

BARNOUSTIE

A cultivar of slender creeping red fescue bearing the name of the legendary Angus links (host to eight Open Championships) needs to be a bit special – and *Barnoustie* is certainly that. Ranked #2 in Table G3 of BSPB Turfgrass Seed 2024 and provisionally #1 in Table L4 (as a New Cultivar), its performance will force the retirement of the legendary *Barcrown* in the next couple of years.

Mid-green colour, top-ranked visual merit and high disease tolerance are the hallmarks of this debutant. It features in **Fescue** for 2024.

BARQUESS

2024 sees the launch of not one but two new slender creeping red fescues. *Barquess* is ranked #1 in Table L4 and provisionally #3 (as a New Cultivar) for close-mown turf (Table G3). Its visual merit score for lawns is 0.7 ahead of the next best variety on the main list.

Barquess is pale in colour. Trials in Scotland have indicated that it has very high growth potential early in the season for its species, which points to significant benefits in an overseeding programme. Like *Barnoustie*, it features in **Fescue** for 2024, taking this market-leading mixture to another level of performance. It is also included in **SGT Fine Fescue**.





DANCING

Dancing is a new variety of Chewings red fescue from the excellent RAGT breeding programme in France. It follows in the footsteps of old favourites *Musica* and *Bodega*.

It is ranked #3 on both G2 and L3 tables in BSPB Turfgrass Seed 2024 and has superb scores for both shoot density and visual merit. It features in **Fescue** for 2024.

November 2023 saw the launch of the latest in Barenbrug's long line of market-leading slender creeping red fescue cultivars – *Barnoustie*.

Carnoustie, the world-renowned Angus links and home to the Championship Course, which has held eight Open Championships, two Women's Open and two Senior's Opens, played host for this special launch event after giving permission to use its name several years ago when the new grass variety was undergoing its trial and registration processes.

It was clear from a very early stage of the British Society of Plant Breeders (BSPB) trials at the Sports Turf Research Institute (STRI) that this grass was destined for great things – a natural successor to *Barcrown*, which will now be gradually phased out of production after a 30-year reign. It came as no surprise when *Barnoustie* was listed as the new #1 slender for Greens in the 2023 Turfgrass Seed booklet.

Course Managers from east-coast Scottish links courses were invited to attend the day, as well as some notable former Carnoustie servants such as John Philp MBE and Gary Johnstone, now overseeing Portmarnock Golf Club.

Kevin Stott, Carnoustie Links Superintendent, and Duncan Cairnie, Championship Course Manager, took delivery of the world's first bag of Barnoustie certified seed production, and delivered a first-class course walk of the immaculate Championship Course. The agenda also included a talk on the Story of Grass (Barnoustie) from Dave Greenshields, Commercial Manager with Barenbrug UK, and a superb Q&A session with Kevin Stott, discussing their recent successful overseeding programme.



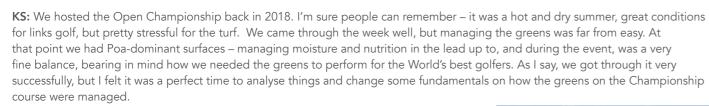
Barnoustie will feature in the 2024 formulation of Barenbrug's market-leading FESCUE product, which will also contain two other new varieties, Barquess (Slender) and Dancing (Chewings), alongside recent #1-rated cultivars Barlineus and Barcrown.

Barenbrug would like to extend its thanks to Carnoustie Links for their involvement and endorsement in this historic occasion.

Overseeding Q&A With Kevin Stott

David Greenshields (DG) our Commercial Manager, Q&A with Kevin Stott (KS) Carnoustie Links Superintendent.

DG: Take us back a few years... what was the starting point for this overseeding process?





KS: We are reliant on visitor golf, particularly the American tourist market during the summer playing season. Our Executive Team were supportive once they understood that the process would not impact playing quality to any great degree; everyone bought into the reasons behind the change. Ultimately, we all want Carnoustie to represent the best of links golf, and for me, that must include fine fast greens dominated by fine grasses – particularly fescue.

DG: Did maintaining high quality levels influence your choice of overseeding method?

KS: Certainly. We decided early on that a good quality dimple seeder set up right could do the job well. We wanted to create a seed bed of a very large number of small holes, rather than drilling the seed in lines or going down the route of fewer but larger holes. I am not saying those methods are wrong at all – they just didn't fit with what we needed. We wanted to get large volumes of seed out in multiple applications during the playing season – and still maintain a good surface – that's why we chose to go with a dimple seeder.

DG: Can you expand on more details of the method, application rates etc.?

KS: The advice from R&A agronomy and Barenbrug was very clear – high seeding rates would be key to accelerate the species conversion. My initial plan was to overseed at a moderate seeding rate of around 20 grams per-metre-squared frequently throughout the season, but after further discussion, we settled on a target of four applications at 30 grams.

We achieved that rate in 2019 and then Covid hit. We quickly re-evaluated budgets and unfortunately, the overseeding was viewed as non-essential. So, we only got one overseed done in 2020. When things had settled down and it was clear that tourism would restart in 2021, we hit them hard again, and again in 2022 and this year.

We spent a while experimenting with the seeder and figuring out how to get that volume of seed into the dimple holes quickly and effectively. After a while, we had it nailed down, but it's a time-consuming operation with five guys in total. The green would be cut first to remove any moisture, dimple seeder would then go across the green, in areas we would double pass, but we would always switch the seed in before the second pass. The green would be rolled after, the seeded greens would also be rolled for the next two days to help seal the holes and aid ball roll.

DG: How flexible have you been in order to get the work done?

KS: Yeah, very. We haven't stuck rigidly to a calendar or anything. If conditions are right, we will make a decision to get the seeder out. The surface needs to be dry ideally as moisture puffed up the seed and made it difficult to get down the hole. Too windy isn't helpful but neither is flat calm – the seed doesn't go down the holes without some air movement. Similarly, we haven't been set on getting a certain number of greens done at any one time. Some days, we might only have time or the conditions to do a couple, and that's fine. So, I guess it has been a priority to hit that annual target, but flexibility and pragmatism has been the key to getting it done right.

DG: How much of a role did graminicides play?

KS: Not a huge amount to be honest. They were treated with Rescue a few years back to get rid of some straggly Highland bent. But during the overseeding process, no. We haven't created a lot of space for the fescue – the greens have had full grass coverage in other words.

DG: Follow-up maintenance, in my opinion, is the final piece in the jigsaw and arguably the toughest bit to get right. Germination is easy, establishment is hard! From following your journey, I think this has been the biggest achievement and there have been some key take-aways worth sharing.

A critical bit, particularly with Fescue in sandy sites, is moisture management. Can you give us some of your thoughts on this?

KS: Yep, absolutely key. We have aimed for 20% moisture throughout the playing season, with the knowledge that at any time, there will be young fescue plants in the sward without developed root systems. And we have kept on top of it. This has made the greens fractionally softer on a daily basis, but still firm enough to keep golfers looking for links conditions happy. The wet summer of 2019 really helped us – good rainfall is a great tonic to young seedlings, and always superior to irrigation.

The other effect it has had is that organic matter (OM) has increased steadily over the last few years. We knew this would happen, and I think this shows the change of ethos we have had. Previously, we would have been more focussed on target levels for OM, moisture, and Clegg readings. We have relaxed this mindset and prioritised the species conversion process – making sure conditions are favourable for the establishing fescue.

DG: What are your other tips, and have you adapted anything over the last few years?

KS: One big point is that you need buy-in from the team. Duncan Cairnie, Championship Course Manager, deserves a lot of credit. He has led the team in this, and everyone is aware of what we are trying to achieve and why. Marginal gains were the philosophy from the outset. Differences can be made on a daily basis – staff might deliberately miss cutting a stressed corner of a green for example, less aggressive turning of machines, an extra flick of the switch etc. We kept height of cut at 4mm for day to day golf, double cutting if growth was excessive, and we reduced rolling significantly.

The great thing is that now we are where we are, everyone can get their share of satisfaction and pride at the job that has been done Lots of other tips, small things, but hopefully they all add up. Timing of nutrition to favour fescue growth, avoiding iron products desiccating the seedlings, even making sure wetting agent applications can't be doing any damage to very young plants.

DG: Well – a big question – where are you at currently? What's the plan moving forward? Do you have targets in mind for nitrogen inputs and moisture/OM?

KS: We have estimated species composition as best we can. Richard (Windows) from the R&A will randomly select areas of greens and a few of us will spend some time looking within these areas and gauging how much of the various grass types there are. There's very little bent, so it's easy to identify fescue versus Poa. We think we have at least 70% fescue now in an average green. There are no obvious greens with significantly less than that, but there are a few with quite a lot more (like 17th, which historically has always been good botanically. We must have been less than 5% fescue in 2018 in an average green.

We have generally increased nitrogen inputs over the years historically, and are probably around 70kg N/ha, although we don't have a set target. The mindset is to keep the grass we have healthy – I believe it's wrong to think that fescue doesn't need feeding. After all, the Championship is a busy course with 24,000 visiting rounds in 2022 and 53,000 in total, so nutrition plays a big part in maintaining surface quality.

I think we can relax the 20% moisture requirements at times now. This will help stop the trend in OM rising. Fescue produces a different type of thatch, with higher lignin content, so we are not faced with soft greens, but we know we will have to reduce OM a bit now. We are looking at doing this in more sustainable and less disruptive ways than lashing a lot of abrasive sand on the surface. The TopChanger is one way we will look at, for example.

DG: 5% to 70% is some achievement. It has been exciting and interesting to follow. I know I have learnt a lot during the process, and it's great to be able to share some of those points today. Thanks to Kevin, and the team at Carnoustie for taking the time.

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Fescue

New mixture of our product Fescue for 2024 - Barenbrug's most popular blend of red fescue cultivars ideally suited to free-draining, sandy soil.

- 60% Slender creeping red fescue & 40% Chewings red fescue
- Features three new top-rated cultivars in 2024
- Ideal for free-draining, sandy links greens
- Superb all-round disease tolerance, particularly Dollar Spot and Microdochium

Construction and overseeding of free-draining fineturf areas.

Features & Benefits

The market-leading and top-performing Fescue blend for overseeding and construction of freedraining fine turf.

The 2024 mixture contains five cultivars, three of which are new to the market - Barnoustie, Barquess, and Dancing.

Barnoustie and Barquess, with BSPB mean scores in excess of 8 promise new levels of quality for slender creeping red fescue, and Dancing enters the Chewings table ranked #3. Ably supported by #2-ranked Barlineus and the old favourite Barcrown (still ranked #5), this mix has an unparalleled total mean score of 7.88.

Barquess, with its pale green colour offers particularly fast early season growth for a slender and Barcrown's very high degree of Dollar Spot tolerance is also worth noting.





☑ Greens ☑ Tees ☑ Fairways ☐ Walkways ☐ Roughs







In the bag	Bag size 20kg
30% Barquess	Slender creeping red fescue
25% Barlineus	Chewings red fescue
20% Barcrown	Slender creeping red fescue
15% Dancing	Chewings red fescue
10% Barnoustie	Slender creeping red fescue

Find out more at barenbrug.co.uk/fescue

SGT Fine Fescue

100% fine fescue blend, utilising our sustainable grass technology (SGT), with varieties bred to deliver reduced water, fertiliser and chemical inputs.

- SGT technology offers outstanding turf performance with reduced water, fertiliser and chemical inputs
- An innovative mixture of fine fescue species
- 50% hard fescue for increased drought tolerance
- High tolerance to Dollar Spot and Red Thread pathogens

Usage

Overseeding, divoting and construction for mediumfine turf on sites with particular drought stress.

Features & benefits

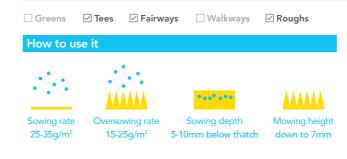
Central to the product is a large proportion of hard fescue, a fine fescue species with well-documented tolerance to drought and heat stress and proven performance with low-input maintenance, as well as good overall turf quality for density and visual merit, helping to maintain good aesthetics in the harshest environments. Hard fescue also offers increased Dollar Spot tolerance and a potential reduction in insect damage.

In trials at Landlab in Italy, Hardtop hard fescue and Barjessica strong creeping red fescue perform particularly well in periods of heat and drought.

The 2024 mix now includes the new #1-rated slender creeping red fescue Barquess for added turf quality and density, and old favourite Barcrown, the #1-ranked fine fescue cultivar for Red Thread tolerance.







In the bag	Bag size 20kg
50% Hardtop	Hard fescue
20% Barcrown	Slender creeping red fescue
15% Barquess	Slender creeping red fescue
15% Barjessica	Strong creeping red fescue

Find out more at barenbrug.co.uk/sgt-fine-fescue





"Sustainable Grass
Technology" – Barenbrug's
research-driven concept
designed to deliver
outstanding turf
performance in high stress
conditions with reduced
fertiliser, chemical and
water inputs.

Barenbrug aims to develop seed cultivars and grass seed mixes that respond to customers' needs and a changing climate. Our Sustainable Grass Technology (SGT) products are designed to reduce the chemical, fertiliser and water input for turf managers.

Products under the SGT banner promise stress-tolerant grass for sustainable turf management and are the result of years of independent and in-house trials.

Barenbrug's SGT products have been tested extensively, and offer exceptional performance in one or more of four pillars of research:

- Nitrogen-use efficiency to reduce fertiliser use and cost
- Drought tolerance to increase survival and reduce the need for irrigation in stress periods
- Increased disease tolerance to reduce the need for funcicide
- Lower biomass production (or clipping yield) to reduce mowing frequency, man hours and fuel use

Visit our website for a detailed video about the years of independent and in-house trials that led to the launch of Sustainable Grass Technology: www.barenbrug.co.uk/SGT



Drought tolerance

The SGT products are curated from specially chosen cultivars. In trials at Landlab in Italy, during the harsh summer of 2018, *Hardtop* hard fescue and *Barjessica* strong creeping red fescue performed particularly well in periods of heat and drought, in comparison with other cultivars (*Fig. 1 & Fig. 2*). Both varieties feature in **SGT Rye Fairway** and **SGT Fine Fescue**.

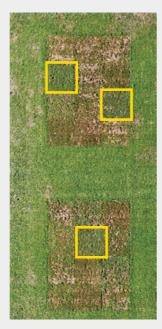


Figure 1 - Drone Image From Landlab. Highlighted plots are the hard fescue. The quality and endurance of hard fescue stood alone during the most intense heat.

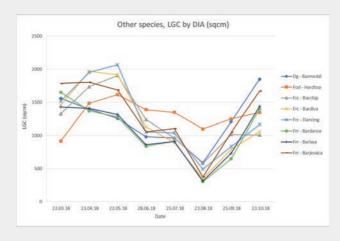


Figure 2 - Graph to show fluctuations in fescue performance (Live Ground Cover assessments) over 9-month period during 2018 in Landlab, Italy. Note the superior performance of Hardtop hard fescue and Barjessica strong creeping red fescue.

Nitrogen Efficiency

In **SGT Rye Fairway**, *Barprium* offers proven capacity for nitrogen-use efficiency, requiring up to 50% less nitrogen. In an 18 month STRI trial (*shown in Fig. 3*), results demonstrate nitrogen efficiency from a number of cultivars against live ground cover. *Barprium* delivers the highest mean turf cover compared to all other cultivars. Put simply, it requires far less N to deliver equivalent turf performance.

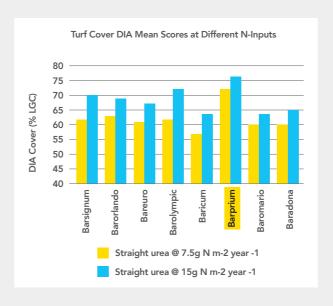


Figure 3 - STRI N-Efficiency Trial Data. Barprium delivers equivalent mean turf cover to all other cultivars at 50% less nitrogen input.

STRI researchers concluded: "The best performing cultivar in this trial was *Barprium*, with good turf quality and coverage observed at all N levels and N types. Even at very low levels of N, *Barprium* still showed good quality and coverage."

Barprium is highly ranked in the BSPB Turfgrass Seed 2024 booklet with a mean score of 7.5 on Table L1 and exhibits strong summer colour – another useful characteristic for low-input golf fairways.

Products available in the SGT range include **SGT Rye Fairway** and **SGT Fine Fescue**, representing the culmination of many years of research and targeted at golf course fairway overseeding to combat the effects of climate change and reduce future maintenance inputs.

Products available with SGT technology:

SGT Fine Fescue SGT Rye Fairway

Disease Tolerance

Disease tolerance is an increasingly important focus of Barenbrug's turfgrass breeding programme for Europe. **SGT** products contain varieties that have the highest levels of protection against a range of relevant pathogens.

Hard fescue as a species has excellent tolerance to Dollar Spot, which is an increasing concern, particularly on links courses. Figure 4 has data from recent NTEP trials, showing that hard and sheep's offers higher levels of tolerance on average compared to the red fescue subspecies. Overseeding fairways with **SGT Fine Fescue** is likely to be a good option to improve fairway performance against Dollar Spot.

	Dollar Spot Tolerance - All data, all locations 2015-2019 NTEP				
	FRR (Strong)	FRC (Chewings)	FO (hard/sheep's)	FRL (slender)	
cultivars	6.9	8.2	8	7.4	
	6.7	7.9	7.8	6.6	
	6.7	7.8	7.7	5.9	
	6.6	7.7	7.7	5.6	
	6.2	7.6	7.6		
	6.1	7.6	7.5		
	5.8	7.5	7.5		
	5.6	7.4	7.4		
	5.4	7.2	7.4		
	5.2	7.1	7.2		
	5.2	7	7.2		
	5.1	7			
	4.9				
	4.9				
	4.7				
Mean	5.73	7.50	7.55	6.38	

Figure 4 - 2015-2019 NTEP fine fescue trials; all data, all locations.

Red Thread is a common turfgrass disease affecting sustainably managed turf areas, such as fairways. **SGT** mixtures will contain highly ranked cultivars for Red Thread tolerance, such as *Barrisse* (#1-ranked; Table L5) and *Barjessica* (#2-ranked; Table L5) strong creeping red fescue and *Barcrown* (#1-ranked; Table L4) and *Barpearl* (#3-ranked; Table L4).

The designated **SGT** perennial ryegrass *Barprium* not only delivers benefits in terms of drought tolerance, nitrogen-use efficiency and lower biomass production, but it also exhibits broad tolerance to a wide range of disease pathogens including *Drechslera* leaf spot, GLS and *Rhizoctonia*.



Disease Factfiles

To find out more and download your free copies, visit our website: barenbrug.co.uk/resources/sport-resources/disease-factfiles

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Regional Technical Support

At Barenbrug, we work together as a team to serve our clients wherever they need us. We have a team of technical experts based around the UK, as well as office locations across the UK and as part of the wider Barenbrug Group worldwide. We make our collective knowledge, experience and global network available to our clients.

Our head office, administration centre and main production facility is in Bury St Edmunds, Suffolk as well as in Falkirk, Scotland. Our research site at Cropvale, Evesham, trials both agriculture and sport and leisure varieties and mixtures, providing a solid testing ground for our material.

With over 800 employees and operating companies in 18 countries on 6 continents, we have been the leading grass seed business in the world for over 100 years.



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Conditions of sale

In case of unavailability Barenbrug UK Limited reserves the right to substitute any variety in any mixture with one of similar merit.

Any change will be detailed on the bag.

The placing of an order constitutes an acceptance of our terms and conditions of sale by the buyer.

Full terms and conditions can be found at www.barenbrug.co.uk













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