HIGH PURITY SUSTAINABLE SPORTS SEEDS N

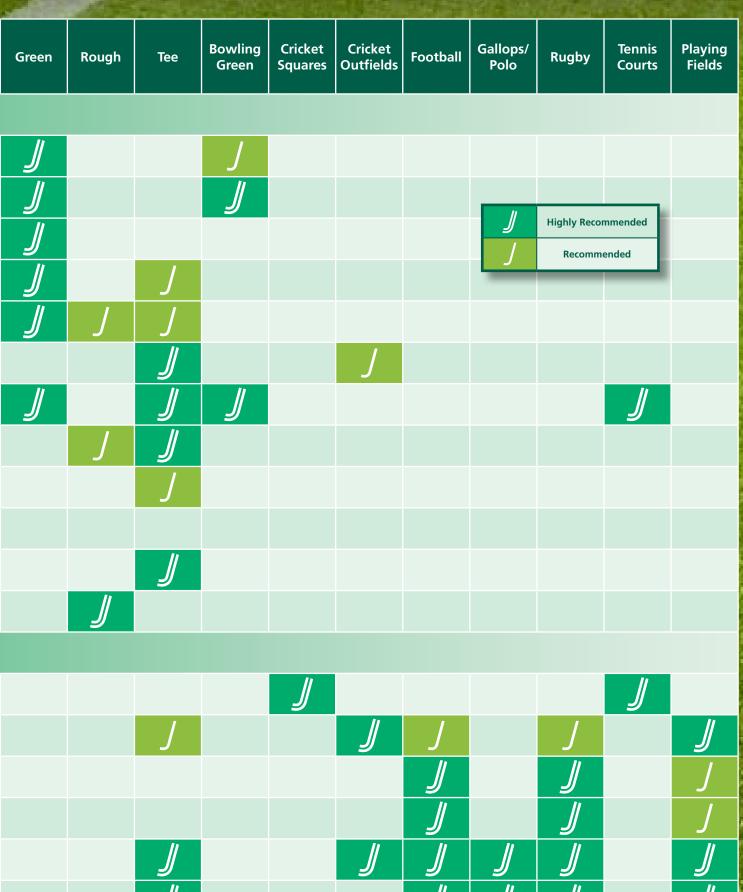


CREATING THE WØRLDS GREATEST STAGES

## HIGH PERFORMANCE SUST

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	Blend	Page No.	Driving Range	Fairway		
FINE TURF MIXTURES						
(Recev	30% Chewings Fescue, 50% Slender Creeping Red Fescue, 20% Browntop Bent	12				
	60% Perennial Ryegrass, 20% Slender Creeping Red Fescue, 20% Browntop Bent	13				
	100% Browntop Bent	14				
Ø	50% Slender Creeping Red Fescue, 50% Chewings Fescue	15		J		
	100% Slender Creeping Red Fescue	16		J		
6	40% Tetraploid Perennial Rye Grass, 20% Perennial Ryegrass, 35% Strong Creeping Red Fescue, 5% Rough Stalked Meadow Grass	17				
	100% Perennial Ryegrass	18		J		
	20% Chewings Fescue, 25% Slender Creeping Red, 50% Strong Creeping Red Fescue, 5% Hard Fescue	19		J		
(Carlow)	20% Chewings Fescue, 35% Slender Creeping Red Fescue, 25% Strong Creeping Red Fescue, 10% Sheeps Fescue, 10% Hard Fescue	20		J		
	40% Hard Fescue, 15% Sheeps Fescue, 20% Strong Creeping Red Fescue, 15% Slender Creeping Red Fescue, 10% Chewings Fescue	21		J		
	20% Perennial Ryegrass, 20% Tetraploid Perennial Ryegrass, 10% Chewings Fescue, 10% Slender Creeping Red Fescue, 40% Strong Creeping Red Fescue	22	J	J		
	10% Slender Creeping Red Fescue, 50% Strong Creeping Red Fescue, 25% Hard Fescue, 10% Crested Dogstail, 5% Browntop Bent	23				
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&	100% Perennial Ryegrass	25				
	50% Perennial Ryegrass, 50% Strong Creeping Red Fescue	26	J	J		
	100% Perennial Ryegrass	27/28				
<u>e</u>	25% Tetraploid Perennial Ryegrass, 75% Perennial Ryegrass	29				
	50% Tetraploid Perennial Ryegrass, 50% Perennial Ryegrass	30	J			
	100% Tetraploid Perennial Ryegrass	31	J			
	50% Annual Ryegrass, 25% Tetraploid Perennial Ryegrass, 20% Perennial Ryegrass, 5% Rough Stalked Meadow Grass	32				
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## AINABLE SEED SULUTIONS



### High performance sustainable seed solutions

### A Passion for Excellence

Consistently improving and setting new standards is only possible when you care passionately about what you do. At Johnsons, our passion is quality sports turf and our objective is to help professionals deliver perfect sports surfaces all year round.

### Sustainable Seed Solutions

Sustainable management of fine turf and sports turf surfaces doesn't have to mean a compromise in visual merit or performance. DLF are utilising research conducted across our global breeding centres to create mixtures with enhanced sustainability, incorporating new cultivars that improve play guality and are kinder to budgets and the environment, thanks to reduced reliance on water and chemical inputs.



### Johnsons, a history of success

Established in 1820, Johnsons Sports Seed mixtures have an unequalled reputation for technical excellence. Excellence that has consistently produced quality sports turf, reflecting the standards set by the people who use them – Groundcare professionals. We are major supporters to the industry we serve, creating strong relationships with the sector's leading associations, turf managers and agronomists which means we can bring you the strongest line up of sports turf seed mixtures year on year!

### Quality research and technical support

Johnsons Sports Seed mixtures are produced by the world's largest grass breeder and producer, DLF. Significant investment in global research facilities and close links with leading independent organisations ensure that all products are independently tested for proven results. All breeding and mixture trials are conducted in the UK and Ireland with customers always welcome to visit these sites. This means Johnsons Sports Seed mixtures remain at the forefront of technical development in amenity grass, with our experienced technical managers on hand to deliver sound advice on mixture and cultivar selection, field support and maintenance.

### Seed purity you can rely on

'DLF Select' is an initiative that brings together a number of DLF processes throughout our supply chain to increase the purity of our seed. The pinnacle is a grade that ensures minimal weeds, poa and coarse grasses to bring a consistent supply of high purity seed for demanding sports turf managers. 'DLF Select' grade seed is available on a number of high-performance Johnsons Sports Seed mixtures.

## SELECT

**Discover the benefits of Tetraploid Ryegrass** 

As world leaders in tetraploid ryegrass technology our new 4turf® Tetraploid Ryegrass cultivars are proving incredibly popular! They offer rapid establishment, incredible disease

resistance and root strength, together with improved shoot density and wear tolerance. Recent trials have also demonstrated the strength and resistance of 4turf® varieties against Brown Patch and Grey Leaf Spot. For more information on the study, see page 7.



### **Turf Grass Seed Treatment**

DLF Seeds lead the world in seed coat technologies, helping turf professionals to deliver perfect results every time, while saving both time and money.

All Johnsons Seed mixtures are GroMax coated as standard to stimulate root growth, enhance water and nutrient uptake and maximise plant development. In addition, our most popular mixtures are now available pre-coated with ProNitro - a targeted combination of controlled release nitrogen, together with hydroactive water management technology, leads to stronger germination and improved nutrient utilisation during the early stages of plant growth.

		QUALIT
QUAI CATEG COI	ORY	
	<b>S1</b>	10x analysis 0 other seeds
DLF SELECT	<b>S2</b>	10x analysis 0 <i>Poa trivialis</i> Max. TR* <i>Poa annua</i> 0 coarse grasses
	00	Standard purity analysis 0 other seeds
	00X	Standard purity analysis Max. 0.5% <i>Vulpia sp.</i> 0 other seeds
	A1	Standard purity analysis Max. 0.5% <i>Vulpia sp.</i> Max. 0.1% other seeds Max TR* <i>Poa annua</i> 0 coarse grasses
	A2	Standard purity analysis Max. 0.5% Vulpia sp. Max. 0.2% other seeds Max. 0.1% Poa annua + Poa trivialis 0 coarse grasses
	EU	

\*The exact number of seeds accepted must be agreed upon between customer and DLF

### Planning

Sowing the field to harvesting takes two years, so we start planning varieties and quantities two years in advance to ensure availability of the pure seed.



DLF Select Seed is stored separately from other seed at the farm and is clearly marked to make it easily identifiable.

### **Y GRADES**

### **SPECIFICATION**

Sample 100% clear of coarse grasses after multiple 10x searches.

Sample 100% clean after the standard 2,500 search.

A significant improvement in purity - free of coarse grasses and reduced levels of Poa species.

According to EU rules and standards.

DLF SELECT

## Seed purity you can rely on.

DLF is a world leader in the supply of seed to professionals, where quality and purity are essential. Our seed has been chosen for many world-class football tournaments, for international golf championships and by many leading turf producers.

In a world where environmental factors and changes in pesticide legislation mean it is becoming increasingly difficult to achieve high purity standards, DLF have developed a new programme within their production chain to safeguard quality and ensure they remain the preferred, reliable, supplier to the top turf managers worldwide.

While EU minimum standard seed can contain up to 2% weed, DLF field consultants, working closely together with specially selected growers, have identified the cleanest fields to grow and harvest only the purest crops to produce '00' and 'S' purity rated seed mixtures.



### Selected growers

We choose our most experienced growers who devote their cleanest, weed-free fields to grow the purest crops.

### Field management

Constant, careful monitoring and flawless weed control takes time and naturally, we compensate our growers for the extra time and effort they put in.

### DLF inspection

Our DLF field consultants join the growers for regular inspection and advice.

### Harvest

Inspections will identify any weeds or unwanted grasses which will be isolated, ensuring the harvest collects only the cleanest seed.

## Specialised cleaning lines

Specialised cleaning lines ensure optimal cleaning and removal of any weed seeds or other grasses, monitored by trained cleaning operatives.



### 20000

### Cameras

Cameras by the cleaning lines analyse seed samples. If contaminants are found, machines are adjusted to keep only the clean seed in the box.

In the box.

### Analysis

The cleaned seed lot is analysed and labelled with the correct quality grade.

### Packaging

Batches of super-clean DLF Select seeds are bagged, labelled and stored at our warehouse, ready for shipment to our customers.





### David Rhodes, Technical Manager, DLF UK explains.

4turf<sup>®</sup> is a new turf-type tetraploid perennial ryegrass. Farmers have long understood the benefits of tetraploid perennial ryegrasses including rapid establishment, growth in cool temperatures and better environmental stress tolerance. Our breeders thus set out to pass these characteristics on to the amenity sector.

4turf<sup>®</sup> amenity ryegrasses are as far removed from agriculture as their diploid relatives, with the developments in

tetraploid technology delivering a unique range of fine-leaved, highdensity, turf-type tetraploid varieties.

Traditionally, diploid perennial ryegrass cultivars have been used in sports turf mixtures. In its original, diploid state, perennial ryegrass has two sets of chromosomes.

By using colchicine, which is derived from the autumn crocus, the DLF R&D team have developed tetraploid varieties which contain four sets of chromosomes - hence 4turf<sup>®</sup>.

The first-generation plants produce a mixture of diploid and tetraploid shoots within the same plant. To then obtain plants that are 100% tetraploid, we have to go through a series of selections of individual shoots.

In addition to the benefits listed, 4Turf<sup>®</sup> can contribute to a surface with reduced fertiliser and chemical requirements - therefore lowering input and labour costs.

Achieving the most professional results for your surface begins with utilising your knowledge and skill as a Turf Manager from the very start of the process and getting the best grass seed in the ground.

With 4turf®, performance is assured from the very beginning.

### **Benefits of 4turf®**

### Stronger Establishment

The larger 4turf<sup>®</sup> seeds contain more energy reserves for stronger, faster establishment and healthy plant development. 4turf<sup>®</sup> demonstrates better germination at temperatures as low as 4°C when compared to diploid, giving advantage for cool weather overseeding.

### • Drought Tolerance

The larger root system and natural water reserves makes 4turf<sup>®</sup> more drought tolerant and quicker to recover when rain returns. Trials conducted in the Loire Valley in France confirmed that 4turf<sup>®</sup> cultivars are significantly more drought-tolerant than diploids.

### Excellent Colour

4turf<sup>®</sup> delivers a deeper, glossier dark green colour, even through the winter period, that develops quicker and lasts for longer than traditional varieties of perennial ryegrass.

### Disease Resistance and Winter Performance

In European trials, 4turf<sup>®</sup> shows the highest disease resistance during the autumn and winter months and increased resistance to weed invasion, thanks to the improved energy reserves and stronger rooting system. 4turf<sup>®</sup> varieties have also demonstrated great strength and resistance to Brown Patch and Grey Leaf Spot in recent DLF trials.





# NMENTAL SOLUTION

4turf

4turf

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"Here at Twickenham we're always striving for improvement, looking for the next technology or product that can better equip us to cope with the challenges our surface has to withstand. For us, we don't need the fineness of leaf, we're not looking for optimal ball roll, but what we do need is good wear tolerance, strong visual merit and fast, effective recovery.



Having used a 100% perennial ryegrass mixture for a number of years, we spoke with our Regional DLF

Technical Manager Craig Spooner about a bespoke mixture incorporating tetraploids which, with its deeper rooting, broader leaf and quicker recovery, would give us a balance of all the qualities we require.

DLF have been extremely accommodating in working with us, and we seeded our new 70% diploid/30% tetraploid perennial ryegrass mixture on the stadium pitch at the end of June. We're exceptionally pleased with the results. The grow in was good, the establishment was fast and the performance to date has been even better than we expected. The 4turf has demonstrated its robust nature and is giving us excellent recovery to cope with lots of play in short periods of time.

In terms of disease, we try not to overcrowd the plant, instead employing cultural practices such as verti-cutting and raking to limit the risk. The tetraploids have become risk mitigation for us, not only providing greater tolerance initially to a broad range of turf diseases but delivering additional strength to be able to cope with heavier mechanical practices when and where required."

### Jim Buttar

MARLINGILASS

Grounds and Technical Operations Lead Twickenham Stadium

Diploid

## SAFEGUARD YOUR TURF BY

With the ongoing reduction in curative chemistry, and new and increasing challenges with turf diseases, DLF are committed to utilising their global research network to develop sustainable turfgrass solutions. Bi-annually, turf managers are invited to complete DLF's 'Disease Watch Programme' which seeks to monitor and understand the changing disease landscape across Europe.

DLF use the data from the survey to create scientific independent screening programmes where our portfolio of grasses are evaluated for disease resistance. Based on this, we can create mixtures with the broadest resistance – designed to give turf managers increased performance and peace of mind. Specifically under the spotlight has been Brown Patch and, during 2023, Grey Leaf Spot.

A significant observation from both programmes was that there are many fungal strains of both Brown Patch and Grey Leaf Spot – the fungal strain determining the severity and impact of the disease attack. While the level of infection varied, there was a distinct consistency to the resistance shown by the individual turf cultivars, namely the outstanding tolerance demonstrated by some of DLF's diploid and 4turf tetraploid perennial ryegrass varieties.

# 4 turf®

### The benefits of 4turf®

- High, proven natural resistance to many turf diseases
- Lower use of fungicide saving time and money and improving environmental credentials
- Improved pitch quality with more playing hours
- Reduced requirement for maintenance operations such as overseeding

### BROWN PATCH RESISTANT

### **Brown Patch**

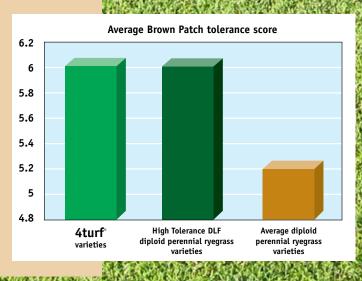
Brown Patch is a turfgrass foliar disease caused by *Rhizoctonia spp*. The fungus can

attack all cool-season turfgrasses, but is most devastating to perennial ryegrasses, bent grass, annual meadow grass and some fescue species. Attacks can be triggered by hot, humid conditions,

especially if the grass has been over-stimulated with nitrogen fertiliser. Symptoms are dependent on mowing height, but will traditionally consist of patches varying from tan to dark brown. In severe cases, total loss of grass cover can result.

DLF were able to determine with confidence that the 4turf<sup>®</sup> varieties are significantly more resistant to Brown Patch which correlates with the results seen in other disease trials when 4turf<sup>®</sup> species have performed strongly against a number of different fungal diseases.

They also identified specific DLF diploid perennial ryegrass varieties that demonstrated good resistance to Brown Patch.



## CHOICE - NOT BY CHANCE

### **Grey Leaf Spot**

Grey Leaf Spot has been discovered in different locations across southern and central Europe, known to cause significant damage to stadium pitches. In the UK, cases have primarily been reported during, or just after, the renovation phases. Caused by *Pyricularia oryzae* it is known to attack both

cool and warm season grasses, primarily perennial ryegrass and tall fescue where seedlings up to 5 weeks are especially susceptible. Symptoms begin as small, irregularly shaped, greyish-brown lesions which enlarge and/or elongate as the disease progresses. As the lesions enlarge, they may change colour and/or coalesce, leading to extensive blighting of the turfgrass and a thinning and weakened turf.

**GLS** RESISTANT

The trials for Grey Leaf Spot took place in three international locations, rating grass

varieties against a number of genetically different GLS fungal isolates, some of them gathered from venues across Europe. The results highlighted top performing diploid and tetraploid perennial ryegrass cultivars – particularly Fiesta 4 and the 4turf<sup>®</sup> variety Fabian, proven to have a degree of natural resistance to GLS.

With such a broad variety of fungal genotypes posing a significant threat to your turf, using mixtures with varieties proven to have high overall disease resistance, tested against a number of strains with different pathogenicity, is critical. This will help to retain a better quality pitch that can withstand the pressure of more playing hours with a reduced need for chemical inputs. Using mixtures from the Johnsons Sports Seed range, incorporating 4turf® and specific diploid varieties with proven increased disease resistance, provides a natural solution against Brown Patch, Grey Leaf Spot and other common turf grass diseases.

Don't leave your turf health to chance, look out for the Brown Patch and Grey Leaf Spot icons in this brochure.

## SALT TOLERANCE BACKED BY SCIENCE

Whether salinity is due to salt in the soil, the nearby sea or the irrigation water, the 4salt<sup>®</sup> solution offers better plant growth than standard grass seed mixtures. The 4salt<sup>®</sup> concept is a result of continuous testing and selection in our R&D facilities, to identify the most salt-tolerant varieties of slender creeping red fescue which are then incorporated into mixtures optimised for saline conditions.

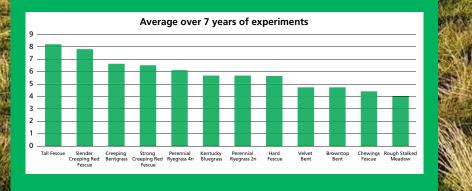
4salt<sup>®</sup> can be found in Johnsons J Links mixture, the obvious choice for coastal golf courses, roadsides and areas using recycled water with varying or unknown quality. Johnsons J Fescue, J Premier Fairway and J Sustain Fairway are also 4salt<sup>®</sup> approved.

> Left to right: Chewings Fescue, Strong Creeping Red Fescue and Slender Creeping Red Fescue

### The science behind 4salt®

The 4salt<sup>®</sup> concept is a result of continuous testing and selection in our R&D facilities.

By exposing our germplasm to rising levels of salt in the growth substrate, we can identify the differences in tolerance between species and varieties, with the results of these studies shown below. This research helps to ensure that mixture formulations are optimised, and contain only the strongest varieties for top performance. 4salt<sup>®</sup> mixtures will also perform well in situations without salinity problems, so it is a risk-free choice and a good safeguard for applications where conditions and quality of irrigation may change.



Available on Available on D LINKS D FESCUE D PREMIER FAIRWAY D SUSTAIN FAIRWAY  $(\mathbf{R})$ 

by DLF

# INNOVATIVE SEED COATINGS GroMax

To maximise plant development, all Johnsons Sports Seed mixtures are GroMax coated as standard!

- Improves establishment
- Stimulates root growth
- Makes for greater tolerance to stress
- Enhances water and nutrient uptake

### ProNitro<sup>®</sup> Seed Technology for stronger germination and faster establishment

Pra Nitro

ProNitro® treated seeds contain both fast and slow release nitrogen, encapsulated within a smooth outer coating for improved seed flow. This targeted controlled release nitrogen is partnered with DLF's hydroactive water management technology for sustainable water uptake and improved nutrient utilisation during the early stages of plant growth.

### **Benefits of ProNitro®**

- Replace the need for traditional pre-seed fertilisers
- Reduce nitrogen leaching by up to 50%
- The germinating and developing seedling receives the full benefit of the nutrition
- Improved nutrient utilisation, stronger germination and faster, more uniform seed establishment
- Up to 34% more plants and 30% increase in root length reduces invasion of Poa annua and broad leaved weeds

ProNitro® is good for all types of playing surface and is particularly important when overseeding into a competitive sward. On golf greens and cricket wickets in low-fertility sandy soils, ProNitro® provides faster establishment, enhanced recovery and contributes to a sward that is more stress tolerance and capable of withstanding intensive wear.



Now with DLF hydroactive water management technology



NITRO PREMIER WICKET Product formulation: 10% N



Watch the full ProNitro<sup>®</sup> video online











10

# FINE TURF MIXTURES

### Sustainable management

Johnsons Sports Seed offers a range of mixtures for greens, tees, fairways and roughs. Within each mixture, the varieties have been carefully selected for sustainable management and high performance.

### Fast, true greens

Based on the most recent research and development, Johnsons mixtures are selected for year-round homogeneous surfaces, resistant to disease – whether it's a traditional high input mixture or sustainable solution.

### Low growing fairways

The annual growth of mixtures containing modern cultivars such as Siskin and Nigella fine fescues is reduced when compared to standard mixtures, consequently delivering more satisfactory turf quality and fairways that can perform under pressure – along with reduced costs and carbon outputs.

### Hard-wearing tees

High density, wear-tolerant mixtures deliver the perfect surface for teeing off, while overseeding with carefully selected mixtures will provide an all-important quick recovery.

### Long lasting, low input rough

The Johnsons Sports Seed range for golf roughs is designed to reduce input requirements and improve visual quality, without slowing play.

### Improved wear tolerance

Increased wear tolerance eases maintenance and ensures that the grass, even in the most exposed areas, meets the needs of the most demanding players.

## CREATING THE WØRLDS GREATEST STAGES

"We've been using Johnsons J Green for several years and have always been very pleased with the purity and germination of this mixture.

Not only do we want to produce bowling greens that perform to the highest standard, we also have to be thinking of the future and, particularly, how we manage disease and pests. For this, we need cultivars that are more disease tolerant. The blend of fescues and bents in **J Green** help us achieve cleaner and more healthy bowling green surfaces.

We know that by using Johnsons we have access to the UK's toprated cultivars."

Matt Phillips Avonsports Ground Maintenance



# Ø G R E E N

### For golf and bowling greens

Incorporating top rated fine fescues and bent grass cultivars, J Green delivers fast sustainable surfaces with excellent disease resistance, summer colour and enhanced shoot density – helping to reduce poa invasion.





- 15% Bogart [Chewings Fescue]
   Excellent shoot density under close mown conditions combined with visual merit and high disease resistance
   STRI Rating 7.7
- 15% Orionette [Chewings Fescue]
   Very high density and persistency to keep weeds at bay, while remarkable Red Thread tolerance ensures low N input STRI Rating 7.6
- 25% Seroa [Slender Creeping Red Fescue] High visual merit, combined with high density and excellent salt and drought tolerance STRI Rating 7.5
- 25% Cezanne [Slender Creeping Red Fescue] Versatile fine fescue with excellent salt tolerance. Outstanding winter colour and ability to perform in cold temperatures STRI Rating 7.4
- 10% Arrowtown [Browntop Bent] Exceptional shoot density and fineness of leaf to deliver maximum trueness and ball speed STRI Rating 7.1
- 10% Manor [Browntop Bent] High tolerance to Fusarium and close mown wear STRI Rating 7.0

Sowing rate	20-30g/m²
Oversowing	10-20g/m²
Mowing height	Down to 4mm

## ULTRAFINE RYE GREEN

### For golf and bowling greens

Ideal for the renovation of heavily worn greens, J Ultrafine Rye Green provides exceptional recovery and fine, dense turf for golf and bowling greens. Fast establishment is accompanied by high tolerance of wear, even under close mown conditions.



- 30% Clementine [Perennial Ryegrass]
   Top-rated fine turf ryegrass bred for exceptional shoot density, fineness of leaf and cleanliness of cut STRI Rating 7.2
- 30% Chloe [Perennial Ryegrass]
   Slow growing, wear tolerant variety with fine leaf and outstanding shoot density
   STRI Rating 6.4
- **20% Cezanne** [Slender Creeping Red Fescue] Versatile fine fescue with excellent salt tolerance. Outstanding winter colour and ability to perform in cold temperatures STRI Rating **7.4**
- 10% Manor [Browntop Bent]
   High tolerance to Fusarium and close mown wear
   STRI Rating 7.0
- 10% Arrowtown [Browntop Bent] Exceptional shoot density and fineness of leaf to deliver maximum trueness and ball speed STRI Rating 7.1

Sowing rate	25-35g/m²
Oversowing	10-20g/m²
Mowing height	Down to 4mm



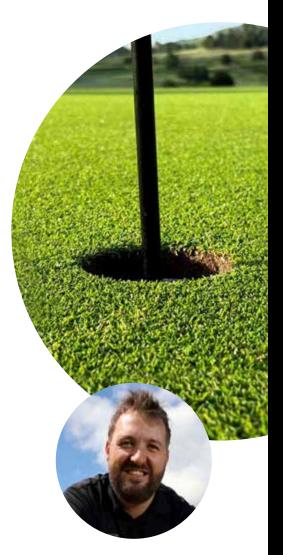
"We have a very high-use practice green here at Surbiton which was struggling to retain presentation, standards and play performance. Keeping it open for daily play, while trying to recover multiple pitch marks, was becoming very difficult.

With this dilemma, we opted for J Ultrafine Rye Green from Johnsons which would allow the practice area to perform at the same levels as the main greens, but deliver a harder wearing and faster recovering surface.

So far this has been extremely successful! From an agronomic perspective we've seen vastly improved sward strength and high wear tolerance and the members have enjoyed a better surface, enhancing their user experience."

Andrew Kerr MG, Course Manager Surbiton Golf Club





"Our unique location, nestled in a valley means our playing surfaces have their very own microclimate and means our choice of grass seed has to be able to cope with extremes of both moisture and temperature.

We first trialled Johnsons mixtures a good few years ago and right from the off, were impressed with the speed in which it germinated and established. We now pursue a sustainable management approach, combining Johnsons J Fescue and J All Bent on our greens. Because J All Bent can tolerate wetter conditions, we find we get great take from this during our autumn renovations and then retain this strength and coverage through the winter months.

This combination has helped to keep disease and weed ingress at bay which means we haven't applied a fungicide for over four and a half years."

James Matthewman Deputy Head Greenkeeper Maesteg Golf Club

# ØALL BENT

### For sustainable golf greens



Setting the standard for density and visual quality, this all bent overseeding mixture delivers a sward tolerant of close

cutting and high levels of wear. With the inclusion of top-rated cultivars, J All Bent delivers fast, sustainable golf greens with reduced requirement for chemical inputs.



- **50% Arrowtown** [Browntop Bent] Exceptional shoot density and fineness of leaf to deliver maximum trueness and ball speed STRI Rating **7.1**
- **30% Manor** [Browntop Bent] High tolerance to Fusarium and close mown wear STRI Rating **7.0**
- 20% Cleek [Browntop Bent] A top performer in STRI close mown trials that maintains good winter colour and hardiness STRI Rating 7.0

Sowing rate	10g/m <sup>2</sup>
Oversowing	5g/m²
Mowing height	Down to 3mm



## Ø FESCUE

### For high performance greens, tees and fairways (non-Rye)



100% fine fescue blend, suited to the sustainable

management of high-performance fairways, tees and greens (including links and heathland). Top rated cultivars provide high drought and salt tolerance, resistance to disease and a sward that requires lower inputs of water and fertiliser.







- 20% Seroa [Slender Creeping Red Fescue] High visual merit, combined with high density and excellent salt & drought tolerance STRI Rating 7.5
- 15% Absolom [Slender Creeping Red Fescue] Exceptional disease resistance and tolerance for close mown management STRI Rating 7.4
- 15% Nigella [Slender Creeping Red Fescue] Top-rated for fairway and close mown management, exceptional density and outstanding overall visual merit
   STRI Rating 7.4
- 20% Bogart [Chewings Fescue]
   Excellent shoot density under close mown conditions combined with visual merit and high disease resistance
   STRI Rating 7.7
- 15% Orionette [Chewings Fescue]
   Very high density and persistency to keep weeds at bay, while remarkable Red Thread tolerance ensures low N input
   STRI Rating 7.6
- **15% Siskin** [Chewings Fescue] Highly ranked for disease resistance, salt tolerance and visual merit even under low input management STRI Rating **7.0**

Sowing rate	25-35g/m²
Oversowing	10-25g/m²
Mowing height	Down to 4mm



"I've been using Johnsons seed for a few years now and the playing surfaces of the exposed upland links with sandy loam soils have never been better! The fairways, which have historically struggled from longer hotter summers and insect damage, recover well and are showing remarkable improvements in sustainable management through the incorporation of these top-rated fescue cultivars.

Other brands cannot compare with the high germination rate, purity and overall quality we achieve with Johnsons. We get consistent, strong and healthy grass even in our high traffic areas.

In addition, the customer service from DLF is top-notch, to the point that they provided a bespoke mix with more hard fescue to suit our needs.

The difference **J Fescue** has made on my golf course is truly remarkable."

### **Stuart Adams**

Course Manager Cardigan Golf Club





# ② LINKS

### For high salt tolerant golf greens, tees and fairways



A 100% Slender CRF mixture designed for maximum salt and

drought tolerance under links golf conditions and sustainable management programmes. Suitable for greens, tees and fairways, J Links delivers a sward with high resistance to disease and a rhizomatous root structure for improved strength and self-repair.







- 20% Seroa [Slender Creeping Red Fescue] High visual merit, combined with high density and excellent salt & drought tolerance STRI Rating 7.5
- 30% Cezanne [Slender Creeping Red Fescue] Versatile fine fescue with excellent salt tolerance. Outstanding winter colour and ability to perform in cold temperatures STRI Rating 7.4
- 30% Nigella [Slender Creeping Red Fescue] Top-rated for fairway and close mown management, exceptional density and outstanding overall visual merit
   STRI Rating 7.4
- 20% Absolom [Slender Creeping Red Fescue] Exceptional disease resistance and tolerance for close mown management STRI Rating 7.4

Sowing rate	25-35g/m²
Oversowing	10-25g/m²
Mowing height	Down to 4mm

# PREMIER TEE

## For high-wear areas, and sustainable shade tolerant tees and pathways

Featuring 4Turf<sup>®</sup> tetraploid ryegrass, J Premier Tee is ideal for rapid establishment on high-wear areas, shaded golf tees and pathways - all with reduced input costs. This unique combination of cultivars delivers exceptional disease resistance, high shade tolerance and a hard-wearing sward even under close mown conditions.



### D NITRO PREMIER TEE

ProNitro coated option available

- 20% Fabian [Tetraploid Perennial Ryegrass] No. 1 rated 4turf<sup>®</sup> tetraploid ryegrass for significantly improved wear tolerance, shoot density and recovery STRI Rating 5.9
- 20% Tetragame [Tetraploid Perennial Ryegrass] 4turf<sup>®</sup> tetraploid ryegrass for significantly improved wear tolerance, shoot density, disease resistance and recovery

STRI Rating 5.5

- 20% Chardin [Perennial Ryegrass] High shoot density, fast recovery and a fine leaf, tolerant of close mown conditions STRI Rating 7.1
- **35% Laverda** [Strong Creeping Red Fescue] The highest shoot density of any strong CRF and top-rated for visual merit
- STRI Rating 6.2
- 5% Sabrena [Rough Stalked Meadow Grass] High tolerance for shady conditions and overall winter hardiness
   STRI Rating -.-

Sowing rate	35-50g/m²
Oversowing	15-25g/m <sup>2</sup>
Mowing height	Down to 8mm





"The combination of high footfall and a lack of sunlight caused by trees has previously posed a number of problems when it comes to the maintenance of the small tees here at Knutsford. Following an SOS call to my DLF Technical Manager we began a trial of **J Premier Tee** in the spring which has really come to fruition over the summer.

The biggest difference has been the wear tolerance, the team and I have seen a noticeable improvement in sward density which is withstanding the wear and tear. The 4th tee is the most shaded and even here, we've achieved outstanding coverage."

### **David Jones**

Course Manager Knutsford Golf Club







## NEW MIXTURE FOR 2024

## ② ULTRAFINE RYE 100

## For golf greens, surrounds, tees & fairways, bowling greens and tennis courts

Any mix is only as fine as the coarsest grass - that's why we've blended four of the finest cultivars to create J Ultrafine Rye 100! With exceptionally fine leaf and dense, fast-establishing varieties, J Ultrafine Rye 100 is ideal for fine turf renovations and other surfaces which demand high wear tolerance and high visual merit.



- 20% Alathea [Perennial Ryegrass] A very fine and dense variety, that cuts cleanly and delivers excellent winter colour STRI Rating 7.4
- 20% Clementine [Perennial Ryegrass]
   Top-rated fine turf ryegrass bred for exceptional shoot density, fineness of leaf and cleanliness of cut

STRI Rating 7.6

- **30% Chloe** [Perennial Ryegrass] Fast establishing, wear tolerant variety with fine leaf and outstanding shoot density STRI Rating **7.2**
- 30% Chardin [Perennial Ryegrass]
   High shoot density, fast recovery and a fine leaf, tolerant of close mown conditions

STRI Rating 7.1

Sowing rate	35-75g/m²
Oversowing	25-75g/m <sup>2</sup>
Mowing height	Down to 4mm

## Ø FAIRWAY

### For sustainable golf fairways and tees (non-Rye)

For sustainable fairways and tees on heathland and parkland courses, J Fairway is a 100% fescue blend for improved sward quality and reduced costs. It has high visual merit, offers high shoot density, improved drought tolerance and disease resistance.



- **20% Esparina** [Chewings Fescue] Highly rated for salt tolerance, excellent visual merit in dry conditions and resistance to Fusarium STRI Rating **7.0**
- 25% Sarolea [Slender Creeping Red Fescue] Good for density, appearance, disease resistance and drought tolerance to reduce reliance on irrigation

STRI Rating 6.7

- **25% Sergei** [Strong Creeping Red Fescue] Well rated for both shoot density and visual merit STRI Rating **5.4**
- 25% Laverda [Strong Creeping Red Fescue] The highest shoot density of any strong CRF and top-rated for visual merit
   STRI Rating 6.2
- 5% Dumas [Hard Fescue]
   High salt tolerance, shoot density and resistance to fungal disease, together with a natural appearance throughout the season
   STRI Rating 5.9

Sowing rate	25-35g/m <sup>2</sup>
Oversowing	10-25g/m <sup>2</sup>
Mowing height	Down to 10mm





# PREMIER FAIRWAY

## For high performance, sustainable golf fairways and tees (non-Rye)



100% fescue mixture for improved sward quality, unbeatable shoot density and excellent tolerance of salt and drought. The lower chemical, water and cutting requirements of J Premier Fairway makes it an ideal choice for sustainable golf fairways and tees.



Seed purity you can rely on



- 10% Orionette [Chewings Fescue]
   Very high density and persistency to keep weeds at bay, while remarkable Red Thread tolerance ensures low N input
   STRI Rating 7.8
- 10% Siskin [Chewings Fescue] Highly ranked for disease resistance, salt tolerance and visual merit even under low input management STRI Rating 7.2
- 15% Nigella [Slender Creeping Red Fescue] Top-rated for fairway and close mown management, exceptional density and outstanding overall visual merit STRI Rating 7.7
- 20% Seroa [Slender Creeping Red Fescue] High visual merit, combined with high density and excellent salt & drought tolerance STRI Rating 7.6
- 25% Laverda [Strong Creeping Red Fescue] The highest shoot density of any strong CRF and top-rated for visual merit
   STRI Rating 6.2

10% Quatro [Sheeps Fescue]
 Exceptional salt and drought tolerance, stand out disease resistance and natural year-round colour.
 The hardest wearing Sheeps Fescue in STRI trials.
 STRI Rating 8.2

 10% Crystal [Hard Fescue] Very high resistance to Red Thread, exceptional drought tolerance and a dense, medium/dark turf colour
 STRI Rating 7.1

Sowing rate	25-35g/m²
Oversowing	10-25g/m²
Mowing height	Down to 7mm

# SUSTAIN FAIRWAY

### For sustainable fairways

SISTAINABLE MIT

NEW

MIXTURE

FOR 2024

A new high-performance, fine-turf fairway formulation equipped to withstand the environmental challenges of the future. Ideal for links and heathland venues, J Sustain Fairway

contains resilient hard and sheeps fescue, providing a natural foundation of strength and tolerance to a broad range of turf stresses and requires less nutrient, water and chemical inputs.





- 20% Crystal [Hard Fescue] Very high resistance to Red Thread, exceptional drought tolerance and a dense, medium/dark turf colour
   STRI Rating 7.1
- 20% Dumas [Hard Fescue]
   High salt tolerance, shoot density and resistance to fungal disease, together with a natural appearance throughout the season
   STRI Rating 5.9
- 15% Quatro [Sheeps Fescue]
   Exceptional salt and drought tolerance, stand out disease resistance and natural year-round colour.
   The hardest wearing Sheeps Fescue in STRI trials.
   STRI Rating 8.2
- 20% Rossinante [Strong Creeping Red Fescue] The fastest establishment of any red fescue, delivering strong density with low inputs STRI Rating 5.9
- 10% Orionette [Chewings Fescue]
   Very high density and persistency to keep weeds at bay, while remarkable Red Thread tolerance ensures low N input
   STRI Rating 7.8
- 15% Nigella [Slender Creeping Red Fescue] Top-rated for fairway and close mown management, exceptional density and outstanding overall visual merit STRI Rating 7.7

Sowing rate	25-35g/m²
Oversowing	10-25g/m <sup>2</sup>
Mowing height	Down to 7mm

"I very much follow the 'Old Tom Morris' approach to maintenance, running the course in a minimalist way without any pesticides, fungicides, hardly any fertilisers and very limited water. This led me to review our fairways, in the hunt for any mixtures which could help to boost the hard fescue and sheep fescue populations which are proven to thrive in low-input and links conditions.

We used **J Sustain Fairway** for our annual fairway overseed with brilliant results. Incorporating more top-rated hard and sheeps fescue cultivars will put us in a much better position to withstand environmental challenges and safeguard the course for the future."

Dave Edmondson Head Greenkeeper Prestwick Golf Club





"We started using Johnsons J Rye Fairway after the summer of 2022 when the prolonged hot and dry conditions meant we lost coverage on our nonirrigated fairways. In attempts to regain grass coverage as guickly as possible we sought a fast-establishing mixture, with cultivars that would give us good, sustainable growth moving forwards. This mixture gave us exactly that. The look and performance of the fairways has improved to match the quality we're achieving elsewhere on the course, and we are confident that the mix of top-rated cultivars we've incorporated will make our fairways more resilient to drought conditions in the future."

Andrew Howarth Estates Manager Gog Magog Golf Club

# **ØRYE FAIRWAY**

## For hardwearing golf tees, fairways and driving ranges (with Ryegrass)

Designed for the renovation of high traffic tees, fairways and driving ranges, J Rye Fairway contains 4turf<sup>®</sup> tetraploid ryegrass to deliver improved tolerance of wear and drought, high disease resistance and excellent year-round colour with reduced input costs.



turf

Tetraploid

Technoloav

- 20% Chloe [Perennial Ryegrass]
   Slow growing, wear tolerant variety with fine leaf and outstanding shoot density
   STRI Rating 7.2
- 20% Fabian [Tetraploid Perennial Ryegrass] No. 1 rated 4turf<sup>®</sup> tetraploid ryegrass for significantly improved wear tolerance, shoot density and recovery STRI Rating 6.2
- **10% Esparina** [Chewings Fescue] Highly rated for salt tolerance, excellent visual merit in dry conditions and resistance to Fusarium STRI Rating **7.0**
- 10% Nigella [Slender Creeping Red Fescue] Top-rated for fairway and close mown management, exceptional density and outstanding overall visual merit STRI Rating 7.7
- 40% Laverda [Strong Creeping Red Fescue] The highest shoot density of any strong CRF and top-rated for visual merit
   STRI Rating 6.2

Sowing rate	35-50g/m²
Oversowing	15-25g/m²
Mowing height	Down to 10mm



## Ø ROUGHS

### For sustainable golf roughs and dry, impoverished soils

Specifically designed for sustainable golf roughs and dry impoverished soils, J Roughs delivers very slow regrowth and an attractive finish when left uncut. Offering year-round colour, the mixture can also be customised with local wild grasses - allowing natural regeneration of wildflower meadow species and attracting birds and insect life.



- **10% Samanta** [Slender Creeping Red Fescue] Tolerance of salt and close mowing and fair resistance to Red Thread
- 25% Maxima [Strong Creeping Red Fescue] High stress tolerant variety, giving good year-round appearance and good disease resistance
- **25% Sergei** [Strong Creeping Red Fescue] Well rated for both shoot density and visual merit
- **25% Dumas** [Hard Fescue] High salt tolerance, shoot density and resistance to fungal disease, together with a natural appearance throughout the season
- 10% Crested Dogstail
   An upright thin seed stem with a visually attractive seed head, tolerant of drought and cold
- 5% Highland [Browntop Bent] High shoot density, good drought resistance and year-round colour

Sowing rate	25-35g/m²
Oversowing	15-25g/m²
Mowing height	Down to 25mm





# SPORTS TURF MEMORY OF A CONTRICT OF A CONTRI

Johnsons Sports Seed offers a range of mixtures for tennis, cricket, football, rugby and equestrian turf. Within each mixture the varieties have been carefully selected for top performance.

### **Guaranteed quality**

Turf managers maintaining the full range of sports areas will appreciate the extensive work carried out by our breeding team to produce cultivars offering high ratings for wear tolerance, sward density and tolerance of close mowing. The mixture formulations hereafter and the varieties used, take full advantage of these characteristics, providing the sports turf manager with assured sward performance.

### Fast results

The common denominator for all Johnsons Sports Seed mixtures is very quick establishment whether for new seeding or renovation purposes. Results are enhanced by the addition of GroMax and ProNitro<sup>®</sup> seed treatments.

### Superior wear tolerance

All varieties in the Johnsons Sports Seed range are selected so that they are hard-wearing, dense and disease resistant, minimising the invasion of Poa annua and other weed species.

### High visual merit

The use of top rated cultivars in all Johnsons Sports Seed mixtures ensures very high visual merit throughout the season, as well as quick establishment, wear tolerance and disease resistance.

## CREATING THE WORLDS GREATEST STAGES

# Ø PREMIER WICKET

### For County Quality cricket squares

The four top-rated cultivars in J Premier Wicket deliver class leading wear tolerance for county quality cricket squares. Delivering proven results at the highest level, rapid establishment, high disease resistance and camera appeal can be expected from this renovation mixture as standard.

### **D** NITRO PREMIER WICKET

Pro Nitro coated option available







- 25% Clementine [Perennial Ryegrass] Top-rated fine turf ryegrass bred for exceptional shoot density, fineness of leaf and cleanliness of cut STRI Rating 7.2
- 25% Monroe [Perennial Ryegrass] The top-ranked all-rounder – shoot density, fine leaf, recovery, disease resistance and coverage STRI Rating 6.4
- 25% Dickens [Perennial Ryegrass]
   High disease resistance, year-round colour and strong regrowth makes this a top performer under close mown conditions
   STRI Rating 6.3
- 25% Chloe [Perennial Ryegrass]
   Slow growing, wear tolerant variety with strong performance even under dry conditions
   STRI Rating 6.4

Sowing rate	35-75g/m²
Oversowing	25-75g/m²
Mowing height	Down to 2mm



"I've been Head Groundsperson here at Hampshire since 2020 and have continued my relationship with Johnsons Sports Seed and specifically **J Premier Wicket** over those four years. The quality of the mixture is of such a high standard that we now use it on all surfaces across the playing areas, from cricket squares to the outfields. We consistently get fantastic germination, establishment and coverage, especially in the busy cricket season when we are pressed for time on renovations."

### Simon Lee

Head Groundsperson Hampshire Cricket





"The school have been using Johnsons J Multi Sport for a few years now, due to the changing demands of the school, J Multi Sport gives an excellent quality, flexibility and adaptability between rugby and cricket. We recently used J Multi Sport for a renovation on our junior school playing field, this field gets a very high wear usage, including school events such as summer balls. J Multi Sport gives a quick establishment and provides a strong sward to cope with the changing usage and the quick turnarounds."

Richard Bowman Grounds Manager King's School Gloucester

# MULTI SPORT

### For sports fields, cricket outfields and athletics fields

A multi-purpose mixture designed for sports fields, cricket outfields and athletics use, where a high quality, flexible sward is required. Top rated cultivars provide a mixture that is ideal for renovations, providing a sward that establishes quickly and cuts cleanly.



- 25% Chardin [Perennial Ryegrass] High shoot density, fast recovery and a fine leaf, tolerant of close mown conditions STRI Rating 7.1
- 25% Columbine [Perennial Ryegrass] For excellent colour and disease resistance STRI Rating 7.4
- 25% Rossinante [Strong Creeping Red Fescue] The fastest establishment of any red fescue, delivering strong density with low inputs STRI Rating 5.9
- **25% Sergei** [Strong Creeping Red Fescue] Well rated for both shoot density and visual merit STRI Rating **5.4**

Sowing rate	35-50g/m²
Oversowing	25-50g/m <sup>2</sup>
Mowing height	Down to 20mm



# PREMIER PITCH

### For football and rugby stadia

Providing exceptional wear tolerance, recovery, disease resistance and a camera-friendly finish for both natural and hybrid pitches, it's no surprise that J Premier Pitch delivers proven performance at many of Europe's leading football and rugby stadia.





can rely on



Significantly improved Brown Patch resistance thanks to the addition of Monroe and Gildara.

- 20% Europitch [Perennial Ryegrass] No. 1 rated for visual merit under high wear STRI Rating 7.8
- 20% Eurodiamond [Perennial Ryegrass] Provides high shoot density and rapid recovery under intensive winter sports wear STRI Rating 7.6
- 20% Gildara [Perennial Ryegrass]
   Combining best in class genetic turf colour with outstanding wear tolerance, shoot density, recovery and disease resistance including Brown Patch
   STRI Rating 7.7
- 20% Monroe [Perennial Ryegrass] The top-ranked all-rounder – shoot density, fine leaf, recovery, disease resistance and coverage STRI Rating 7.5
- NEW! 20% Saila [Perennial Ryegrass] Improved visual merit and high wear tolerance STRI Rating 7.6

Sowing rate	35-75g/m²
Oversowing	25-75g/m²
Mowing height	Down to 20mm







"Johnsons J Premier Pitch has been an absolute game-changer for us on both our stadium pitch and the surfaces at our training ground. The turf quality and quick establishment have surpassed our expectations, vitally important with the small windows we're given to grow the pitch back in after concert season. It gives us more than just a great density of sward with vibrant green colour which looks fantastic in a stadium - the resilience and recovery is outstanding, particularly during intense periods of play and the bad weather we endure through the winter months.

This sport demands strong, healthy rooting if a surface is to withstand the pressures exerted by two 900kg scrum packs, without the help of any hybrid support.

J Premier Pitch has delivered on this and so much more. It has elevated our pitches to a standard that professional athletes love to perform on."

Andrew Miller Head Groundsman Northampton Saints RC



"We've used the Johnsons J Premier Pitch mixture on our stadium surface here at Wolves for a good number of years now and have always been more than happy with the results. We run at a relatively low moisture content on our sand-based stadium pitch and the good, strong, deep rooting from this perennial ryegrass mix seems to cope with this very well – giving us winter hardiness and the good wear tolerance we need year-round, together with consistent colour and fantastic overall visual merit."

Wayne Lumbard & Anthony Parker Grounds Team Wolves FC

# ② PREMIER 4TURF 25



## For football and rugby stadia with enhanced disease resistance

The ultimate football and rugby stadium renovation mixture for rapid establishment, wear tolerance and exceptional visual merit.

J Premier 4Turf 25 is the first mixture of its kind to offer proven Brown Patch and Grey Leaf Spot resistance thanks to the combination of diseaseresistant diploid and 4Turf<sup>®</sup> cultivars.





Seed purity you can rely on







- 15% Fabian [Tetraploid Perennial Ryegrass] No. 1 rated 4turf<sup>®</sup> tetraploid ryegrass for significantly improved wear tolerance, shoot density and recovery STRI Rating 5.9
- 10% Tetragame [Tetraploid Perennial Ryegrass] 4turf<sup>®</sup> tetraploid ryegrass for significantly improved wear tolerance, shoot density, disease resistance and recovery STRI Rating 5.4
- NEW! 25% Fiesta [Perennial Ryegrass] Most tolerant variety to Grey Leaf Spot in DLF trials STRI Rating ??
- 15% Eurodiamond [Perennial Ryegrass]
   Provides high shoot density and rapid recovery under intensive winter sports wear
   <u>STRI Rating</u> 7.6
- 10% Europitch [Perennial Ryegrass]
   No. 1 rated for visual merit under high wear
   STRI Rating 7.8
- 10% Gildara [Perennial Ryegrass]
   Combining best in class genetic turf colour with outstanding wear tolerance, shoot density, recovery and disease resistance including Brown Patch STRI Rating 7.7
- **10% Monroe** [Perennial Ryegrass] The top-ranked all-rounder – shoot density, fine leaf, recovery, disease resistance and coverage STRI Rating **7.5**
- NEW! 5% Saila [Perennial Ryegrass] Improved visual merit and high wear tolerance STRI Rating **7.6**

Sowing rate	35-75g/m²
Oversowing	25-75g/m²
Mowing height	Down to 20mm





"When the Stoneham Lane Football Complex was constructed, one of the major focuses was on drainage – giving us incredible infiltration rates however, with no irrigation, means that in the dry months the pitches struggle to retain moisture and thin out quickly. To combat this, we switched from the 100% diploid perennial ryegrass mix to Johnsons J **4Turf 50**, sown in May 2022, and we couldn't have been more impressed with the results.

The **J 4Turf 50** established well before the hot conditions arrived and despite the hot conditions, the recovery was amazing when the rain returned. As the season progressed, the **J 4Turf 50** coped with the high wear, recovered fast and remained strong enough that we saw no disease activity at all helping us to move towards a lower input sward which is more sustainable to manage."

#### **Pete Hussey**

Facility Operations Manager Hampshire FA

## ② 4TURF 50



## For winter sports pitches, racecourses and high wear turf

4turf<sup>®</sup> tetraploid rye is No. 1 ranked for disease resistance and ensures rapid establishment even under low soil temperatures (3-10°C). This makes the deep-rooting and high wear tolerant J 4Turf 50 the ideal choice for autumn and winter overseeding programmes on sports pitches and racecourses.



turf

Tetraploid

Technology

ROW

PATCH

- 25% Fabian [Tetraploid Perennial Ryegrass] No. 1 rated 4turf<sup>®</sup> tetraploid ryegrass for significantly improved wear tolerance, shoot density and recovery STRI Rating 5.9
- 25% Tetrastar [Tetraploid Perennial Ryegrass] A recent addition to the 4turf<sup>®</sup> family, demonstrates even denser and finer leaves without compromising stress tolerance STRI Rating 5.5
- 25% Gildara [Perennial Ryegrass]
   Combining best in class genetic turf colour with outstanding wear tolerance, shoot density, recovery and disease resistance including Brown Patch
   STRI Rating 7.7
- 25% Columbine [Perennial Ryegrass] For excellent colour and disease resistance STRI Rating 7.4

Sowing rate	35-75g/m <sup>2</sup>
Oversowing	10-50g/m <sup>2</sup>
Mowing height	Down to 20mm



## 4TURF 100



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Incorporating 100% 4turf<sup>®</sup> ryegrasses, this four cultivar blend delivers rapid renovation of worn areas on football & rugby pitches, polo fields, racecourses, golf tees and pathways. Larger root mass means J 4Turf 100 optimises water and fertiliser inputs resulting in good looking turf, that's cheaper to maintain and better for the environment.







- 25% Fabian [Tetraploid Perennial Ryegrass] No. 1 rated 4turf<sup>®</sup> tetraploid ryegrass for significantly improved wear tolerance, shoot density and recovery STRI Rating 5.9
- 25% Tetragame [Tetraploid Perennial Ryegrass] 4turf® tetraploid ryegrass for significantly improved wear tolerance, shoot density, disease resistance and recovery STRI Rating 5.4
- **25% Double** [Tetraploid Perennial Ryegrass] Rapid establishment, deep rooting and proven resistance to common sports turf diseases STRI Rating **4.7**
- 25% Tetrastar [Tetraploid Perennial Ryegrass] A recent addition to the 4turf<sup>®</sup> family, demonstrates even denser and finer leaves without compromising stress tolerance STRI Rating 5.5

Sowing rate	25-50g/m <sup>2</sup>
Oversowing	25-50g/m <sup>2</sup>
Mowing height	Down to 20mm



"We began a programme of incorporating tetraploids into our tees 18 months ago and started using the J 4Turf 100 mixture in early 2023, following recommendations on its quick recovery from a few contacts working in the football industry. We haven't been disappointed! It germinates quickly, doesn't require much in terms of inputs and can handle the wear and tear that a tee box needs to. With this mixture being 100% tetraploid, we've also noticed an improvement in overall coverage, as well as good strong colour throughout the seasons."

### Neil Davey

Head Greenkeeper Rookery Park Golf Club





## For winter overseeding, shaded sports turf and football and rugby pitches

Specifically designed for autumn/winter overseeding programmes, J Rescue Stadia features the latest generation of turf type Annual Ryegrass to deliver the fastest low temperature establishment. The excellent disease resistance, high shoot density and tolerance of wear and shade make it well suited for shaded areas on winter sports turf.



4 turf Tetraploid Technology

- 50% Quickston [Annual Ryegrass]
   Secures quick establishment in difficult situations the perfect nurse crop!
   STRI Rating -.-
- 25% Tetragame [Tetraploid Perennial Ryegrass] 4turf<sup>®</sup> tetraploid ryegrass for significantly improved wear tolerance, shoot density, disease resistance and recovery STRI Rating 5.4
- 20% Berlioz 1 [Perennial Ryegrass]
   Proven low temperature germination and high wear tolerance
   STRI Rating 7.2
- 5% Sabrena [Rough Stalked Meadow Grass] High tolerance for shady conditions and overall winter hardiness STRI Rating -.-

Sowing rate	35-75g/m²
Oversowing	10-50g/m²
Mowing height	Down to 25mm

"Over the years Swansea City have been regular users of the Johnsons J Rescue Stadia mix, across the stadium and our training facilities. It's a brilliant winter mix, that performs well in numerous environments and covers all bases when it comes to cultivars. Fast establishment is really important for us with high usage levels and guick turnarounds, and that's exactly what we get with this mix. The tetraploids also help to give us extra strength, with little kick out, and brilliant disease tolerance which, with the impacts of climate change, is a must."

Evan Davies Head Groundsman Swansea City FC

# WILD FLOWER MIXTURES

PROFIOIO

### **Native Origin Wild Flower Mixtures**

Add colour, biodiversity and interest to the golf course with native wild flower meadow mixtures.

In order to meet with the increasing demand for conservation mixtures, DLF Seeds has utilised in-house research and production facilities to formulate a number of high-quality wild flora mixtures, each designed to recreate a particular habitat.

DLF has many years of experience in the contract production of wild flower seed and plants; particularly useful where large quantities or unusual/rare species are required. Our experienced team is on hand to provide advice on mixture selection and, for larger projects, site visits and written reports are available.

Seed Mixtures		UK Native Wild Flowers	Grasses
PRO FLORA 1	Cornfield Annuals		
PRO FLORA 2	Acid Soils (below pH6)		
PRO FLORA 3	Damp Soils		
PRO FLORA 4	Calcareous Soils (Chalk)	20%	80%
PRO FLORA 5	Wet Soils	20%	OU 70
PRO FLORA 6	Dry Soils		
PRO FLORA 7	Hedgerow & Light Shade		
PRO FLORA 8	Legacy General Purpose		
PRO FLORA 9	Heritage General Purpose	10%	90%
PRO FLORA 10	General purpose - plus Annuals	10 %	90%
PRO FLORA 11	Woodland & General Shade		
PRO FLORA 12	Water Margins & Pond Edges		
PRO FLORA 13	Species Rich Lawn & Landscape	20%	80%
PRO FLORA 14	Tall Herb & Tussock	20%	80%
PRO FLORA 15	Pollinator		
PRO FLORA 16	Coastal		
PRO FLORA 110	Economy General Purpose - plus Annuals	5%	95%



It is important that the correct mixture is selected to coincide with the soil type and drainage characteristics.

Subsoils often provide a weed-free, low nutrient status seed bed, ideal for wild flora.

In high fertility areas, it may be necessary to remove topsoil to prevent the growth of more vigorous grasses and pernicious weeds.

### **Preparation**

- Remove topsoil if applicable
- Treat existing vegetation with a systemic herbicide, cultivate to 10cm and allow to fallow if practical. A repeat herbicide application may be necessary

### Sowing

Sowing can take place throughout the year providing a good tilth can be prepared, however March/April and August/ September are generally the most suitable.

- Mix seed to ensure even species distribution
- Sow at 5g/m<sup>2</sup> for mixtures with grass, or 0.5-1.0g/m<sup>2</sup> for pure wild flower mixtures

# ENHANCE BIODIVERSITY

Chipping Sodbury Golf Club now boasts a carnival of colour thanks to the introduction of an 800m<sup>2</sup> wildflower area, comprised of Pro Flora 8 and high-impact Colour Boost 1 (Carnival).

Head Greenkeeper Craig Swindells explains, "This project has brought so many benefits to the players, the

general public and the wildlife - we see an abundance of bees and butterflies enjoying the rich food sources. We couldn't have wished for more!"



Colour**BOOST** 

### High Impact Amenity Flower Mixtures

The Colour Boost range has been designed for maximum floral impact, incorporating both wild flower and garden flowering species. Colour Boost mixtures establish rapidly to deliver a dazzling floral display throughout the year whilst providing welcome food and shelter for wildlife.

Seed Mixtures	
Carnival	A stunning celebration of bright and bold annuals
Floral Carpet	Low growing annuals to recreate a summer meadow
Skyscraper	Light the sky with high impact taller growing species
Biodiversity	Deliver colour and life with this important mix for wildlife
Honey Bee & Butterfly	A mix of flowering species popular with pollinators
Blush	Annuals to appeal to the heart, in tones of roses and red
Classical	A regal mix of beautiful blues and wonderful whites
Chameleon	Ever-changing mix for bold colour throughout the season
Рорру	100% Poppy - The epitome of remembrance and reflection

### **Special mixture service**

Whilst our standard mixtures will cater for most situations we are always happy to advise upon and produce mixtures to your own specification.

The RHS Perfect for Pollinators<sup>™</sup> mark is only given to plants or mixtures that support pollinating insects. Bees, butterflies, moths, hover-flies and

while doing so they transfer pollen and increase seed set and fruit development.

Find out more at: rhs.org.uk/perfectforpollinators



- Bulk up small seeding rates with **Rehofix MK1500** (1 part seed : 5 part bulking granules)
- Rake or harrow at approx. 0.5cm depth and Cambridge roll to firm seed bed

### **First Year Maintenance**

Control the weeds and reduce competition from grasses.

If sown in March/April, make the first cut in May to a height of 5-7cm. Subsequently cut every 2 months, or when the sward reaches 15cm. Make a final cut in September/October, remove all cuttings and dig out/spot treat any perennial weeds.

### **Future Maintenance**

Cut to 5-7cm during March/April and remove cuttings. A second cut at the same height should then take place at the

end of the flowering season (August-October), remove all cuttings and conduct additional cuts in the autumn to remove untidy growth if required.

### **Cornfield/Colour Boost Annuals**

Weed treat the ground if necessary, cultivate and re-seed in spring (or autumn for Cornfield Annuals). Cut once the flowering period is over.

### **Colour Boost Perennials**

Dig out/spot treat any weeds as required, cut and remove dead top growth before the next spring.

# GLOBAL SEED BREEDING

DLF are at the forefront in the development of new varieties. Our knowledge of the way plants grow and the changing demands of professionals across the globe is guiding breeding programmes both here in the UK at DLF Didbrook – the largest grass testing site in the UK – and across a network of sites throughout Europe, North and South America, New Zealand, Australia and South Africa.



It is important that our products are going to perform to the highest industry standards and that they will provide the end user with varieties that will be highly reliable, stable and disease resistant. The network across Europe gives us an opportunity to test material across a wide variety of environments and soil types. We see drought in Czech Republic, disease in France and freezing conditions in Russia year after year so we know that DLF Seeds will perform under whatever conditions our climate can throw at them.



### Year 1-3

Different grasses are crossed in order to find new and improved varieties. The new varieties are propagated and sown in thousands of test plots.

DISEASE

### Year 4-8

The new breeding lines are tested. Only the best varieties continue in our breeding programme.

### Year 9-10

Every year we test new varieties under different climatic conditions to evaluate their performance. The very best varieties are chosen for further official trials e.g. STRI.

WEAR

### Year 11-14

The chosen varieties are tested and evaluated in trials by official independent authorities. The highest performing varieties are put into initial production with our experienced seed growers.

• C O L D

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# PROGRAMME & TRIALS



Every year, approximately 3,000 amenity plots are sown at our 100 acre Didbrook facility which will be evaluated over two years. The total of 6,000 plots cover the main species including red fescues,

perennial ryegrass and smooth stalked meadow grass together with smaller amounts of other species. In addition to these, DLF have 20,000 single plants in nurseries which are characterised and assessed as parents to create new varieties for the UK climate.



DLF are working with the latest tools and techniques including drones in order to evaluate the grass plots on a number of characteristics – including disease and density of the plots depending on the cameras used.

Biotechnology also plays a key part in our breeding programme:

- Genome wide selection is a system of evaluating varieties using genetic markers. Over ten years of research work allows us to identify characteristics in the DNA of grass we want meaning we can screen out a lot of material before field evaluations take place.
- Hydroponics is utilised to provide a focused system to identify many characteristics in plants which would be difficult in the field. With this, DLF can evaluate a plants ability to take up nitrogen or any other nutrient we wish to analyse. It is also used to measure salt tolerance by varying salt concentrations in the growing media.

Grass breeding is a very long term process and it can take over 15 years for a breeder to see their work come to maturity - from initial crossing of the parents to the sale of a bag of seed for a sports pitch, green or fairway. Independent turf trials are crucial for ensuring that new cultivars are adapted

to management and growth under local conditions.

### Year 14

Official trials are completed. Only the varieties that have passed the official tests appear on the lists of recommended varieties e.g. STRI, STERF.

SALT

## Year 15

Certified seeds are harvested, cleaned and samples are taken and tested for purity and germination in our own laboratories.

HFAT

### Year 15+

After careful selection the varieties are mixed and packed into our famous black bags at our dedicated amenity warehouse.



DROUGHT

# **GRASS SPECIES**

### **Perennial Ryegrass**

Latin Name	Lolium perenne
Seeds/gram	600
Germination	1-2 weeks
Shoot Density	200-350 shoots/m <sup>2</sup>
Cutting height	Normal: 25-40mm (not less than 4mm)
Growth	Non-spreading growth habit

### **Distinguishing features**

### **4turf® Tetraploid Perennial Ryegrass**

Latin Name	Lolium perenne
Seeds/gram	550
Germination	1-2 weeks
Shoot Density	150-250 shoots/m <sup>2</sup>
Cutting height	Normal: 25-40mm (not less than 4mm)
Growth	Non-spreading growth habit

### **Distinguishing features**



ROWN

TC

### **Properties**

This hard-wearing species is highly suitable for both sports areas and fine turf and is ideal for overseeding because of its rapid germination and establishment in a range of soils.

### **Properties**

4turf<sup>®</sup> Tetraploid Perennial Ryegrass delivers a stronger, deeper rooting system resulting in exceptional wear qualities, significantly improved disease resistance and tolerance to a range of environmental stresses. Increased chloroplast and chlorophyll production improves nitrogen efficiency, producing a deeper colour throughout the seasons. Germinating guickly and establishing rapidly, this species is a highly suitable mixture partner for sports turf.

### Annual Ryegrass

Latin Name	Lolium multiforum
Seeds/gram	500
Germination	3-7 days
Shoot Density	150 and 250 shoots/m <sup>2</sup>
Cutting height	Normal: Not less than 15mm
Growth	Non-spreading growth habit



GLS

RESISTANT

### **Properties**

Rapid establishment at low temperature, can be used as a nursery crop and ideal for localised repair.

- **Distinguishing features**



### **Chewings Fescue**

Latin Name	Festuca rubra commutata
Seeds/gram	1,000
Germination	Approx 2 weeks
Shoot Density	450-800 shoots/m <sup>2</sup>
Cutting height	Normal: 20-35mm (not less than 5mm)
Growth	Non-spreading growth habit

### **Distinguishing features**

- Leaves fine, stiff and filamento
- Young leaf folded in shoot (generally remains unfolded when mature)
- Ligule short, blunt and difficult to distinguish

#### Roots bunched together

- No rhizomes
- Leaf sheath complete, no overlapping

### **Properties**

**Properties** 

The high shoot density and tolerance to close cutting makes this species particularly suitable for golf greens, tees and fairways, with the runners regenerating cover in worn areas. Slender Creeping Red

Fescue is highly salt tolerant and mixes well with *Festuca* 

The high shoot density and tolerance to close mowing makes this species particularly suitable for golf greens, tees, and fairways. Chewings Fescue tolerates acidic soils, requires minimal water and fertiliser, and retains good colour and a fine appearance year-round.

### **Slender Creeping Red Fescue**

Latin Name	Festuca rubra litoralis
Seeds/gram	1,000
Germination	Approx 2 weeks
Shoot Density	450-800 shoots/m <sup>2</sup>
Cutting height	Normal: 20-35mm (not less than 5mm)
Growth	Creeping with short rhizomes

#### **Distinguishing features**

- Leaves stiff and filamentous
   Young leaf folded in shoot (general
  - af folded in shoot (generally infolded when mature)
- Ligule short, blunt & difficult to distinguish

### **Sheeps and Hard Fescue**

Latin Name	Festuca ovina
Seeds/gram	950
Germination	2-3 weeks
Shoot Density	800-1,000 shoots/m <sup>2</sup>
Cutting height	Normal: 15-35mm (not less than 5mm)
Growth	Non-spreading growth habit

#### **Distinguishing features**

- Very fine leaved plant with high shoot density
- Leaves are thread like, hairless with a strongly ribbed ridged upper surface
- Leaves greyish to blue green colouration



- Characteristically forms whorls as a mature plant (Sheeps fescue)
- Ligule is very short
- Leaf sheaths open and overlapping

### **Properties**

rubra commutata.

A highly flexible, drought tolerant species that requires low nutritional inputs. It can be used in a diverse range of mixtures from moorland to golf, tolerant of both close-mown and low-maintenance situations - visually attractive if left uncut. It is a capable species in a range of soil conditions from acidic to neutral.

### **Tall Fescue**

Latin Name	Festuca arundinacea
Seeds/gram	650
Germination	2-3 weeks
Shoot Density	200 shoots/m <sup>2</sup>
Cutting height	Normal: 30-40mm (not less than 10mm)
Growth	Non-spreading growth habit

### **Distinguishing features**

- Strongly veined upper leaf surfa
- Blade rolled when young
- Large flat mature lea
   Liqules short
- Small hairy auricles
   Purple red leaf sheath

#### **Properties**

A species that has very high tolerance of drought and good resistance to extremes of hot and cold weather. With some varieties forming rhizomes, tall fescues demonstrate moderate to good wear tolerance.

## **GRASS SPECIES**

### **Strong Creeping Red Fescue**

Latin Name	Festuca rubra rubra
Seeds/gram	800
Germination	Approx 2 weeks
Shoot Density	250-450 shoots/m <sup>2</sup>
Cutting height	Normal: 20-35mm (not less than 5mm)
Growth	Creeping long rhizomes

**Distinguishing features** 

### **Smooth Stalked Meadow Grass**

Latin Name	Poa pratensis
Seeds/gram	3,000
Germination	3-4 weeks
Shoot Density	200-350 shoots/m <sup>2</sup>
Cutting height	Normal: 20-35mm (not less than 8mm)
Growth	Creeping with rhizomes

### **Distinguishing features**



### **Properties**

As the largest seed of the red fescues, this produces rapid establishment and its rhizomatous growth stabilises root zones and provides good recovery from damage. Used in turf production for its binding properties, it is not suited to close mown areas such as golf greens. Due to its regenerative capacity, it is ideal for tees, fairways and landscape usage.

### **Properties**

Forms an attractive carpet with good wearing gualities and regenerative ability. Slower to establish making it ideal for turf production, tees and sports areas.

### **Rough Stalked Meadow Grass**

Latin Name	Poa trivialis
Seeds/gram	4,000
Germination	3-4 weeks
Shoot Density	200-350 shoots/m <sup>2</sup>
Cutting height	Normal: 20-35mm (not less than 8mm)
Growth	Creeping with rhizomes

**Distinguishing features** 

Of uniform width, abruptly terminating in boat-shaped tip

### **Properties** Mainly used in conditions

where light is insufficient due to shade or in the winter months. Dense, fine and darker colour, High shade tolerance, Good frost tolerance, Erect growth and fast establishment.

**Browntop Bent Grass** 

Latin Name	Agrostis capillaris syn. tenuis
Seeds/gram	10,000
Germination	2-3 weeks
Shoot Density	400-600 shoots/m <sup>2</sup>
Cutting height	Normal: 4-12mm (good durability at 5mm)
Growth	Slow colonizing short rhizomes

### **Distinguishing features**

### **Properties**

An ideal partner with Festuca rubra commutata and Festuca rubra litoralis for golf greens mixtures. This species does best under relatively poor growth conditions however, overfertilising, over-watering and compact/waterlogged soil will result in displacement of the species by Poa annua.



### **Creeping Bent Grass**

Latin Name	Agrostis stolonifera
Seeds/gram	12,000
Germination	Approx 2 weeks
Shoot Density	400-600 shoots/m <sup>2</sup>
Cutting height	Normal: 3-12mm (not over 15mm)
Growth	Creeping stolons

**Distinguishing features** 

- Leaves matt grey-green and broadest at base, gradually narrowing to fine tip
- Leaf with ribs above
- Leaf rolled in shoot
  - Ligule rounded, lightly toothed, up to 5mm long

**Properties** 

Relative to browntop bent grass, this species requires intensive management, fertilising and watering. While it has high tolerance to close cutting, creeping bent tends to become dormant in winter.

- Can root at node
- Numerous stolon

### Velvet Bent Grass

Latin Name	Agrostis canina
Seeds/gram	12,000
Germination	Approx 2 weeks
Shoot Density	700-800 shoots/m <sup>2</sup>
Cutting height	Normal: 3-10mm (not over 15mm)
Growth	Slender creeping stolons

### **Distinguishing features**

- Leaves bright green or grey green, finely bladed
- Hairless and finely ribbed above

- Ligules often pointed, 2-4mm long
- Numerous slender stolons
- rooting at the nodes

### **Properties**

Of the bent grass species, velvet bent tolerates the closest cutting and forms a dense attractive sward which can help to prevent the invasion of Poa annua. This native bent grass has the highest natural resistance to common turf grass diseases and demonstrates exceptional drought tolerance. Over feeding will cause excessive growth and thatch build up.

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For further ir https://www	le only, individual varieties will vary. nformation please visit: .dlf.com/customer-support/seed-variety t rated, 1 = lowest rated.	Perennial Ryegrass (diploid)	Tetraploid Ryegrass	Strong Creeping Red Fescue	Slender Creeping Red Fescue	Chewings Fescue	Hard/Sheeps Fescue	Tall Fescue	Smooth Stalked Meadow Grass	Browntop Bent
	Establishment Vigour	4	5	3	2	2	2	3	1	2
lICS	Leaf Texture/fineness of leaf	4	3	4	5	5	5	1	3	4
CHARACTERISTICS OF SPECIES	Shoot Density	4	3	3	4	5	5	1	3	4
<b>CTERIS</b>	Wear Tolerance	5	4	3	2	3	2	4	4	3
ARA OF 9	Salt Tolerance	3	5	3	5	3	3	4	3	3
CHZ	Close Mown	3	2	2	4	4	3	1	3	5
	Drought Tolerance	3	5	3	4	3	4	5	3	2
	10000	1.50	STADIASS.	1. 176 6.84		1000	W. Test	W. Contraction	The state	ALC: NO

# USEFUL DATA

### **Sports Pitch Dimensions**

	<b>Dimensions Metres</b> (length x width)	Area
Football	100 x 64	6,400m <sup>2</sup>
Rugby	100 x 69	6,900m <sup>2</sup>
Hockey	91.4 x 55	5,027m <sup>2</sup>
Cricket Square	30 x 23	690m <sup>2</sup>
Lawn Tennis	23.8 x 11	262m <sup>2</sup>
Bowls	40 x 40	1,600m <sup>2</sup>
Croquet	32 x 25.5	816m <sup>2</sup>
Golf Green	-	500m <sup>2</sup> /600m <sup>2</sup>
Golf Tee	-	250m <sup>2</sup> /500m <sup>2</sup>

### **Conversion Factors**

Weight			
lbs	to kilograms	divide by	2.205
kilograms	to lbs	multiply by	2.205
tons	to tonnes	multiply by	1.016
tonnes	to tons	divide by	1.016
cwts	to kilograms	multiply by	50.794
kilograms	to cwts	divide by	50.794

Area			
acres	to hectares	divide by	2.471
hectares	to acres	multiply by	2.471
square yards	to square metres	multiply by	0.8361
square metres	to square yards	divide by	0.8361

### Sowing rate and depths

		m <sup>2</sup> coverage by s	owing rate	
Bag size	20g/m <sup>2</sup>	25g/m <sup>2</sup>	35g/m <sup>2</sup>	50g/m <sup>2</sup>
20kg	1,000m <sup>2</sup>	800m <sup>2</sup>	571m <sup>2</sup>	400m <sup>2</sup>

	Sowing depths per species (mm)	
	Optimal sowing depth	Maximum sowing depth
Perennial Ryegrass	10-15	15
Red Fescue	4-7	7
Smooth Stalked Meadow Grass	4-7	7
Bents	Rootzone contact	-

### Soil pH and Turf Growth

4.0	5.0	6.0	7.0	8.0
•		PERENNIA	L RYEGRASS	•
		SMOOTH STALKE	D MEADOW GRASS	
•	•	CREEP	ING BENT	•
•	BROWNTOP BENT	•	•	•
•	CHEWINGS FES	CUE	•	•
•	SLENDER	AND STRONG CRI	EEPING RED FESCUES	•
•	HARD AND	SHEEP'S FESCUE	•	•



For information on UK listed varieties, please visit the BSPB website.







You can claim CPD points for reading through the 2024 Johnsons Sports Seed catalogue by visiting:

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### Proud supporters of Education in Sports Turf





M: 07801 459623 O: 01386 791102



Stuart Yarwood M: 07801 459625 stuart.yarwood@dlf.com



Jeremy Hindle M: 07887 543885 hindle@dlf.co.uk



lan Barnett M: 07814 669085 ibarnett@dlf.co.uk

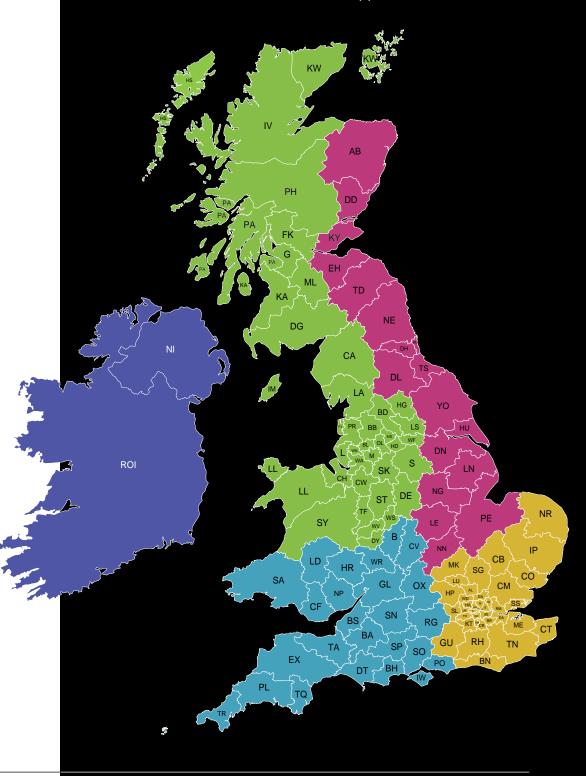


Craig Spooner M: 07824 906933 cspooner@dlf.co.uk



## TECHNICAL MANAGERS

Our experienced team of national technical representatives are available for Johnsons customers, delivering sound advice on mixture and cultivar selection, field support and maintenance.



Johnsons Sports Seed, DLF Seeds Ltd., Thorn Farm, Inkberrow WR7 4LJ Telephone: 01386 791102 - Email: amenity@dlf.co.uk

Any information provided in this catalogue is given in good faith and to the best of our existing knowledge. Any advice should therefore be taken as a general guide only and not relied upon for all conditions and circumstances. We cannot accept any legal liability for information given in this publication. In any instance where there are shortages of specified species or cultivars we reserve the right to substitute with an equivalent.

PROVEN QUALITYAND PERFORMANCE FOR OVER





Cover images: Prestwick Golf Club - the first UK venue to use Johnsons J Sustain Fairway. Northampton Saints Rugby Club - long-standing users of Johnsons J Premier Pitch.

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