



## Brown Ring Patch

Symptoms can develop when temperatures rise above 15C and salinity levels are >2.0dS/m (although *Labyrinthula* has been isolated from turf growing in much lower salinity conditions).

Because the causal organism is not a fungus, most fungicides will have no effect either on the organism or on the development of symptoms. However, research completed by Dr Olsen and others researchers across the USA has shown that the active ingredients pyraclostrobin, trifloxystrobin and mancozeb, can provide effective control but that results are much better if products are applied prior to or at the onset of disease, rather than curatively.

In order for the correct product to be applied effectively, the presence of this *Labyrinthula* sp. must be accurately identified but because it is not a fungus, *L. terrestris* can't be cultured in the laboratory in the same way that fungi can.

During 2011, turf samples in which *Labyrinthula* was again detected, were received from golf courses in Ireland and the UK.

In the UK, the symptoms on the affected course had been considered as being Anthracnose disease and managed accordingly (Fig. 3 &

4), but lack of recovery prompted an analysis that eventually identified the real problem.

Due to the way in which *Labyrinthula* affects the plant, the sward initially becomes yellow, then becomes red in colour before the tissues eventually 'rot' and the sward thins. The symptoms can appear very much like Anthracnose (or Take-all Patch disease in *Agrostis*-dominated turf) but there will be no distinct blackening of the crown tissues, symptoms that are typical of Anthracnose Basal Rot.

Rapid Blight is considered to be a unique example of an emergent plant disease potentially induced by human activity (Douhan et al, 2009) and I am sure that in the future it will be confirmed on more amenity areas where water with high salt content is used for irrigation.

Now that we have learned how to identify this disease, sample analysis can confirm its presence and potentially save significant management time and costs by allowing implementation of effective control options. Detailed information on Rapid Blight disease can be found in the article Rapid Blight: A New Plant Disease, by Stowell, et al, 2005.



Fig. 3(TOP) and 4 (SECOND TOP) . Rapid Blight in the UK, 2011. General symptoms and close-up (photographs courtesy David Stansfield, David Stansfield Ltd)

ABOVE: Fig. 5. General symptoms of Brown Ring Patch (Waitea Patch) in the UK, 2011 (photograph courtesy T Kvedaras, ITS Ltd)

### Further information

Douhan, G. W., Olsen, M. W., Herrell, A., Winder, C., Wong, F., and Entwistle, K. 2009. Genetic diversity of *Labyrinthula terrestris*, a newly emergent plant pathogen, and the discovery of new *Labyrinthulid* organisms. *Mycological Research* 113: 1192-1199

Stowell, et al. 2005. Rapid Blight: A New Plant Disease <http://www.apsnet.org/publications/apsnetfeatures/Documents/2005/RapidBlight.pdf>

Toda, T., Mushika, T., Hayakawa, T., Tanaka, A., Tani, T. and Hyakumachi, M. 2005. Brown ring patch: A new disease on bentgrass caused by *Waitea circinata* var. *circinata*. *Plant Dis.* 89:536-542 <http://apsjournals.apsnet.org/doi/pdf/10.1094/PD-89-0536>

Wong, FP & Kaminski, JE. 2007. A new *Rhizoctonia* disease of Bluegrass putting greens. *GCM* Sept. 98-103 <http://www2.gcsaa.org/GCM/2007/sept/pdfs/rhizoctonia.pdf>

Kate Entwistle, The Turf Disease Centre, Tel: +44 (0)1256 880246 E: [kate@theturf-diseasecentre.co.uk](mailto:kate@theturf-diseasecentre.co.uk)



### **Brown Ring Patch - A non-fairy ring disease (shown left)**

During 2007, a sample received for analysis from a golf course in Portugal, was confirmed as having the fungal disease known then as Waitea Patch. This was the first known record of it in Europe.

The disease is caused by a Rhizoctonia-like fungus and although the symptoms closely resemble those of superficial fairy rings or thatch fungi, this Rhizoctonia-like fungus is not related to fairy-ring causing fungi.

Since 2003, this new disease has been increasingly recorded on *Poa annua* turf across the USA and more recently on *Poa trivialis* (Wong & Kaminski, 2007).

However, prior to the recognition of this problem in the United States, the disease was first recorded as developing on *Agrostis palustris* turf in 1994 in Japan (Toda et al, 2005) where the symptoms developed as brown rings and was given the common name of Brown Ring Patch.

On *Poa annua*, the affected turf shows symptoms of coalescing yellow rings, often with a darker green sward inside of the yellow ring. Unlike fairy rings, this new

## **Fairways so good, they'll all want to play...**

**The Primo Maxx Ultimate Fairway Programme offers the unrivalled opportunity to enhance the condition of your course - and make big cost savings.**

Speak to your local supplier or advisor for more information about this fantastic new offer.



disease does not have any 'mushroom' smell associated with the infected turf and a microscopic analysis of the isolated fungus can confirm the clear difference between the causal fungi.

However, if infected turf is incubated under conditions of high relative humidity for 24hr, fungal mycelium will develop in the sward, at the base of the turf and over the surface of the exposed rootzone and these symptoms can appear like those for fairy rings.

Temperatures above 16C can initiate disease development and the symptoms are often more severe where rootzone nitrogen and water levels are low. Because the disease was initially recorded on *Agrostis* turf, the common name of Brown Ring Patch has been increasingly adopted for this disease but *Waitea* Patch continues to be used by some researchers.

In 2010, The Turf Disease Centre received reports of unusual fairy ring developments on golf courses from across Europe (Fig. 5) and DNA analysis completed by AFBI (Northern Ireland) on the isolated fungi, has now confirmed the presence of this new disease in the UK, Ireland and Germany.

Due to the close similarity in symptom development to superficial fairy rings, it is likely that this new disease of Brown Ring Patch is developing more widely across Europe than we are currently aware of but is being understandably misdiagnosed as superficial fairy rings.

As with the non-fungal disease of Rapid Blight, Brown Ring Patch can be confirmed by laboratory assessment but for this fungal disease, isolation of the fungus and microscopic analysis of the developing structures (as well as an DNA analysis) is required for accurate identification.

The realisation that these new turf diseases are developing across Europe is due in no small part to Course Managers and Head Greenkeepers in recognising these atypical symptoms and requesting formal identification and I am very grateful to them for working with me to confirm these diagnoses.

In addition, I would like to thank A. Pereira Jordão, Lda, Portugal for sending the first turf sample with Brown Ring Patch received in 2007, David Stansfield (David Stansfield Ltd) for collaboration regarding the recent Rapid Blight

MAIN LEFT: Fig. 5. General symptoms of Brown Ring Patch (*Waitea* Patch) in the UK, 2011 (photograph courtesy T Kvedaras, ITS Ltd)

outbreak that was confirmed in the UK during 2011 and the Regional Managers of Headland Amenity Ltd and Tony Kvedaras (ITS Ltd) for collaboration regarding the outbreaks of Brown Ring Patch in Ireland and the UK.

During 2012, their continued collaboration on these new diseases will be very much appreciated and in addition, the Technical Representatives and Area Managers at Everris Ltd, Rigby Taylor Ltd and Syngenta Crop Protection UK Ltd have also indicated their willingness to notify me of possible outbreaks of these new disease problems.

Collaboration on this work is not restricted – if you believe that either of these new diseases are a problem on your course, please get in touch to discuss how we can help. All Club details will remain confidential and only regional data will be used to identify the distribution of these diseases in any future articles.

Turf disease problems never seem to be too far away but it is hoped that we can all work together for the benefit of our Industry.



 **PrimoMaxx**<sup>®</sup>

 **syngenta**



NEW YORK  
NEW YORK

SPORTS

THE ZUMANI  
CIRQUE DU SOLEIL

NEW YORK  
NEW YORK

NEW YORK  
NEW YORK

# Viva Las Vegas



The 10th BIGGA Delegation, sponsored by Bernhard and Co, enjoyed a thrilling week at The Golf Industry Show in Las Vegas. Delegate, George Pitts, kept a diary...



*Stunning View! 16th TPC  
Summerlin. Showing off the  
dormant Bermuda Grass*

# Diary of a delegate...

*(By George Pitts, BIGGA)*



## *Saturday, February 25 - Polo Towers, Las Vegas*

It was an early start for some but everyone was keen to begin this adventure together. We were met at Gatwick by Bernhard and Co's Kim Furnell who had organised the trip, and one long flight later and we were being warmly welcomed at the hotel, Polo Towers - each of us spoilt with a one-bedroom apartment. The Hotel was right on "The Strip", which was convenient for our first outing together, taking in the sights, having a bite to eat and a few beers.

## *Sunday, February 26 - Angel Park Golf Club*

Today we had the opportunity to play golf or take a walk around Angel Park Golf Club. We were joined by Jim Croxton and Andrew Mellon, and we all experienced the high level of customer service. Complimentary golf, clubs, carts and even balls and tees were organised by Tom Christy, Director of Maintenance.

At almost 3,000 feet, Angel Park offers spectacular views of Red Rock Canyon and the Las Vegas Valley, and features 36 holes of championship golf designed by Arnold Palmer. The Palm Course was extremely well presented and maintained, and if you missed the green stuff you were in the desert! Some were a bit more successful, with Andrew Mellon topping the scoring.

## *Monday, February 27 - Course Visits, TPC Summerlin and Paiute*

An 8am meet in the morning dictated the previous evening's events and we were all bright-eyed and bushy-tailed for our day of Golf Course visits. Kim and Steve Nixon, Bernhard and Co, hosted the day with the first visit to TPC Summerlin, home of the PGA Tour's "Justin Timberlake Shriners Hospitals for Children Open", and where Tiger Woods won his first ever Professional Tournament.

We were met by James Seisun, Assistant Golf Course Superintendent, who happens to be English. James came across as very professional, polished and comfortable, speaking in front of everyone.

At this stage of the year the Bermuda grass roughs, fairways and tees were dormant. The tees are over-sown with Perennial Ryegrass, but the rest of the course remains yellow with dormant Bermuda grass.

The decision to not over-sow the fairways and rough was made by the club in order to utilise the money saved towards preparing for the PGA tour event. The greens were a more familiar cool season Creeping Bentgrass (Penn A4). Half way along the back nine, we visited the very impressive maintenance facilities, which was absolutely spotless and probably the best-organised facility I have ever seen. James explained how the staffing is

## *James Seisun, Assistant Superintendent at TPC Summerlin. On the 10th, Penn A4 Creeping Bent Green*

structured and how tasks were communicated, including using a Plasma screen in the crew room linked to his computer to communicate tasks for the day.

Our second course visit of the day took us to the desert on the outskirts. Paiute Golf Club Resort is owned by the Paiute Tribe, a Native American tribe who have made their money through Smoke Houses. The resort consists of three 18-hole courses with each course measuring over 7,000 yards, including the "Wolf Course" measuring over 7600 yards. After a stunning lunch Jeff Reid, Director of Golf Course Maintenance, led us down to the Maintenance facilities, which again were first class.

The three courses are maintained by 55 staff. As with both of the courses that we visited, a tremendous amount of emphasis is put on the irrigation of the turf with temperatures regularly reaching 43-44C and an average of just over four inches of rainfall per year!

At Paiute, there are four wells, which are owned by the tribe, from which the club extract water to fill reservoirs. In the summer they can use up to 4 million gallons of water per night for all three courses. Annual usage of 880 million gallons! Thanks to Jeff and Jake at Paiute for making us all feel so welcome.

*Jeff Reid showing us around Paiute*



*Group photo of Delegates at Paiute Golf Resort with Jeff Reid (Director of Maintenance) and Kim Furnell, Steve Nixon and Sallie Taylor from Bernhards*



*James Seisun explaining the practices at TPC Summerlin*



*Jeff Reid answering questions*



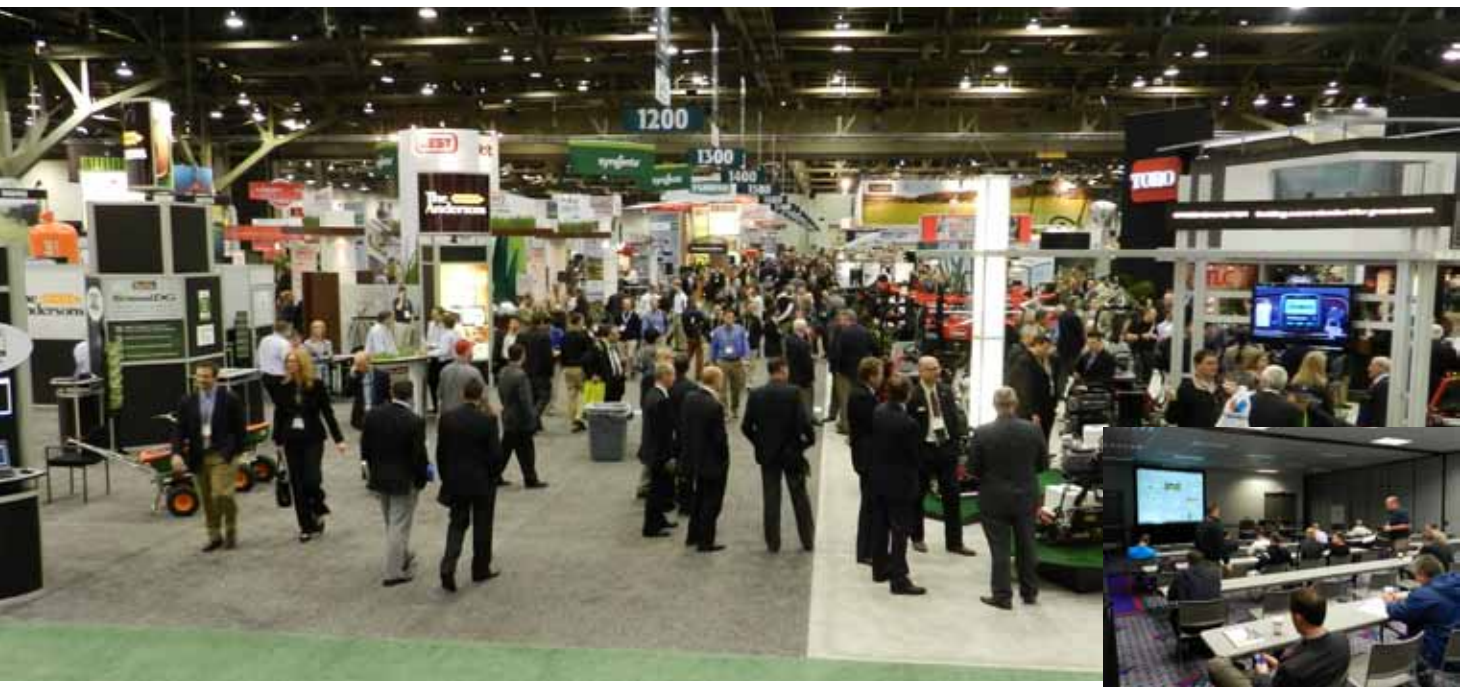
*Thanks!*

I would just like to take this opportunity to thank Stephen Bernhard and all his team for giving us this unforgettable experience and opportunity. The Company is a credit to the Industry and should be applauded for its forward thinking in offering opportunities like this. Special thanks to the amazing Kim Furnell, whose organisation and dedication towards the trip will always be remembered.

To BIGGA and in particular, Jim Croxton, Sami Collins and Andrew Mellon, for guiding us through the process and sharing the experience.

For me, it was a career highlight and I have come away from this feeling inspired, better educated, better informed and better connected to the fantastic network we have within our global industry. It was the perfect balance between Work, Rest and Play. A lot of Work, little Rest and sufficient Play! This trip was all about experiencing as much as you can possibly take in and making the most of what is a truly unforgettable experience.

George Pitts



*Tuesday February 28*  
 - Education Conference  
 - Advanced Stress Management Strategies for Cool-Season Turfgrasses

First of our two day long, educational classes. Held in the impressive Riviera Hotel Ballroom and delivered by Jack D. Fry, Ph.D. and Bingru Huang, Ph.D.

The objective of the day was to understand cool-season turf-grass physiology, understand physiological responses to environmental stresses and collectively to present information on how cultural practices and maintenance philosophies can influence turf quality in unfavourable environments.

We were asked to interact and put forward solutions to counteract environmental stresses and then finally we discussed how fertilisation and the use of PGR's can be utilised in reducing these stresses.

The class was delivered very professionally and in great depth and there were attendees from all over the globe who could exchange ideas and gain something that was relevant to them from the lecture.

After our class we attended the GCSAA Opening Ceremony and Reception. This was a very extravagant affair, which only confirmed how proud and passionate the members are about their Association.

Rhett Evans, CEO, led the proceedings, introducing the Board of Directors and presenting various awards along with President, Bob Randquist, who was also honoured for his term as President.

It was great to see and later meet David Phipps who won the "Environmental Stewardship Award". David, a Delegate from the GCSAA, sponsored by Bernhard's and Co, has attended BTME in the past.

A drinks reception followed, before we were whisked away to a "German Theme Bar" for another reception, held by Turfnet.

*Wednesday, February 29/  
 Thursday, March 1*  
 - Golf Industry Show

Over the next two days, we had the opportunity to attend the Trade Show and the General Sessions at the Golf Industry Show.

The North Halls, were a sea of trade stands as far as the eye could see, ranging from small family developed companies to the likes of John Deere, Toro and Ransomes Jacobsen.

There was a noticeable amount of more natural and environmentally sustainable products and techniques on offer too! A reflection, perhaps, of the growing trend towards a more sustainable approach being embraced and adopted in the US.

The BIGGA stand attracted interest from all over the globe. Sami Collins, Head of L&D, was on hand to pass on information. All 10 delegates were involved in manning the stand during the two days and I am sure that we all came across in a professional manner.

On the Wednesday we were all invited to the Bernhard's "After Show Reception", at the Queen Victoria Pub. A British theme evening with bite size fish and chips, pasties and sausage rolls along with some traditional beer.

Stephen Bernhard was there to host the evening, along with many US and International customers and Industry professionals.

It was great to meet Sean Sullivan CGCS, who is so active on our own bulletin board offering advice and experience.



*Friday, March 3*  
 - Education Conference - Plant Growth Regulators for Fine Turf

Our second Class was on Plant Growth Regulators and how they affect plant physiology in order to manipulate growth characteristics and how this can be used to produce high quality surfaces. This Session was delivered by Shawn D. Askew, Ph.D. and Erik Ervin, Ph.D. from Virginia Tech University.

The main objectives of the day was to understand how to achieve consistent clipping suppression, how to achieve consistent Poa annua Seed-head suppression and how to understand and achieve Poa annua Reduction and Control. The product being used for clipping suppression is Trinexapac-ethyl (Primo Maxx) and we discussed how to calculate application frequency and rates determined by "Growing Degree Days"(GDD) calculated by average temperatures each day. By understanding this, correct application frequencies will dictate and avoid a rebound response in the plant where chemical levels reduce in the plant and unused, stored carbohydrates produce a stronger elongation of the plants cell, producing above average clipping yield.

Friday night, we let our hair down a little, so we all headed out for a sweep of the "The Strip", ending up at Planet Hollywood with Stephen Bernhard and the team and enjoying the sights and sounds of Vegas!

*Saturday March 3*  
 - Home

Saturday we had the morning to ourselves before all ten of us were treated to a Stretch-Limo ride to the Airport in true Vegas style - a fitting way to end what was a truly amazing and extremely fulfilling trip!



# A big thank you from the BIGGA Delegates

The trip was well received by the attendees of 10th BIGGA Delegation, as these positive reports show...

From day one the whole experience was amazing. Getting ten guys together from around the country and for all of us to gel the way we did was fantastic and you couldn't ask for a more enthusiastic and professional delegation party. Seeing the facilities and Creeping bent greens was excellent.

It is the first time I have been able to compare the Creeping bentgrass at Rockcliffe Hall with somewhere else and to be around about the same level as such a quality venue was satisfying to say the least.

**Pete Newton, Head Greenkeeper, Rockcliffe Hall G&CC.**

Every aspect of the trip catered for all levels of candidates within the industry from Assistant Greenkeepers, Deputies, Course Managers and Workshop Managers. Every BIGGA member should apply for this trip of a lifetime. Not only do you personally benefit, but your employer and fellow work colleagues can feed off the knowledge you have gained.

**Daniel McGrath MG, Course Manager, North Foreland GC.**

Highlights of the trip for me were the education and the show. Yes, I really did enjoy the American way of greenkeeping and found it amazingly fascinating even though I reckon they're about 40 years behind in real greenkeeping! Lol.

Couldn't believe the chemical reliance! On the flip side, I feel we're about 40 years behind them in the high regard that their public holds all turf professionals. The respect that these guys enjoy is tremendous and they are so professional.

**Stuart Yarwood MG, Course Manager, Lymm GC.**

"I've been Greenkeeping now for over half my life and in that time I've made some great friendships and had some fantastic experiences but I have to say being part of this year's Bernhard's Delegation tops them all. The camaraderie within the group was superb and the trip itself gave me the opportunity to broaden my knowledge base through top class education and networking."

**Jaime Acton, Head Greenkeeper, Worlebury GC.**

When I was selected to be one of the lucky ten delegates to attend the GIS show, I felt honoured and extremely proud.

It was a trip of a lifetime and has inspired me to expand my educational qualities. Spending a full week with nine other very knowledgeable guys, three of whom are MGs, was a fantastic experience and I have no doubt learned a lot from them and made a great bunch of friends.

**David Gray, First Assistant, Ladybank GC.**

"I was very shocked and very happy to receive the news that I was one of the lucky 10 to be selected for the BIGGA delegation to Las Vegas sponsored by Bernhard and Co. It started to seem real when I met the other nine delegates, who were soon to become friends, at BTME in January.

It was apparent within a short space of time that the selection process for the trip had managed to find ten guys who genuinely fitted together well. The camaraderie within the group was fantastic. We went everywhere together and enjoyed sharing our experiences within the industry with each other."

**Alan Pierce MG, Course Manager, Ham Manor GC.**

My highlights were: meeting the other delegates and reviewing all aspects of Golf Course Management including BIGGA issues; dispelling my beliefs that all US courses were about feeding and spraying chemicals, the three top end courses we visited really were very professionally run, and they do care about the environment; the level of education their Association offer, we sampled two full day seminars, which I look forward to sharing with my Section about some recent helpful research; how willing the superintendents share information..

**Graeme Gallimore, Course Manager, Launceston GC.**

What a great bunch of delegates, our feet never touched the ground. From a learning point of view our education never stopped, it didn't matter where we were or who we were talking to, the whole group was sharing knowledge, ideas and passion! My personal highlight was the workshops at TPC Summerlin and Piate, they were big, spotless and professional.

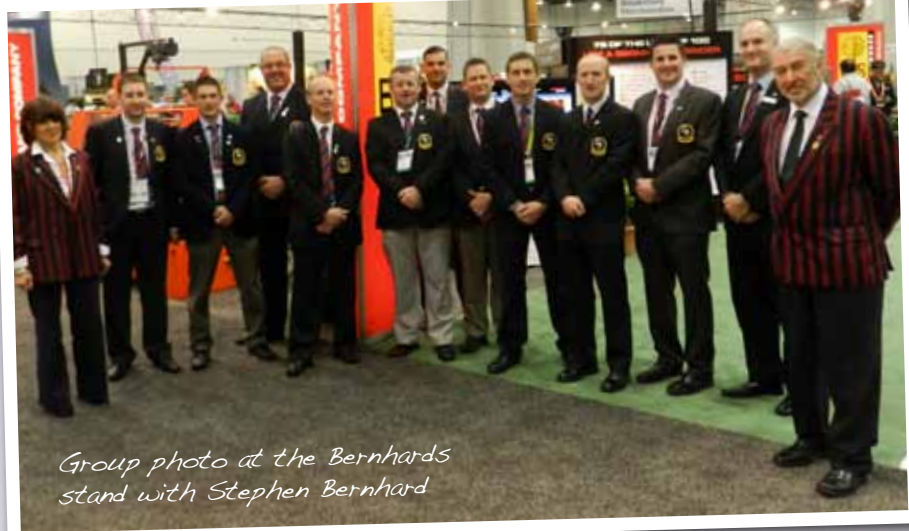
**Stuart Hall, Workshop Manager, John O'Gaunt GC.**

I love how everyone at work has been asking me how my 'holiday' was but if someone said they were going to a conference in Vegas I may have thought the same, but our agenda was full on. We also found out how well educated our American cousins are with seminar after seminar being presented by professors and doctors from numerous universities and last but not least the fantastic phenomenon that is the Las Vegas strip!"

**Neil Ballingall, Course Superintendent, Fairmont-St Andrews.**



*Under the Microscope...Pete Newton and Neil Ballingall take a closer look at the sward*



*Group photo at the Bernhards stand with Stephen Bernhard*



DOMESTIC COMMERCIAL INDUSTRIAL AGRICULTURAL HORTICULTURAL

Please give us a call for a free, no obligation quotation or visit [www.westcountrybuildings.com](http://www.westcountrybuildings.com) for more information.

## QUALITY STEEL BUILDINGS

DESIGNED AND CONSTRUCTED  
TO YOUR REQUIREMENTS

West Country Steel Buildings is an authorised distributor of Capital Steel Buildings, the leading producer of cold rolled steel buildings in the UK and Ireland. Working together means that we are able to provide the very best, cost effective buildings designed specifically to suit your needs

We offer a fantastic service and clever design solutions. Over the past twenty years we have built up a fantastic reputation of excellence and professionalism with a fine personal touch

Our expert team have a wealth of experience in both the design and construction processes and this comes with a proven track record

**01633 782 684**  
**07980 818 364**  
**07970 827 085**

Mention that you saw us in Greenkeeper International magazine when you contact us

**[sales@westcountrybuildings.com](mailto:sales@westcountrybuildings.com)**

15 High Cross Road, Rogerstone, Newport NP10 9AE

