Championship 2011, West Lincs Golf Club, October 3-4 • Entry Form

Please select the relevant category:

Full Member

Affiliate Member

The entry fee of **£95** includes all golf fees, lunch both days and dinner on Monday evening. Please note that there is no accommodation provided.

Name

Address.....

.....

..... Post Code.....

Mobile.....

E-mail.....

Membership Number

Handicap

BIGGA Section.....

Payment method (please tick)

I enclose my cheque made payable to 'BIGGA Ltd' value **£95**

Please debit my Mastercard / Switch / Visa / Delta card with the fee of **£95**

Card number

.....

Start Date Expiry Date

Last 3 security digits

Issue No. (Switch/Delta only)

Signature.....

Date.....

Or E-mail your details to:

pauline@bigga.co.uk

Ensure you receive confirmation of entry by return email.

Deadline for entry is 11th September 2011.



Completed entry forms should be sent to:

BIGGA National Championship, BIGGA House, Aldwark, Alne, York YO61 1UF

The main tournament for the Challenge Trophy will be played over 36 holes, medal play, with the best overall gross score producing the BIGGA National Champion, who must be a greenkeeper member. The greenkeeper player with the lowest nett score will be presented with the BIGGA Challenge Cup.

There will be prizes for 1st, 2nd, 3rd over 36 holes in both the nett and gross categories, additionally after each day of 18 holes there will be prizes for winners of handicap divisions. The BIGGA Regional Team Cup and prize will be calculated from the 8 best nett scores over the first day of play. If you have a poor first day an alternative Stableford competition will be held on the second day of play.

pure but not so simple

Bunker sands don't just have to make your course look good. They also have to perform consistently in tough conditions throughout the year. At Rufford, we've developed a range of specialist bunker sands that offer a number of key benefits including:

- good drainage and low crusting potential
- optimum particle size distribution to minimise ball bounce or plugging
- high purity, ensuring colour stability and a hard-wearing product
- can be ameliorated with your existing bunker sands in most cases
- nationwide availability

For further information please call our Customer Service Team on 01270 752 700 or email us at sales@rufford.com

www.rufford.com



BIGGA Regional Conferences

All forthcoming conferences are as follows...

Northern

29th November 2011, **Cookridge Hall Golf Club**

30th November 2011, **Birchwood Golf Club**

Contact Peter Larter, RA, 01476 550115

South East

16 November 2011, **Stock Brook Manor Golf Club, Essex**

Contact Clive Osgood, RA, 01737 819343

South West & South East

17 November 2011, **Oaktree Arena, Highbridge, Somerset**

Contact Jane Jones, RA, 01454 270850

Scotland

6 March 2012, **Carnegie Conference Centre, Dunfermline**

Contact Peter Boyd, RA, 0141 616 3440



Step into the future

Scotts Professional is now Everris.

Same people, same products, new opportunities.

everris.

Tel: 01473 201100 | Fax: 01473 830386 | Email: prof.sales@everris.com | www.everris.com



Greenmaster

Sportsmaster

Sierraform GT

SierrablenPlus



Pretentious Poa annua

Dr Terry Mabbett casts his eye over the most ubiquitous grass around

Poa annua is a real conundrum variously called the 'bête noir' or 'black sheep' of the sports turf sward, and described as 'persona non grata' even though annual meadow grass has been estimated to be the dominant species on up to 70% of golf greens in the United Kingdom.

On balance, and in practice, the majority of turf managers scorn Poa annua but others tolerate and even welcome and encourage the grass, perhaps more philosophically than professionally, on the basis that it is better to have Poa annua than no grass at all. And paradoxically Poa annua may not be 'annual' at all because there are actually two different biotypes, which means the universal name annual meadow grass is a misnomer.

They are Poa annua var annua, which is the 'real' annual meadow grass and the less common, but equally significant, perennial biotype called Poa annua var reptans. The two types are not easy to tell apart but the annual biotype is distinctly more upright in its growth habit. The word 'reptans' refers to the creeping habit of the former.

Poa annua is a naturally upright grass that will grow to a height of some six to eight inches when left uncut. Perennial biotypes may spread by weak to strong stolons (horizontal surface growing stems), while true annual biotypes display a distinctly bunch-type growth

Poa annua is native to Europe but now spread throughout the world where climate allows. The species is well established and frequent on golf courses in North America and Australia, where you hear roughly the same kinds of comments and prejudices about Poa annua as are voiced in the United Kingdom.

North Americans call Poa annua annual bluegrass and the Australians have named it 'winter grass', because it is only present during winter and spring, dying out in the hot dry summers when warm season grasses like Kikuyu grass (*Pennisetum clandestinum*) and couch grass hybrid cultivars (*Cynodon dactylon*), also in the turf mixture, take over.

Picking out Poa

Picking out and identifying different grass species is no easy task and especially in low cut professional turf where other grasses fail to produce seed heads.

But Poa has some unique distinguishing features, with Poa annua being one of only few species able to produce seed heads and seeds at low heights of cut.

I found this very much to my advantage back in the 1960's, thrown straight from school, where grasses did not feature on the A Level Botany syllabus, into a degree in Agricultural Botany at The University College of Wales, at Aberystwyth, one of several



Poa annua and especially the annual biotype has an upright habit

centres of excellence for grassland agronomy at that time.

Our lecturers made it as easy as possible – chew the leaf and if it tastes bitter from coumarin then you have sweet vernal grass (*Anthoxanthum odoratum*).

Red stripes down leaf sheaths on the 'pyjama grass' meant Yorkshire fog (*Holcus lanatus*) for sure. Poa annua was made equally easy by looking for the typical and characteristic 'boat-shaped' leaf tip and almost certainly a crinkling of the blade part way along the leaf.

Annual meadow grass has light green flattened stems which are bent at the base and regularly rooted at the lower stem joint.

The light apple green coloured leaf blades often have a band of lateral crinkling part way down and are from 2.5 to 7.5 cm long with the typical boat-shaped tips of species belonging to the Poa genus.

The ligule takes the form of a tall white membrane. A ligule is a structure typically found in grasses at the junction of the leaf sheath and the leaf blade.

It may take the form of a prominent white membrane, as in Poa annua, be reduced to a fringe of hairs (called ciliate) or absent. Most grasses possess a ligule and the shape, length and appearance of the ligule margin are important and consistent characters for separating genera and species within this notoriously difficult to classify group of plants.

Poa annua is a naturally upright grass that will grow to a height of some six to eight inches when left uncut. Perennial biotypes may spread by weak to strong stolons (horizontal surface growing stems), while true annual biotypes display a distinctly bunch-type growth.

Poa annua has a relatively shallow and weak root system that requires a regular supply of moisture from rainfall or frequently applied irrigation for survival.

This grass grows well in moist areas under direct sunlight but will also thrive in semi-shaded conditions, and competes well in compacted soil conditions where dedicated turf grass species find it difficult to survive.

In inherently warm climates or during unusually hot and dry summers the true annual form of Poa annua brown off and dies out.

The inflorescence (flowering structure) of Poa annua takes the form of a terminal panicle which together with stalk varies in length from 2.5 to 10 cm long. Seed is amber coloured and about 1.5 mm long.

A greedy grass

Poa annua has been called the 'greedy' grass and with good reason. This shallow rooting, fast growing grass takes everything on offer in nutrients and water from fertiliser application and irrigation. Fast growth rate means Poa annua is a high thatch producing species predisposing both the annual meadow grass component and the turf grass sward as a whole to disease.

Inappropriate fertilisation and irrigation practice are two of the main reasons for high and unwanted Poa annua presence and inclusion in turf. Inappropriate aspects of fertiliser usage include reliance on types and formulations which have a neutral reaction on soil pH and inappropriate application (volume and composition) at wrong times of the year.

This may result in forced, sappy and therefore weak grass growth which is more susceptible to wear and tear and fungal disease attack from pathogens like *Microdochium nivale* (Fusarium patch) and *Colletotrichum graminicola* (anthracnose).

Such weak sappy growth is a particular problem for swards containing a high percentage of Poa due to its shallow root system providing a poor weak foundation and footing for golf courses and sports fields. Poa annua is easily 'kicked out' of football pitches.

Poa annua thrives on excessive applications of phosphate which allow this inherently fast and shallow rooting grass to get even more of a head start over other slowing growing and more valued turf grass species. Red fescue and browntop bentgrass prefer lower phosphate levels. Phosphate is a key nutrient in seed germination and establishment and root growth.

As a general rule and to minimise Poa annua 'infestation', turf managers should aim to provide an acid reaction root zone of about pH 5.5 for fine turf and 6.0-6.5 for amenity swards with a high perennial ryegrass component.

Low pH (acidic) conditions especially in the surface layers soil are reported to inhibit the germination of Poa annua seeds and therefore prevent the grass from gaining a foothold in the sward at the expense of other main components of fine turf swards like *Agrostis tenuis* (browntop bentgrass).

Applications of iron (ferrous sulphate) as a 'green up' tonic for turf will not only acidify the surface layers where the Poa annua root system is located but also pro-

duce 'harder' growth making root anchorage stronger and the foliage less prone to disease. Furthermore it will deter surface worm casts which are instrumental in providing germination sites for annual meadow grass seed.

Irrigation practice should encourage the penetration and secure the establishment of deeper rooted finer turf grasses like bents and fescues. Frequently applied irrigation which simply wets the top 25 mm of soil profile and keeps it in a soft and moist condition encourages and promotes Poa annua into producing surface roots that outcompete finer turf grass species.

Any attempt to irrigate a hard pan soil surface, without first alleviating the compaction, is an open invitation for even more annual meadow grass. Such inappropriate irrigation regimes leave water lying on top of the turf, unable to penetrate the surface, and allowing Poa annua to 'drink up' the moisture and further consolidate its position and hold.

Use of deep and infrequent irrigation is recommended to discourage development of annual meadow grass. Water should be withheld until the desirable species are just beginning to show drought stress, by which time annual meadow grass will be on the way out. Always avoid turf management practices and use programmes that tend to cause and exacerbate soil compaction.

Poa annua is regarded as a 'high maintenance' grass which is the supreme irony considering most turf managers regard it as a coarse grass weed of fine turf. Truth is the majority of sports turf situations including golf courses can't do without it and any attempts to exclude it completely would mean even higher maintenance and cost.

Seeds of success

Frequent flowering and prolific seed set across a huge variety of amenity habitats including in low cut turf, a feat not managed by any other turf grass species in the UK, is secret to the success of Poa annua.

Seed head initiations start as soon as the plants are 6 weeks old with plants still small at just 4 to 5 tillers. Prolific seed set and production, up to 100 seeds per panicle within just 8 weeks, is high for such a relatively small grass plant. Viable grass seed may have formed within just several days after pollination which puts Poa annua in a good position to reseed even in frequently low cut turf.

This grass can produce seed all year round providing the conditions of temperature and moisture are suitable, with peaks of production in April and May and October and November under UK conditions. There does not appear to be any severe photoperiod restriction on flowering and seed set.

In moisture stress conditions turf containing a sizable proportion of *Poa annua* assumes an even more insipid light green colouration than usual because the plants suffering from a lack of nitrogen. The roots are unable to absorb nitrogen as soluble nitrate from the soil due to a lack of moisture.

In the absence of irrigation *Poa annua* and especially the annual biotype will brown off and die out during hot dry summers, the shallow root systems unable to access water for growth and survival.

In the absence of irrigation *Poa annua* and especially the annual biotype will brown off and die out during hot dry summers, the shallow root systems unable to access water for growth and survival

This may leave unsightly thin areas and gaps in the sward which fescue and bentgrass components cannot quickly colonise because they are also under moisture stress and inherently slower growing.

Threadbare areas and gaps remain as ideal germination niches for *Poa annua* seed, either previously produced on nearby plants which have died out or arriving from outside seed banks. These will include grass verges, flower beds, gravel paths and even soil filled gutters where the ubiquitous and opportunistic annual meadow grass is regularly found.

What's more seeds and especially those produced by the annual biotypes do not germinate straightaway, but remain dormant for months ready to colonise and regenerate in turf when conditions become right, usually in spring and autumn.

Any cultural practice or failure in management practice which opens up the sward with thin areas, abrasions or bare patches will provide ideal germination sites and an open invitation for annual meadow grass.

High thatch and soil compaction are two turf features closely

associated with *Poa* predominant swards. Scarification, aeration and verticutting used to control thatch and alleviate compaction, and thereby enhance permeability and porosity of the soil profile to encourage deeper rooted dedicated turf grass species at the expense of *Poa annua*, may make matters worse if carried out in appropriately or at the wrong time.

For instance, recommendations from around the turf world where *Poa annua* is considered a problem include not performing such operations during inappropriate soil conditions which may cause surface smearing and germination opportunities for *Poa annua*. More specific recommendations include not carrying out hollow-tining during peak periods of annual meadow grass seed germination. And not hollow-tining followed by top dressing when the tine holes can't be quickly colonised by dedicated turf grasses, but do provide ideal germination sites for annual meadow grass seeds.

Greenkeepers and groundsmen are urged to use sterilised top dressings ensure there is no *Poa annua* introduction from contaminated sources. To always use grass seed which is certified free of annual meadow grass. To carry out any over-seeding required at the optimum time for grass seed germination and seedling establishment, so that desirable turf grasses are given the best chance of establishment, and definitely not to delay this important operation due to playing considerations.

Boxing off grass clippings removes seed set on low cut fine turf and reduce the numbers of viable seed reaching the soil, as well as helping to discourage surface casting earthworms coiled deposits of which provide ideal germination sites.

Practice a programme of worm cast management by spraying dedicated wormicides, acidifying the surface soil layer using iron containing fertilisers and formulations and removing worm casts as they appear. Ideally mowers should be cleaned after each operation especially during spring and autumn which are peak periods of annual meadow grass seed set, production and germination.

What's wrong with *Poa annua*

So what is actually wrong with *Poa annua* from the greenkeepers' and players' point of view? *Poa* predominant swards have an unattractive insipid light green colour



This article comes to you courtesy of the BIGGA Learning and Development Fund.
Thank you to all our key sponsors

aggravated when plants produce seed heads and especially so when *Poa annua* is under moisture stress during hot dry summers.

Poa is one of the highest maintenance turf grasses, grabbing all on offer in the way of fertilisers and irrigation, while being one of the least sustainable species due to poor drought tolerance and a high susceptibility to diseases aggravated by high thatch production.

Annual meadow grass is susceptible to a range of diseases including *Fusarium* and especially anthracnose. However, greenkeepers wanting to passively reduce *Poa* may see anthracnose as a 'blessing in disguise' for 'weeding out' annual meadow grass using a natural and novel biological control agent.

Poa produces slower putting and bowling surfaces than do fescue and bentgrass dominated swards. The presence of seed heads, as well as *Poa*'s differential growth rate compared with these desirable turf grasses, contributes significantly to uneven surfaces.

Be that as it may many turf managers may muse that it is 'better the *Poa* you know' than to have broad leaved weeds occupying threadbare patches and gaps in turf.

For all its faults *Poa annua* is the re-generation grass of turf as seen this spring and early summer in southern England. By early May *Poa annua* dominated swards had browned off completely but by late June were green again as though nothing happened in the 'Great 2011 Drought' that never was.



MAIN LEFT: Close up on the flattened stem of *Poa annua* with leaf sheaths and blades

ABOVE: Consequences of having too much *Poa annua* during drought conditions, but bouncing back and re-greened after sustained rainfall in June 2011

RIGHT: *Poa annua* exploiting compacted soil along with plantain another indicator weed of compacted ground

BELOW RIGHT: *Poa annua* in the fairway along with ryegrass and white clover

BELOW LEFT: *Poa annua* 'down under' in South Australia where it is called 'Winter Grass'. Seen here with a single *Sparaxis* one of the many colourful exotic bulbs that invade Australian turf



BELOW: *Poa annua* growing quite comfortably on a gravel path

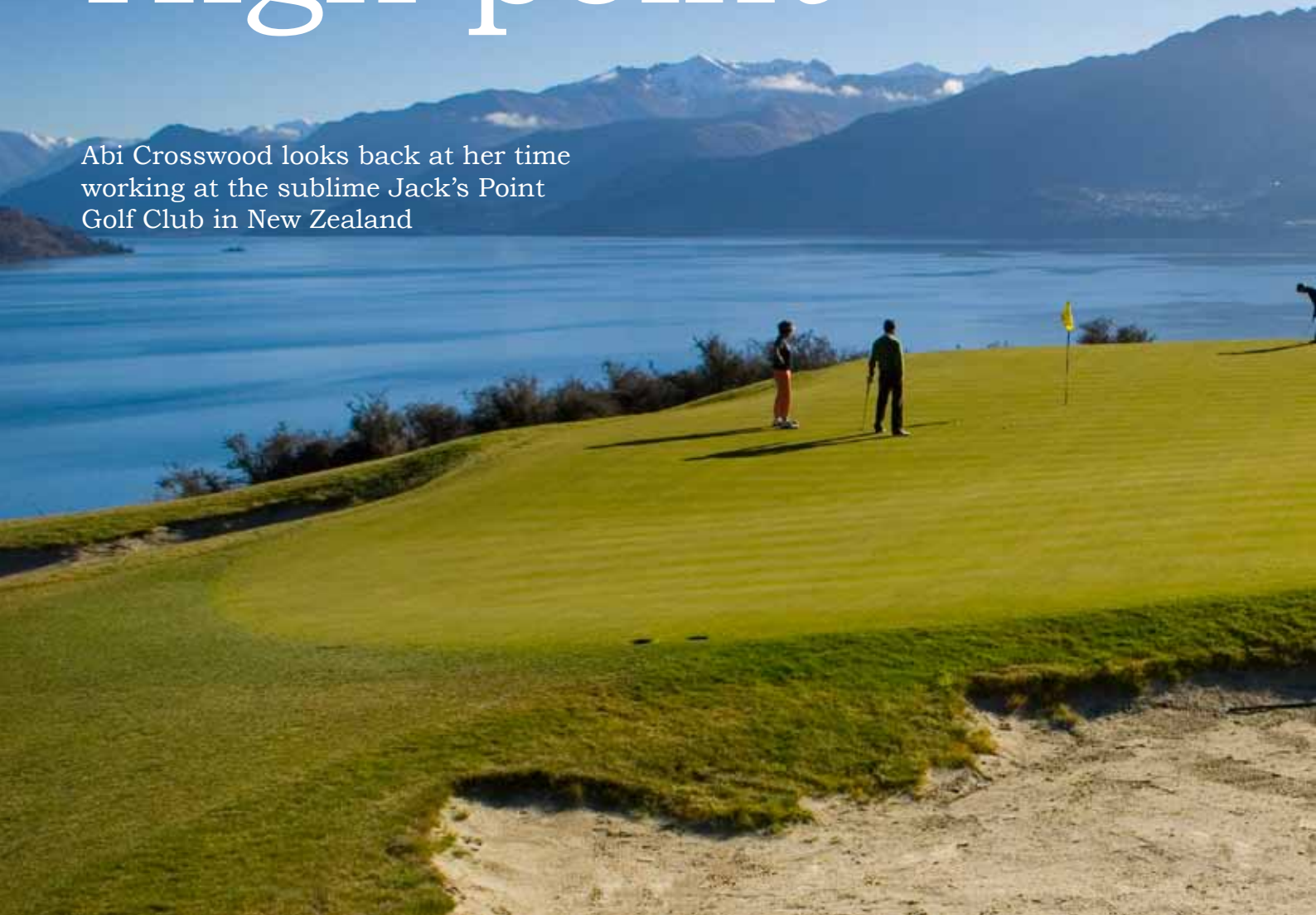
BOTTOM MIDDLE: *Poa annua* recolonizing golf a tee after the Spring 2011 drought in southern England along with some unwelcome sow thistle

BOTTOM RIGHT: Inflorescence takes the form of a terminal panicle. Prominent white membrane-like ligule is visible



High point

Abi Crosswood looks back at her time working at the sublime Jack's Point Golf Club in New Zealand



When I got placed at the Augusta National Golf Course last year I thought it was one of the most amazing experiences I could have ever imagined. But then I was lucky enough to have the opportunity of a sabbatical at the beautiful Jack's Point Golf Course in Queenstown, New Zealand.

This was only made possible because of the kind consideration of my employers at the Newquay Golf Club, and the opportunity that some key people in the golf course industry, from two different parts of the world, gave me.

ABOVE: Beautiful panoramic shot of the 7th hole at Jack's Point

There are more golf courses in New Zealand per head of the population than anywhere in the world. Over 400 courses comprising one six-hole course; 183 nine-hole courses; 211 18-hole courses and five 18+-hole courses. The golf industry itself is constantly developing and this generates a lot of competition amongst the clubs to be the best.

I really enjoyed working at Jack's Point under Golf Course Superintendent, Simon Forshaw. I learned that although they may well be some of our distant cousins they do have a laid back attitude about most things that they do (as long

as you don't mention the All Blacks then things change pretty quickly!).

Of course, the great summer outdoor living goes a long way to making them the people they are, but, in saying that, their expectations of turf and golf course quality are as high as anywhere. They are not always inclined to use machinery all the time to do the job and often do things by hand in order to get the best results. That includes walk behind greens and tees cutting; walk behind spraying equipment and hand raking/brushing of bunkers, even though there are 74 of them and they have two 5200 Toro Sandpros!



Legislations are similar but different. The resource consent at Jack's Point took up to five years to get approval. For a golf course and housing development, you need to obtain an Approved Handlers' Certificate in order to use most agrichemicals and, of course, some of the staff have to be trained through St Johns for health and safety purposes. However, when it comes to things like attention to detail and standards there are always very high expectations. Close enough is never good enough.

I particularly liked the way that the whole team got to be involved and that there was real feeling of a

team environment, much like being a crew member on a ship. You knew what was going on and your position and place.

There were regular meetings so that the team would know the up-and-coming plans and the standards that were expected. Following this weekly briefing every member of staff was encouraged to do their best as each person was genuinely valued. This approach certainly had the effect of making all team members even more attentive to every detail.

Jack's Point was designed by John Darby, with assistance from Brett Thomson, from Darby Part-

ners, who have also designed The Hills GC, home of the last three New Zealand Opens, Clearwater Resort, host of the New Zealand PGA and a few more. It is regarded as a very special course in New Zealand as it was the first of its kind to be designed as hybrid California/USGA greens construction as opposed to the standard USGA.

This design was by Dr Richard Gibbs and selected to minimise costs of importation of sand and to reduce moisture loss, since the sand has some large particle sizes. Dune sand from Dunedin is imported for the use of dusting/topdressing and coring as the

Tarras sand is too hard on cutting equipment and takes too long to brake down into the turf canopy.

Queenstown on average only receives around 700-800mm of rainfall a year. By way of comparison 400mm rainfall is considered to be desert conditions!

Although I was not present at Jack's Point for the construction it was still really interesting learning how it was done from the numerous pictures. Amazingly, the only material imported was the Tarras sand, not only used for the greens but also the tees and the bunkers. The rest of the course construction was done by scraping off the topsoil and then screening it while the sub-grade soil was being shaped to make the contours. Drainage and ring main irrigation were installed and later once the top-soil was reinstated, irrigation lines at three per hole were introduced, using a mole plough attachment. Drenching would have been impossible due to the nature of the glacier rock involved.

The designer wanted to keep the course very natural, and roughly only 225,000 cubic metres of earth was moved, which was mainly from the three bottom holes (1st, 17th and 18th) - as a man-made lake had to be made due to resource consent.

The lake and the Golf Course is named Tewa, after Maori Jack Tewa.

This is because in the mid to late 1800s, Jack saved the life of a man who was drowning in the main Lake Wakatupi, after his boat tipped over. Also, he was the first to discover gold in the shot over river around the 1860s, so it is only fitting that this wonderful place be named after such a legend!

The glacier rock was also used as features on the course to build walls etc. and dynamite was used to break up natural rock. A lot of the tee walls were constructed using this rock as well as the dry stone dykes. In some circumstances it was too difficult to move some of the natural rock, therefore it was simply incorporated into the design and it has made interesting features in some fairways and surrounds.

Browntop is the native grass to the area in which Jack's Point is located. Ever since some of the first settlers from the United Kingdom and Europe come over in the sailing ships, along with the browntop they also brought sweet ferns, crested dog tail and timothy.

The architects, and Simon, as he was the grow-in Superintendent, at the time decided to sow the greens



MAIN RIGHT (BOTH IMAGES) and NBELOW: the 15th hole looking splendid with its glorious surroundings



and tees with Egmont browntop as they know how well this turf type has done before in the climate, and liked the idea of the low inputs.

The Bent is more resilient than some other types of fine turf and at one point, during my time at Jack's Point, the tees were cut at 3.8mm and coped well with the low height. Visitors often commented on how the tees were better than their home course's greens!

Jack's Point decided to use Chewing's Fescue and Creeping Red for the rest of the course. This is because it helps to maintain the link's characteristics, common to the Great Britain and Ireland. They like the idea about how they want their course to play, such as the bump and run shot; being able to play shots along the ground as well as through the air. They want to make sure that it would not be a target shot making course as so modern day design are. It involves a lot of the natural design features and uses the natural landscape as much as possible all things which you would of seen during the "Golden Age of Architecture".