

GOLF NEWS

2020 EDITION



INNOVATIVE

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***We've been a leading
UK grass seed breeder
and grass expert
since 1904***



Contents

- 4** Barenbrug's Famous Fescue is CROWNed Top Grass Again!
- 6** Dumbarrie Development
- 8** Fescue
- 9** Fairway
- 10** Shoreline
- 11** Classic 80:20
- 12** All Bent
- 13** Duo Bent
- 14** SGT Fairway
- 16** Platinum Fine Turf
- 17** Medal
- 18** Ultrafine
- 19** Extreme
- 20** RPR Golf
- 21** Sowing and Seeding Rates
- 21** Guide to Species Characteristics
- 22** Our Partners
- 23** Regional Technical Support



Barenbrug's Famous Fescue is CROWNed Top Grass Again!

Grass breeders spend their working lives looking for incremental improvements to existing species and varieties. For example, it is estimated that "wear tolerance" in perennial ryegrass was subject to a ~5% improvement per decade in the European turfgrass market over a thirty-year period 1974-2004 (Sampoux *et al.*, *Grass and Forage Science*, 2012).

Occasionally though, their efforts are rewarded with astonishing breakthroughs – a perfect combination of genes, a fluke of nature, a mind-blowing alchemy of science and luck. In the 1970s, almost 50 years ago(!), the

stars aligned in a small field in Wolfheze, Holland and the slender creeping red fescue (*Festuca rubra trichophylla*) *Barcrown* was born. Or rather, "BAR FRT 8250" as it was known back then.

BAR FRT 8250

BAR FRT 8250 was first applied in official trials in 1982 in the Netherlands. It didn't take long for it to be clear that this was a very special cultivar. An appropriate name was needed – *Barcrown* seems as fitting today as it was then – truly "the crowning touch of breeding" (Figure 1).

It entered the STRI trials at Bingley in 1987 and was first listed in the Turfgrass Seed Booklet in 1991. In those days,

the booklet scored cultivars with letter-grades. *Barcrown's* "A-grades" were easily obtained for close-mowing tolerance and shoot density (Figure 2). When numerical data first featured in 1995, it was very apparent that *Barcrown* was in a class of its own (Figure 3).

Spreading the Name

Barcrown's fame quickly spread far and wide – Figure 4 shows its Plant Variety Protection Certificate from the Secretary of Agriculture in the United States, and it has been a consistent feature in many turfgrass markets in the ensuing 30+ years.

In terms of turfgrass in the UK &

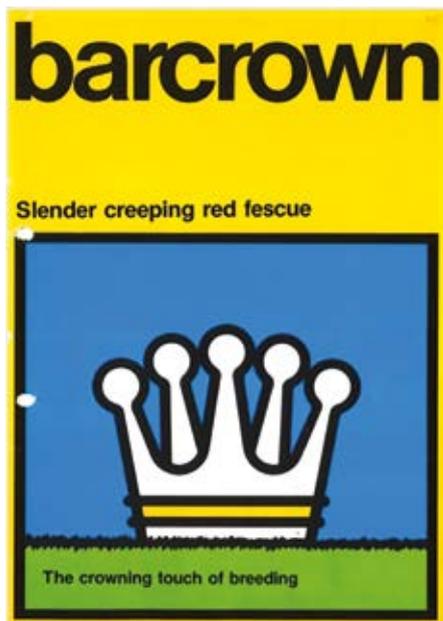


Figure 1. Advertising of Barcrown from 1990's.

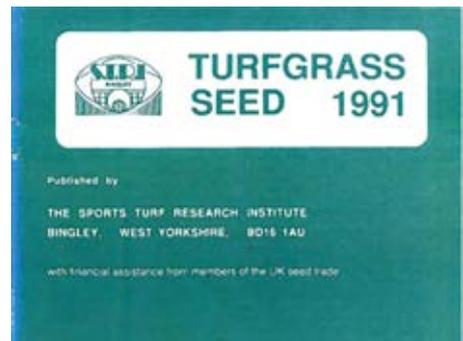


Figure 2. Front cover and data from STRI Turfgrass Seed 1991.

TABLE 4
SLENDER CREEPING RED FESCUE (*Festuca rubra* ssp. *litoralis* etc.)
Important: Read pages 2 and 6 before evaluating cultivars

Cultivar	Tolerance of close mowing	Compassion (moss) (W/M%)	Freedom from red thread	Dollar Spot	Winter green-ness	Summer green-ness	Shoot growth	Maintenance UK agents
Orlanna	A	A	C	B	A	A	B	Nisa Bar
Picant	A	B	A	A	B	A	B	Ced/Sir
Jupiter	B	A	D	A	A	A	B	Jms
Logo	B	A	D	B	A	A	A	CLB/BS
Estica	B	A	C	B	A	A	C	v8-PC
Dawson	B	B	C	B	A	A	C	v8-Jms
Lipote	B	B	B	C	B	A	C	DSV/RS
Melita	B	C	B	B	B	B	B	PS/Jms
Arist	C	C	B	A	A	B	C	Mm
New cultivars								
Barcrown	A	A	B	-	-	-	A	Bar
Horizon (LA)	C	B	B	-	-	-	C	Mms
Subette	B	C	D	A	-	-	D	Pho/Ci
Hawk (LA)	B	C	C	-	-	-	A	Bar
Rubia	C	C	C	-	-	-	C	Zel/SOH
Lovisa	-	-	C	-	-	-	C	WPS/Dsh

Ireland, *Barcrown* is most commonly associated with golf. It's a humbling thought that this cultivar was being pummelled in the Valley of Sin by an over-excited Italian in the Open Championship in 1995 and is still the chosen slender creeper at the Home of Golf a quarter of a century later. There are surely *Barcrown* plants thriving at virtually every top links course in the UK and Ireland today.

its status at the #1-slender for golf greens use in the BSPB/ STRI Turfgrass Seed booklet 2020! Varieties are subjected to a re-test every eight years, and in its last trial, *Barcrown* convincingly beat all-comers for yet another coronation! After all these years, its shoot density remains unparalleled, as does its disease tolerance (see Figure 5).

Barcrown Is Back!

Even more remarkable is the fact that *Barcrown* has regained

Barcrown can be found today in the market-leading FESCUE mixture in Barenbrug Sport Range 2020. For tried and tested quality for almost 40 years, *Barcrown* is true turfgrass Royalty.

Fig 4: Plant Variety Protection Certificate from the Secretary of Agriculture in the United States, 1987.



Figure 3. Data from STRI Turfgrass Seed 1995.

TABLE 4
SLENDER CREEPING RED FESCUE (*Festuca rubra* ssp. *litoralis* etc.)
Important: Read pages 2, 3 and 6 before evaluating cultivars.

Cultivar	Tolerance of close mowing	Shoot growth	Freedom from red thread	Freedom from dollar spot	Winter green-ness	Summer green-ness	Shoot density	UK agents
Barcrown	8.8	8.7	7.4	8.0	7.1	MG	DG	Bar
Smims	8.7	8.1	6.0	MG	MG	MG	MG	FL
Logo	8.4	6.9	6.2	MG	MG	MG	MG	BSH
Orlanna	6.4	6.0	5.4	DG	DG	DG	DG	SI
Jupiter	6.5	6.0	6.0	DG	DG	DG	DG	Jms
Estica	6.9	5.5	5.5	MG	MG	DG	PC	PC
Picant	6.3	4.6	5.5	DG	DG	DG	GUSIL	GUSIL
Barlander (LA)	7.7	8.9	7.2	MG	MG	MG	MG	Bar
Cinderella	6.5	5.4	5.8	MG	DG	DG	DG	DLF
Symphony	6.7	6.3	6.7	7.3	DG	DG	DG	FL

Turfgrass Seed

The buyers guide to quality amenity turfgrasses

CULTIVAR	Shoot Density	Visual Merit	Mean
BARCROWN	7.8	7.3	7.6
Cezanne	7.5	7.6	7.5
Absolom (LA)	7.2	7.8	7.5
Viktorka	7.6	7.3	7.5
Brumana (LA)	7.4	7.4	7.4
Nigella	7.2	7.5	7.3
Cathy (LA)	7.4	7.2	7.3
Beudin	7.3	7.3	7.3
Barpearl	7.1	7.3	7.2
Aporina	6.9	7.1	7.0

Figure 5. BSPB Turfgrass Seed 2020 Table G3 data

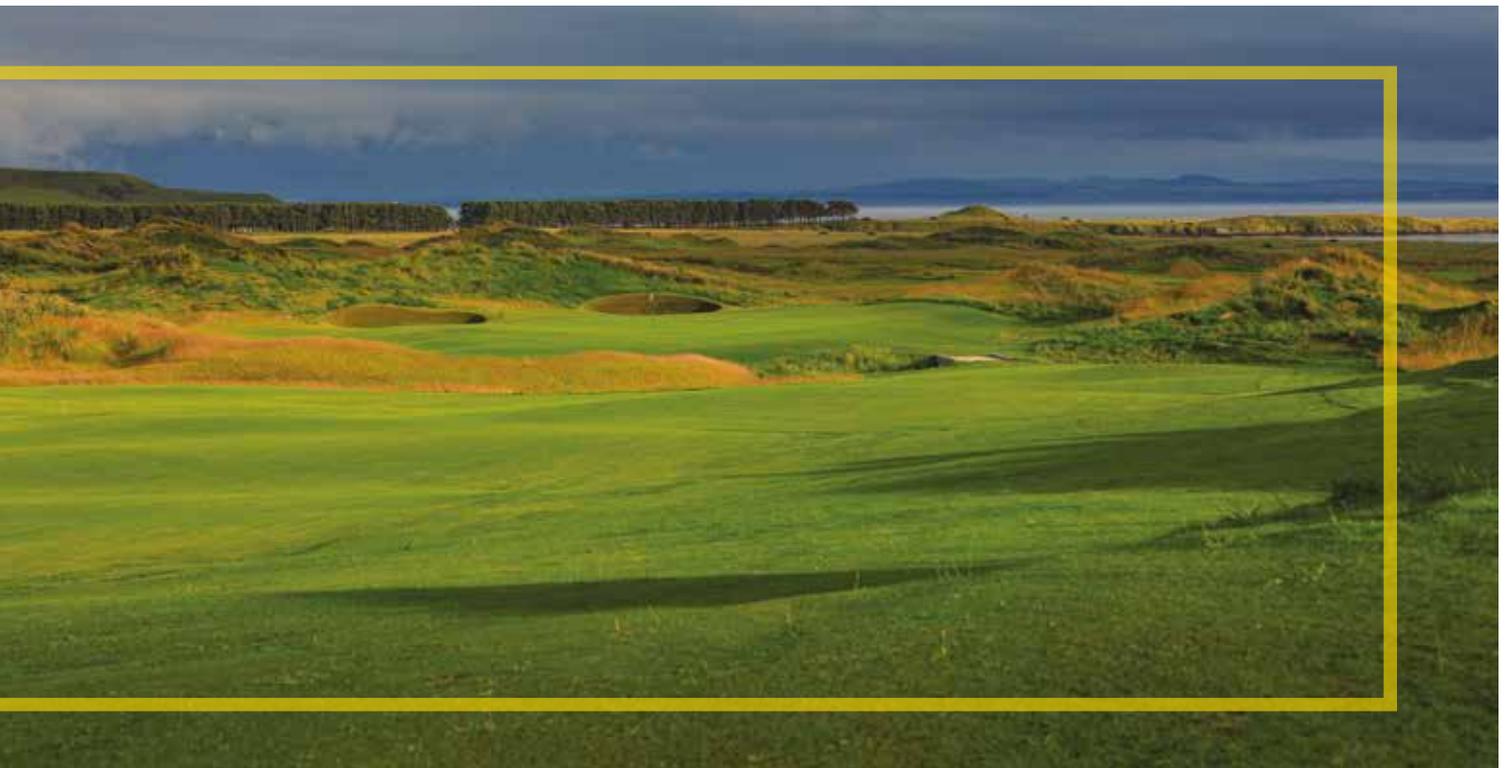


Photo by Kevin Murray

Dumbarrie Development

In Spring 2018, construction began on Scotland's and the East Neuk of Fife's most recent links course, Dumbarrie. Opportunities to develop new golf courses on genuine links land have been few and far between in the last two centuries, so one just a few miles away from the Home of Golf was a tantalising proposition.

On the doorstep of St. Andrews, and with panoramic views across the Firth of Forth to North Berwick and Muirfield, Dumbarrie Links has an enviable position. Creating a world class golf course, to be opened in two short years, out of relatively plain farmland (albeit sand-based), was an ambitious undertaking, however.

Course architect and former Ryder-cupper Clive Clark's stunning vision called for a dramatic dune-scape to be created from the plentiful wind-blown links sand, and one of the most impressive achievements of the project so far is the illusion that the manufactured landscape is the work

of nature. The topography now fits the site beautifully and the view across the sweeping bay from the clubhouse 100-feet or so above the tideline is a sight to behold.

A small detail in creating the impression that the course was carved from a natural dune system was selecting grasses synonymous with Scottish links land. Advice was sought from Dr. Dave Greenshields, product manager of Barenbrug UK. "Specifying the grasses at Dumbarrie was a hugely exciting challenge", comments Dave. "My passion is links golf, and the opportunity to be involved in a project of this scale, so close to my home in Edinburgh, does not come around often."

"The grassing was always going to be dominated by red fescues, but we included other grass species that have really done a great job during the grow-in." One was browntop bentgrass, which was sown separately to the red fescues in the green complexes at a rate of 4g/m² (8% of the seed mix, by

weight). "Managing 100% red fescue, even the very best varieties chosen here like *Viktorka* and *Barcrown*, can be a challenge", states Dave. "It's not impossible, but I think having a small proportion of bentgrass – around 20% in the sward – is a good balance for links greens in our climate. Density in winter and spring is maintained more easily, which can really help in minimising *Poa annua* ingressions."

Not just any browntop bent variety was chosen, however. "We had just obtained the first production of *Charles*, a new cultivar from New Zealand", continues Dave. "Its performance in official BSPB trials at STRI has simply blown other bentgrasses away in terms of density, leaf fineness and visual aesthetics. It is exactly what we were looking for to blend with red fescue in this case." *Charles* is bred by PGG Wrightson and named after Sir Bob Charles, the first left-handed golfer to win a Major, the Open Championship at Royal Lytham & St. Anne's in 1963. It is perhaps fitting



Photo by Kevin Murray



Photo by Kevin Murray



that Dumbarrie – a links course – is the first grow-in of a new course anywhere in the world with this ground-breaking new grass.

The grow-in of the greens and surrounds has been a real triumph of the project ahead of the course opening in May 2020. The site is managed by Scottsdale-based OB Sports, specifically overseen by Luke Beardmore, Senior Vice President of Agronomy and Construction. On site, Course Manager Grahame Taylor, recruited from the Old Course, St. Andrews has directed the grow-in on a daily basis.

Grahame commented, “The greens seed has performed really well. We could see germination after only a few days last summer, and I really think the bentgrass helped establishment. We were able to get mowers on early and achieve a dense sward very quickly. This has reduced the need to pick *Poa*, and the end result, in terms of blend of species, is exactly what I was hoping for.”

In addition to red fescue, hard fescue was incorporated into fairways and roughs. Independent Barenbrug trials in the UK have shown the benefit of hard fescue in areas of low nutrition and drought stress. “The inclusion of hard fescue

allows flexibility in terms of longer-term management of these areas”, explains Dr. Greenshields. “In certain locations, like south-facing dune faces, we are already seeing *Hardtop* emerging as the dominant grass. Having this input from a specialist grass breeder at the point of construction can save time and money in the long run.”

Moving away from traditional links grasses, the decision was taken to include perennial ryegrass in specific areas from the get-go. Grahame comments, “I was familiar with using *Barolympic* perennial ryegrass on high traffic areas at the Old Course. It made perfect sense to incorporate it into tees and walkways here at Dumbarrie. Its pale green colour and fineness of leaf means it blends in well, and it will give me the recovery I need when golfers arrive next year.”

The grass seed was supplied to Dumbarrie by Scottish-based Barenbrug Sport distributor Greentech Sportsturf Ltd., who also played a part in the construction finishing work, including hydroseeding the dune-scape and the shaping of naturalised bunkers into the dunes.

Managing Director Kevin Brunton takes

up the story. “Our involvement with the Dumbarrie project has been a huge privilege. As both a supplier and contractor to the industry, it is always particularly satisfying to provide proven products to an end-user and apply them practically. We have a fantastic working relationship with Barenbrug, which really helped pulling together the service we were able to offer Dumbarrie.”

He continued, “Our contracts team have excelled in the shaping of the natural bunkers. They fit perfectly into their surroundings and improve the visuals of many of the stunning holes. As an avid golfer, I can’t wait to play the course myself and hopefully avoid most of them!”

At the time of writing, Dumbarrie Links is maturing well ahead of its official opening in May 2020. This rare jewel of a links course has been born and created in a staggeringly short time-frame, and the golfing world awaits. It will sit proudly amongst the many historic golf courses on the east coast of Scotland and that is down to the hard work and expertise of many people involved in the project. Barenbrug UK Ltd. and Greentech Sportsturf Ltd. are honoured to have played a small part in its creation.



Fescue

Golf greens, tees, fairways, bowling greens

Usage

Overseeding and/or **construction** of free-draining fine-turf areas; golf and bowling greens; tees and fairways

Key points

- *Barlineus* #1 Chewings
- *Barcrown* #1 slender

Species Formulation

50% slender creeping red fescue
50% Chewings red fescue

FESCUE is an outstanding blend of no fewer than six red fescue cultivars; *Viktorka*, *Barcrown*, *Barlineus*, *Bargreen II*, *Bodega* and *Musica*, for the overseeding and construction of free-draining fine turf.

The mixture is made up of 50% slender red creeping fescue and 50% Chewings red fescue seed. The combination of these two sub-species offers the best solution for year-round performance and growth in fescue-dominant turf – Chewings fescues will generally be most active in spring through to mid-summer, whereas slender creepers “kick in” during early summer and perform well through to autumn.

Table 1 shows the performance of the cultivars in the BSPB Turfgrass Seed Booklet 2020; Tables G2 & G3. FESCUE contains both the top-rated Chewings and slender varieties (*Barlineus* and *Barcrown*).

With another three top-10 varieties and old favourite *Musica* completing the blend, FESCUE is unrivalled as the market-leading mixture of its type for fine turf use.

CULTIVAR	Shoot Density	Visual Merit	Mean
<i>BARLINEUS</i>	8.3	8.0	8.1
<i>Dancing (LA)</i>	7.8	7.8	7.8
<i>Filius</i>	7.8	7.6	7.7
<i>Bogart</i>	7.7	7.7	7.7
<i>BARGREEN II</i>	7.7	7.6	7.6

CULTIVAR	Shoot Density	Visual Merit	Mean
<i>BARCROWN</i>	7.8	7.3	7.6
<i>Cezanne</i>	7.5	7.6	7.5
<i>Absolom (LA)</i>	7.2	7.8	7.5
<i>VIKTORKA</i>	7.6	7.3	7.5
<i>Brumana (LA)</i>	7.4	7.4	7.4

IN THE BAG

35%	VIKTORKA Slender creeping red fescue
20%	BARLINEUS Chewings red fescue
15%	BARCROWN Slender creeping red fescue
10%	BODEGA Chewings red fescue
10%	BARGREEN II Chewings red fescue
10%	MUSICA Chewings red fescue

Sowing rate:	25-35g per m ²
Overseeding rate:	15-25g per m ²
Sowing depth:	8-12mm below thatch
Mowing height:	Down to 4mm
Pack size:	20kg

Table 1 Scoring and ranking of FESCUE cultivars from Turfgrass Seed 2020 for golf greens use.



Photo by Kevin Murray

Fairway

Fairways, tees, roughs

Usage

Overseeding, divoting and/or **construction** of free-draining turf areas; tees, fairways and roughs

Key points

- *Hardtop* for performance under low nutrition and drought
- *Barjessica* drought tolerance
- High quality red fescues with excellent disease resistance

Species Formulation

50% strong creeping red fescue
20% slender creeping red fescue
20% Chewings red fescue
10% hard fescue

FAIRWAY is an excellent blend of four fine fescue species; hard fescue and the three sub-species of red fescue; slender creeping, strong creeping and Chewings. It is designed for overseeding, divoting and constructing free-draining turf areas on the golf course.

Hardtop hard fescue offers superior performance under many stress factors associated with turf areas that this blend is used for. These include drought, heat, cold and low nutrition.

Barjessica is a new cultivar of strong creeper that has the highest heat and drought tolerance of any Barenbrug variety of red fescue tested independently in trials at Landlab in Italy.

The red fescue cultivars in the mix are all consistent performers and are all ranked highly in the BSPB Turfgrass Seed Booklet. Of particular note is the outstanding red thread tolerance of *Barrissee* (ranked #1) and *Barpearl* (#2), an important factor in fairways under low nutrition.

IN THE BAG

35%	BARRISSE Strong creeping red fescue
20%	BARPEARL Slender creeping red fescue
15%	BARJESSICA Strong creeping red fescue
15%	BODEGA Chewings red fescue
10%	HARDTOP Hard fescue
5%	BARLINEUS Chewings red fescue

Sowing rate:	20-35g per m ²
Overseeding rate:	15-25g per m ²
Sowing depth:	8-12mm below thatch
Mowing height:	Down to 7mm
Pack size:	20kg



Shoreline Coastal courses

Usage

Overseeding and/or construction of free-draining fine and medium-fine turf areas exposed to saline conditions.

Key points

- Germination and survival in salt
- *Viktorka* and *Barpearl* highly ranked in Turfgrass Seed Booklet

Species Formulation

100% slender creeping red fescue

SHORELINE is an innovative blend of slender creeping red fescue cultivars; the name **Shoreline** is derived from the Latin *litoralis*, the species name for slender creepers. The mix contains two top-10 ranked varieties: *Viktorka* and *Barpearl*.

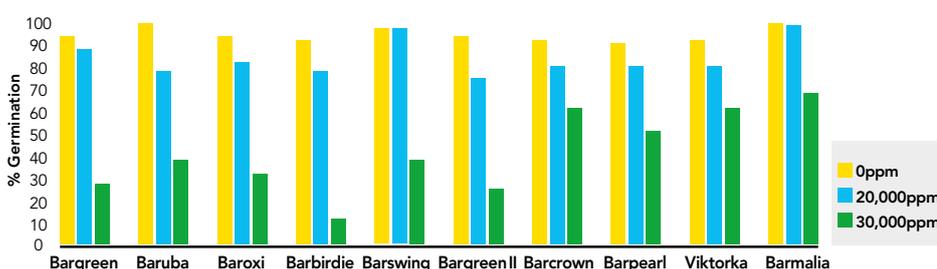
The mix provides superior salt tolerance for fescue dominant golf greens on links and seaside golf courses exposed to salt spray and salt-laden winds. It is suitable for the construction and overseeding of all areas of free-draining turf exposed to salt.

Germination salt tolerance is tested in a laboratory using ISTA parameters at different salt levels equivalent to sea water of 20,000 and 30,000 parts per million (ppm), with 0ppm as a control. Laboratory trials at Barenbrug research demonstrate the superior germination capability of cultivars of slender creeping red fescues (*Festuca rubra litoralis*) in comparison with cultivars of Chewings fescues (*Festuca rubra commutata*). The data represents percentage germination after 30 days at 0ppm (control), 20,000ppm and 30,000ppm (Graph 1).

IN THE BAG

50%	VIKTORKA Slender creeping red fescue
50%	BARPEARL Slender creeping red fescue

Sowing rate:	35-45g per m ²
Overseeding rate:	20-30g per m ²
Sowing depth:	8-12mm below thatch
Mowing height:	Down to 4mm
Pack size:	20kg



Graph 1

Laboratory Test: Germination of cultivars of slender creeping red fescue and Chewings fescue.

Chewings fescues: *Bargreen*, *Baruba*, *Baroxi*, *Barbirdie*, *Barswing*, *Bargreen II*.

Slender creeping red fescues: *Barcrown*, *Barpearl*, *Viktorka*, *Barmalia*.



Classic 80:20

Golf greens, bowling greens

Usage

Construction of free-draining fine-turf areas; golf and bowling greens

Key points

- *Barlineus* #1 Chewings
- *Charles* #1 browntop bentgrass
- *BarKing* #5 *Microdochium* tolerance

Species Formulation

80% red fescue
20% browntop bentgrass

CLASSIC 80:20 is a traditional mix of fescue and bentgrass designed to deliver a consistent and balanced blend of these species when sowing out new fine-turf areas such as golf and bowling greens.

CLASSIC 80:20 contains both the top-rated red fescue on the market (*Barlineus* - 20%) and the top-rated browntop bentgrass on the market (*Charles* - 10%). *Charles* is a new NZ-bred variety, named after Bob Charles, the first left-handed golfer to win a major. Like Bob, it breaks new ground, being ranked #1 by a clear half-point in Turfgrass Seed 2020 Table G1 (Figure 1).

The other bentgrass in the mixture is *BarKing*, a European-bred variety with exceptional tolerance to *Microdochium* Patch disease (*Fusarium*). In the latest concluded independent BSPB/STRI bentgrass trial, it ranked #1 for *Microdochium* tolerance out of 39 cultivars tested (Figure 2).

IN THE BAG

- 40% **VIKTORKA**
Slender creeping red fescue
- 20% **BARLINEUS**
Chewings red fescue
- 20% **RAMONA**
Chewings red fescue
- 10% **BARKING**
Browntop bentgrass
- 10% **CHARLES**
Browntop bentgrass

- Sowing rate:** 20-30g per m²
- Overseeding rate:** 10-20g per m²
- Sowing depth:** Rootzone contact
- Mowing height:** Down to 4mm
- Pack size:** 20kg

CULTIVAR	Shoot Density	Visual Merit	Mean
CHARLES	7.6	7.6	7.6
Arrowtown	7.0	7.2	7.1
Cleek (LA)	6.9	7.1	7.0
Manor	6.9	7.0	6.9
BARKING	6.5	7.0	6.7

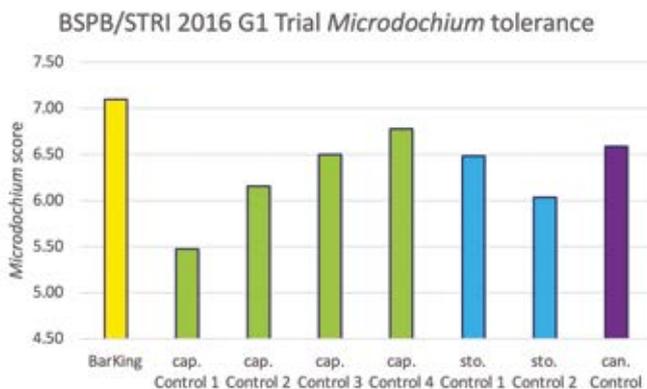


Figure 2 2016 G1 BSPB trial data. *Microdochium* tolerance of *BarKing* (ranked #1 in trial), compared to Control varieties of browntop (cap.), creeping (sto.) and velvet (can.) bentgrasses.

Figure 1 Top scoring/ranking browntop bentgrass cultivars in BSPB Turfgrass Seed 2020 Table G1.



All Bent

Golf greens, bowling greens

Usage

Overseeding golf and bowling greens

Key points

- Charles #1 by 0.5!
- BarKing *Microdochium* (*Fusarium*) tolerance

Species Formulation

100% browntop bentgrass

ALL BENT is a 100% browntop bentgrass blend designed for overseeding and species exchange in golf and bowling greens. It is of particular interest to golf courses focussed on improving *Microdochium* (*Fusarium*) tolerance of greens.

The blend contains two outstanding cultivars: *Charles* and *BarKing*.

Charles is a new NZ-bred variety, named after Bob Charles, the first left-handed golfer to win a major. Like Bob, it breaks new ground, being ranked #1 by a clear half-point in Turfgrass Seed 2020 Table G1 (see Figure 1)! Its scores for visual merit and shoot density promise to have a major impact as part of a species exchange programme, improving golf greens and out-competing the ubiquitous *Poa annua*.

BarKing is a European-bred variety with exceptional tolerance to *Microdochium* Patch disease (*Fusarium*). In the latest concluded independent BSPB/STRI bentgrass trial, it ranked #1 for *Microdochium* tolerance out of 39 cultivars tested (see Figure 2).

IN THE BAG

60%	BARKING Browntop bentgrass
40%	CHARLES Browntop bentgrass

Sowing rate:	8-10g per m ²
Overseeding rate:	4-6g per m ²
Sowing depth:	Rootzone contact
Mowing height:	Down to 3mm
Pack size:	20kg

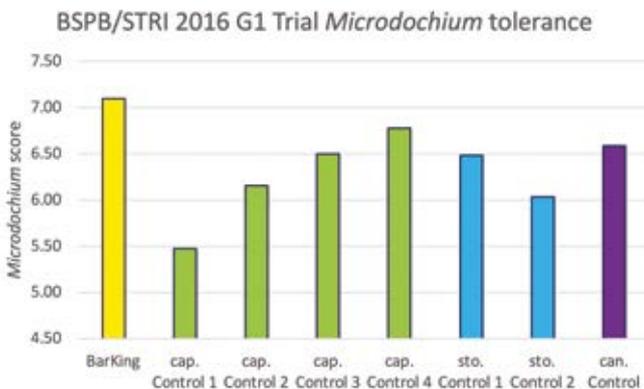


Figure 2 2016 G1 BSPB trial data. *Microdochium* tolerance of *BarKing* (ranked #1 in trial), compared to Control varieties of browntop (cap.), creeping (sto.) and velvet (can.) bentgrasses.

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Arrowtown	7.0	7.2	7.1
Cleek (LA)	6.9	7.1	7.0
Manor	6.9	7.0	6.9
BARKING	6.5	7.0	6.7

Figure 1 Top scoring/ranking browntop bentgrass cultivars in BSPB Turfgrass Seed 2020 Table G1.



Duo Bent Golf greens

Usage

Overseeding golf and bowling greens

Key points

- Charles #1 by 0.5!
- L-93XD next-generation creeping bent
- Independently UK- trialled concept of species combination (DUO)

Species Formulation

50% browntop bentgrass
50% creeping bentgrass

DUO BENT is a 100% bentgrass blend designed for overseeding and species exchange in golf and bowling greens. It is of particular interest to golf courses focussed on outcompeting *Poa annua* at low <3.5mm heights of cut on greens.

Charles is a new NZ-bred variety of *capillaris* browntop, named after Bob Charles, the first left-handed golfer to win a major. Like Bob, it breaks new ground, being ranked #1 in Turfgrass Seed 2020 Table G1 - a clear half-point higher than other browntop or creeping bent cultivars (see Figure 1)! Its scores for visual merit and shoot density promise to have a major impact as part of a species exchange programme, improving golf greens and out-competing the ubiquitous *Poa annua*.

L-93XD is part of the latest generation of *stolonifera* creeping bentgrass from USA breeding programmes. In the 2018 NTEP trials, it was ranked very highly by Mean Quality, achieving "top-25%" status in almost two-thirds of locations. This compares very favourably with other cultivars present in the UK market (*777*; *Pure Select* and *Barracuda (Riptide)*).

Barenbrug recently published results of an extensive four-year trial assessed independently by the STRI, which highlighted the potential benefits of combining creeping and browntop cultivars to outcompete *Poa annua*. A copy of this booklet can be found via www.barenbrug.co.uk.

IN THE BAG

50% **CHARLES**
Bowntop bentgrass

50% **L-93XD**
Creeping bentgrass

Sowing rate: 8-10g per m²
Overseeding rate: 4-6g per m²
Sowing depth: rootzone contact
Mowing height: Down to 2mm
Pack size: 10kg

CULTIVAR	Shoot Density	Visual Merit	Mean
CHARLES	7.6	7.6	7.6
<i>Arrowtown</i>	7.0	7.2	7.1
<i>Cleek (LA)</i>	6.9	7.1	7.0
<i>Manor</i>	6.9	7.0	6.9
BARKING	6.5	7.0	6.7

Figure 1 Top scoring/ranking browntop bentgrass cultivars in BSPB Turfgrass Seed 2020 Table G1.



SGT Fairway

Golf tees and fairways, under sustainable management

Usage

Overseeding, divotting and/or construction of medium-fine turf with moderate wear and low maintenance requirements

Key points

- *Barprrium* nitrogen-use efficiency
- Drought tolerance of *Barjessica* and *Hardtop*
- High Red Thread disease tolerance
- High turf colour retention under low input maintenance

Species Formulation

30% perennial ryegrass
 30% strong creeping red fescue
 20% slender creeping red fescue
 20% hard fescue

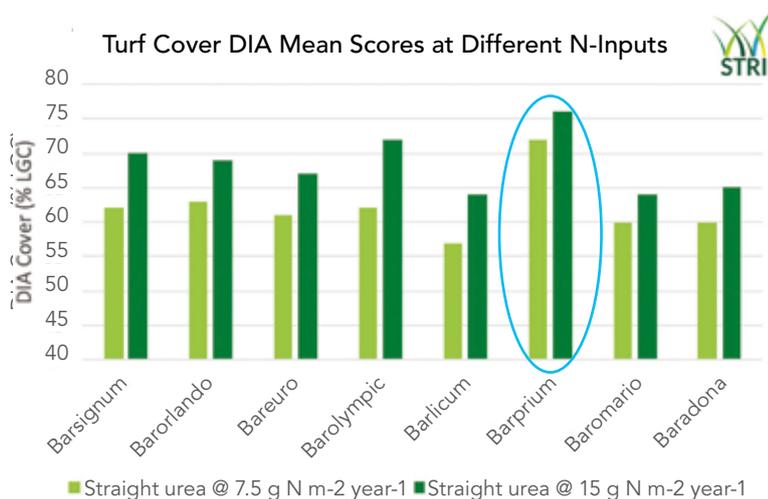
SGT FAIRWAY is a new mixture of four grass species and sub-species, designed for the overseeding, divotting or construction of a balanced blend of medium-fine turf across a range of soil types.

SGT stands for "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.

The "driver" of the mixture is 30% *Barprrium* perennial ryegrass. *Barprrium* is an outstanding fine-leaved ryegrass with proven capacity for nitrogen-use efficiency. Put simply, it requires far less nitrogen (up to 50% less) to deliver equivalent turf performance. Figure 1 shows the results of an independent 18-month trial with STRI.

IN THE BAG

- 30% **BARPRIUM**
Perennial ryegrass
- 30% **BARJESSICA**
Strong creeping red fescue
- 20% **VIKTORKA**
Slender creeping red fescue
- 20% **HARDTOP**
Hard fescue



- Sowing rate:** 25-35g per m²
- Overseeding rate:** 10-25g per m²
- Sowing depth:** 5-10mm below thatch
- Mowing height:** Down to 10mm
- Pack size:** 20kg

Figure 1 STRI N-Efficiency Trial data. *Barprrium* gives equivalent mean turf cover to all other cultivars over 18-month trial at 50% less nitrogen input.



STRI researchers concluded in their trial report: “The best performing cultivar in this trial was *Barprrium*, with good turf quality and coverage observed at all N levels and N types. Even at very low levels of N, *Barprrium* still showed good quality and coverage. Conversely at high levels of N, *Barprrium* did not promote excessive vertical growth.”

“When *Barprrium* fertilised at 7.5gN/m²/year was compared to all other cultivars at 15gN/m²/year, the turf quality and coverage of *Barprrium* was greater than all other cultivars, despite having received 50% less N.”

Barprrium is highly ranked in the BSPB/STRI Turfgrass Seed 2020 booklet with a score of 7.9 on Table L1 and exhibits strong summer colour and very high Red Thread tolerance – both useful characteristics for low-input golf fairways.

The fine fescue cultivars in the mix are chosen for their sustainable performance characteristics also. In trials at Landlab in Italy, *Hardtop* hard fescue and *Barjessica* strong creeping red fescue perform particularly well in periods of heat and drought. Figure 2 shows data from the harsh summer of 2018, in comparison with other fine fescue cultivars. The turf quality of hard fescue stood alone during the most intense heat and the recovery capacity of *Barjessica* was exceptional.



Performance of fine fescue varieties over 9 month period at Landlab Research, Vicenza, Italy (hot and dry summer 2018)

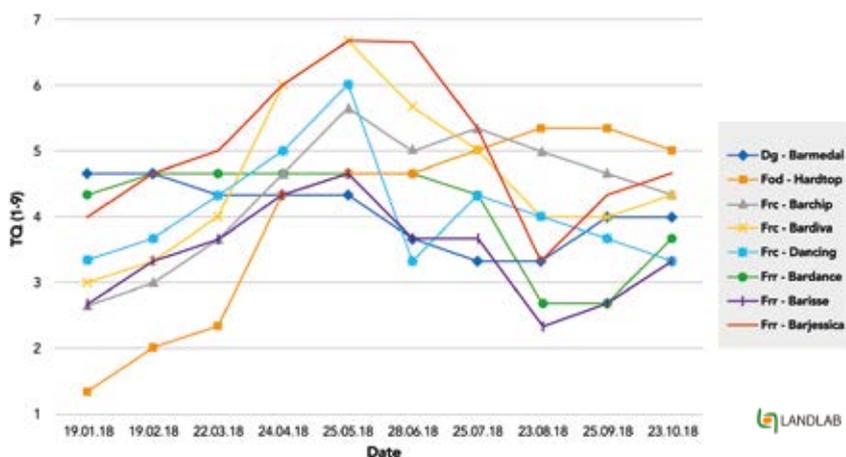


Figure 2 Graph to show fluctuations in fine fescue performance (NTEP Turf Quality (TQ) assessments) over 9-month period during (hot and dry) 2018 in Landlab, Italy. Note the superior scores of *Hardtop* hard fescue and *Barjessica* strong creeping red fescue.

In addition to drought tolerance, the fine fescue components all exhibit superior colour and excellent disease tolerance. *Viktorka* and *Barjessica* are both ranked #3 in their respective lists for Red Thread and *Hardtop* is ranked #1 for Winter Colour.

For sustainable medium-fine turf, *SGT Fairway* represents a thoroughly researched product, offering benefits in terms of low-nitrogen input performance, drought and disease tolerance, and superior grass colour.



Platinum Fine Turf

Golf greens, tees, fairways, bowling greens

Usage

Overseeding and/or **construction** of fine turf with moderate wear; golf and bowling greens; tees and fairways

Key points

- *Barolympic* #1 Table G4 8.7
- Excellent slender and Chewings varieties

Species Formulation

30% perennial ryegrass
40% slender creeping red fescue
30% Chewings red fescue

PLATINUM FINE TURF is a mixture of perennial ryegrass and red fescue, designed for the construction or overseeding of fine turf under moderate wear pressure.

The "driver" of the mixture is 30% Barolympic perennial ryegrass. Barolympic is the stand-out cultivar ryegrass for summer sports use. It is ranked with a score of 8.7 in Table G4 of BSPB TGS 2020, the highest Mean score in the entire publication, and more than a full point clear of its nearest rival in G4! See Table 1.

In addition to its outstanding Mean score, Barolympic is ranked #1 for pale colour and #2 for fineness of leaf in Table G4. This makes it exceptionally easy to blend in with other grass species, such as red fescue or annual meadowgrass.

The red fescue cultivars Viktorka and Musica are excellent performers, both top-10 rated in the 2020 booklet.

CULTIVAR	Shoot Density	Visual Merit	Mean
<i>BAROLYMPIC</i>	8.6	8.8	8.7
<i>Clementine</i>	7.7	7.6	7.6
<i>Cabrio</i>	7.3	7.5	7.4
<i>Barsignum</i>	7.2	7.2	7.2
<i>Monroe</i>	6.8	7.2	7.0
<i>Dickens 1</i>	6.9	7.0	7.0
<i>Estelle</i>	6.5	6.9	6.7

Table 1 Top scoring /ranking perennial ryegrass cultivars in BSPB Turfgrass Seed 2020 Table G4.

IN THE BAG

30%	BAROLYMPIC Perennial ryegrass
40%	VIKTORKA Slender creeping red fescue
30%	MUSICA Chewings red fescue

Sowing rate:	25-35g per m ²
Overseeding rate:	15-25g per m ²
Sowing depth:	8-12mm below thatch
Mowing height:	Down to 4mm
Pack size:	20kg



Medal

Golf greens, tees, fairways, bowling greens

Usage

Overseeding, divotting and/or construction of medium-fine and fine turf with high wear; golf and bowling greens; tees and fairways

Key points

- *Barolympic* #1 Table G4 8.7
- *Eventus* #3 FoL L1
- Excellent red fescues *Viktorka* and *Barrisse*

Species Formulation

60% perennial ryegrass
20% slender creeping red fescue
20% strong creeping red fescue

MEDAL is a mixture of perennial ryegrass and red fescue, designed for the construction or overseeding of medium-fine and fine turf under high wear pressure.

The main components of the mixture are the ryegrasses: *Barolympic* and *Eventus*. *Barolympic* is the stand-out cultivar ryegrass for summer sports use. It is ranked with a score of 8.7 in Table G4 of BSPB TGS 2020, the highest Mean score in the entire publication, and more than a full point clear of its nearest rival in G4! See Table 1.

Eventus is ranked #3 for Fineness of Leaf in TGS Table L1 and shows very fast recovery and growth rates (ranked #1 in the top 40, Table L1) for a summer sports ryegrass. This enables quick germination, establishment and mid-season repair in areas of high traffic.

Viktorka and *Barrisse* are both excellent performers, highly ranked in their respective tables in TGS 2020. They both exhibit exceptionally high shoot density and red thread tolerance for their sub-species of red fescue.

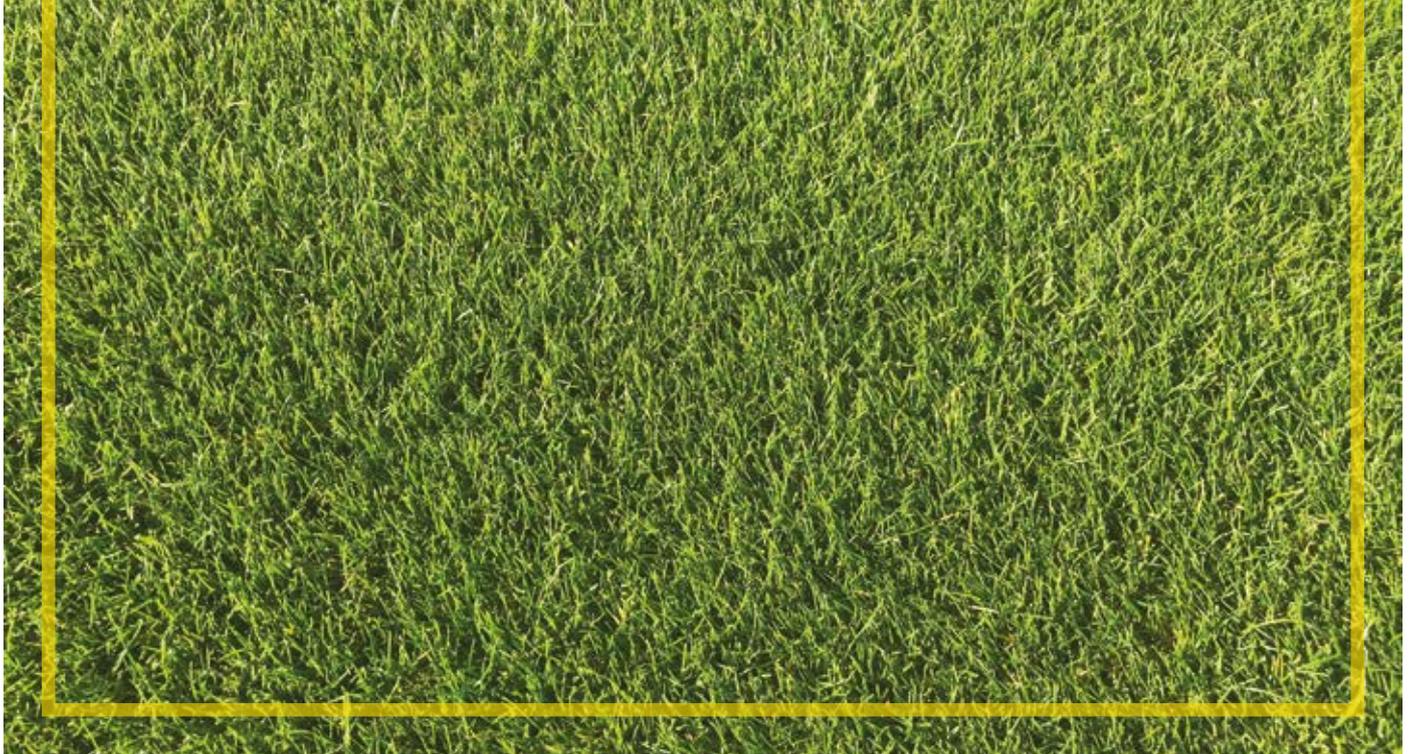
IN THE BAG

40%	BAROLYMPIC Perennial ryegrass
20%	EVENTUS Perennial ryegrass
20%	VIKTORKA Slender creeping red fescue
20%	BARRISSE Strong creeping red fescue

Sowing rate:	25-35g per m ²
Overseeding rate:	15-25g per m ²
Sowing depth:	8-12mm below thatch
Mowing height:	Down to 4mm
Pack size:	20kg

CULTIVAR	Shoot Density	Visual Merit	Mean
<i>BAROLYMPIC</i>	8.6	8.8	8.7
<i>Clementine</i>	7.7	7.6	7.6
<i>Cabrio</i>	7.3	7.5	7.4
<i>Barsignum</i>	7.2	7.2	7.2
<i>Monroe</i>	6.8	7.2	7.0
<i>Dickens 1</i>	6.9	7.0	7.0
<i>Estelle</i>	6.5	6.9	6.7

Table 1 Top scoring /ranking perennial ryegrass cultivars in BSPB Turfgrass Seed 2020 Table G4.



Ultrafine

Golf greens, surrounds, walk-offs, bowling greens

Usage

Overseeding and/or **construction** of fine turf with intense wear; greens, surrounds, tennis courts

Key points

- *Barolympic* #1 Table G4 8.7
- *Barsignum* #4 Table G4
- *Eventus* #3 FoL L1; excellent recovery and fast growth

Species Formulation

100% perennial ryegrass

ULTRAFINE is a blend of perennial ryegrasses for use in areas of fine turf that demand tolerance to close-mowing and high wear with exceptional fineness of leaf. Golf green surrounds, walk-offs and tennis courts are perfect examples of where this grass seed mix comes into its own.

Barolympic is the stand-out cultivar ryegrass for summer sports use. It is ranked with a score of 8.7 in Table G4 of BSPB TGS 2020, the highest Mean score in the entire publication, and more than a full point clear of its nearest rival in G4! See Table 1.

In addition to its outstanding Mean scores, *Barolympic* is ranked in the top-2 for pale colour and fineness of leaf in Tables L1 and G4. This makes it exceptionally easy to blend in with other grass species, such as red fescue or annual meadowgrass.

Barsignum is another outstanding ryegrass from Barenbrug's European Turf breeding programme, ranked #5 in Tables L1 and #4 in G4.

Finally, *Eventus* is ranked #3 for Fineness of Leaf in TGS Table L1 and shows very fast recovery and growth rates (ranked #1 in the top 40, Table L1) for a summer sports ryegrass. This enables quick germination, establishment and mid-season repair in areas of high traffic.

IN THE BAG

50%	BAROLYMPIC Perennial ryegrass
30%	BARSIGNUM Perennial ryegrass
20%	EVENTUS Perennial ryegrass

Sowing rate:	25-50g per m ²
Overseeding rate:	20-30g per m ²
Sowing depth:	10-15mm below thatch
Mowing height:	Down to 4mm
Pack size:	20kg

CULTIVAR	Shoot Density	Visual Merit	Mean
<i>BAROLYMPIC</i>	8.6	8.8	8.7
<i>Clementine</i>	7.7	7.6	7.6
<i>Cabrio</i>	7.3	7.5	7.4
<i>BARSIGNUM</i>	7.2	7.2	7.2
<i>Monroe</i>	6.8	7.2	7.0
<i>Dickens 1</i>	6.9	7.0	7.0
<i>Estelle</i>	6.5	6.9	6.7

Table 1 Top scoring /ranking perennial ryegrass cultivars in BSPB Turfgrass Seed 2020 Table G4.



Extreme Tees, fairways

Usage

Overseeding, divoting and/or **construction** of medium-fine turf with intense wear; tees, fairways, cricket squares and outfields

Key points

- *Barolympic* #1 Table G4 8.7
- Fineness of leaf *Barolympic* #2; *Eventus* #3; *Bargold* #7
- Wear tolerance *Barcristalla*

Species Formulation

100% perennial ryegrass

EXTREME is a blend of perennial ryegrasses for use in areas of medium-fine turf that demand tolerance to close-mowing and high wear with exceptional fineness of leaf. Cricket squares and outfields, golf tees & fairways, tennis courts and high-traffic fine lawns are perfect examples of where this grass seed mix is at home.

All four cultivars bring advantages and different characteristics to the mix.

Barolympic (40%) is **the** stand-out cultivar ryegrass for summer sports use. It is ranked with a score of 8.7 in Table G4 of BSPB TGS 2019, the highest Mean score in the entire publication, and more than a full point clear of its nearest rival in G4!

Eventus is ranked #3 for Fineness of Leaf in TGS Table L1 and shows very fast recovery and growth rates (ranked #1 in the top 40, Table L1) for a summer sports ryegrass. This enables quick germination, establishment and mid-season repair in areas of high traffic.

Barcristalla is a medium-fine ryegrass with excellent wear tolerance and superior colour. It is ranked #11 for wear tolerance (Table S1) and #1 of any grass in the top-80 for year-round genetic colour.

Old favourite *Bargold* remains an excellent cultivar, still ranked well inside the top-10 for leaf fineness in Table L1.

IN THE BAG

40%	BAROLYMPIC Perennial ryegrass
30%	BARCRISTALLA Perennial ryegrass
20%	EVENTUS Perennial ryegrass
10%	BARGOLD Perennial ryegrass

Sowing rate:	25-50g per m ²
Overseeding rate:	20-30g per m ²
Sowing depth:	10-15mm below thatch
Mowing height:	
Golf	Down to 5mm
Cricket	Down to 2mm
Pack size:	20kg



RPR Golf

Tees, fairways, walkways, roughs

Usage

Overseeding, divotting and/or **construction** of golf turf with intense wear and HoC >12mm e.g. walkways.

Key points

- *Barlibro* RPR delivers fast establishment and unparalleled capacity for recovery from wear due to stoloniferous growth habit.
- *Europitch* #3 S1; top-20 in L1
- *Barcristalla* #11 in S1

Species Formulation

100% perennial ryegrass

RPR GOLF is a blend of perennial ryegrasses for use in areas of intensive golf traffic, delivering turf with exceptional wear tolerance, fast recovery and good aesthetics.

Barlibro is a Regenerating Perennial Ryegrass (RPR) that produces stolons as it establishes and grows. Figure 1 shows a *Barlibro* plant grown for a single seed at 15 months old. The stolons and new secondary branches of growth can be seen clearly. The lateral growth habit results in fast establishment between seeding lines and unparalleled capacity for recovery after, and during wear.

Europitch is a medium-fine ryegrass with outstanding tolerance to wear. It is ranked #3 in Table S1, BSPB/STRI Turfgrass Seed 2020.

Barcristalla is another outstanding ryegrass for wear tolerance, ranked #11 in Table S1. Its high disease tolerance and darker genetic colour are additional traits of interest.

IN THE BAG

40% **BARLIBRO**
Perennial ryegrass

30% **EUROPITCH**
Perennial ryegrass

30% **BARCRISTALLA**
Perennial ryegrass

Sowing rate: 25-50g per m²

Overseeding rate: 20-30g per m²

Sowing depth: 10-15mm
below thatch

Mowing height: Down to 12mm

Pack size: 20kg



Figure 1 Photographs of a 15-month old *Barlibro* plant grown from a single seed.

Sowing and Seeding Rates



Sowing rates - Kilograms (kg) required					Area coverage	
Standard Areas		5g/m ²	20g/m ²	35g/m ²	Seed Rates (per 20kg bag)	Coverage
Football	4,050m ²	-	80	150	5g/m ²	4,000m ²
Football	10,800m ²	-	225	375	10g/m ²	2,000m ²
Rugby	6,900m ²	-	150	225	15g/m ²	1,333m ²
Tennis	262m ²	-	5.5	10	20g/m ²	1,000m ²
Cricket	520m ²	-	10.5	18	25g/m ²	800m ²
Bowls	1,600m ²	8	32	56	30g/m ²	666m ²
Golf	500m ²	2.5	10	17.5	35g/m ²	571m ²

Guide to Species Characteristics

Species	Soil Conditions				Maintenance							
	Seeds per gram (g)	Optimal pH range	Humidity	Salt tolerance	Maintenance level	Fast establishment	Rhizomes / Stolens / Tufted	Shade tolerance	Nitrogen requirement	Water requirement	Thatch build-up	
<i>Agrostis capillaris</i> Browntop bent	14,000	5.6 -7.0	medium	moderate	medium	poor	R	good	Medium	Medium	High	
<i>Agrostis stolonifera</i> Creeping bent	16,000	5.6 -7.0	high	good	intensive	poor	S	good	Very high	High	Very high	
<i>Festuca rubra rubra</i> Strong creeping red fescue	1,000	5.5 -6.8	low	weak	low	average	R	very good	Low	Low	Medium	
<i>Festuca rubra commutata</i> Chewings red fescue	1,000	5.5 -6.8	low	weak	low	average	T	good	Low	Low/medium	High	
<i>Festuca rubra litoralis</i> Slender creeping red fescue	1,000	5.5 -6.8	low	good	low	average	R	good	Low	Low	High	
<i>Festuca ovina</i> Sheeps fescue	2,000	4.5 -5.8	very low	weak	very low	average	T	average	Very low	Low/very low	Low	
<i>Festuca trachyphylla</i> Hard fescue	2,000	4.5 -7.5	very low	good	very low	average	T	very good	Very low	Low/very low	Low	
Rhizomatous Tall Fescue (RTF)	400	5.5 -7.0	high	good	medium	average	R	very good	Medium	Very low	Low	
<i>Festuca arundinacea</i> Tall fescue	450	5.5 -7.0	high	good	medium	average	T	very good	Medium	Very low	Low	
<i>Lolium perenne</i> Perennial ryegrass	700	5.8 -7.4	medium	medium	medium	good	T	average	High	Medium	Low	
<i>Poa pratensis</i> Smooth-stalked meadowgrass	3,300	5.8 -7.5	medium	weak	medium	poor	R	poor	High	Medium	Medium	
<i>Poa trivialis</i> Rough-stalked meadowgrass	5,500	5.8 -7.2	high	weak	medium	average	S	average	High	High	Medium	
<i>Poa annua</i> Annual meadowgrass	6,500	5.5 -7.5	high	weak	intensive	average	T	good	High	High	Medium	
<i>Koeleria macrantha</i> Crested hairgrass	3,000	5.5 -8.0	low	good	very low	average	R	good	Very low	Low/very low	Very low	
<i>Deschampsia caespitosa</i> Tufted hairgrass	3,800	5.5 -6.5	high	medium	low	good	T	excellent	Medium	High	High	

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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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