

2022

2022 HIGH PURITY SPORTS GRASS SEED MIXTURES



**Johnson's**  
SPORTS SEED

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COVERING THE WORLDS  
GREATEST STAGES

# COVERING THE WORLD

## 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 turf management professionals deliver perfect sports surfaces 365 days of the year.

## 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, who continually make significant investment in staff and facilities across the globe to support this vital area. Close links with leading independent organisations such as the STRI, TGA, BIGGA, ILI and GMA 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 team of national technical managers on hand to deliver sound advice on mixture and cultivar selection, field support and maintenance.

## Purity you can rely on

'DLF Select' is an initiative that brings together a number of processes throughout our supply chain to increase the purity of our seed. The pinnacle is a grade that ensures zero weeds, zero poa and zero 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.



## 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 tolerance of 4turf® varieties against Brown Patch. 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 maximise plant development. GroMax seed treatment is a biostimulant which improves



establishment by stimulating root growth, enhancing water and nutrient uptake and improving tolerance to stress. In addition, our most popular mixtures are now available pre-coated with the latest 5G nutrient seed coating, ProNitro®.

ProNitro's 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.



Proud supporters of  
Education in Sports Turf



Page No.	
GOLF	Driving Range
	Fairway
	Green
	Rough
	Tee
SPORTS AREAS	Bowling Green
	Cricket Square
	Cricket Outfield
	Football
	Gallops/Polo
	Rugby
	Tennis Court
	Playing Fields
	Sports Stadia
ProNitro® coated	
DLF Select	

# MIXTURE SELECTOR

	GREEN	RYE GREEN	PREMIER GREEN	ALL BENT	FESCUE	LINKS	TEE	FAIRWAY	PREMIER FAIRWAY	RYE FAIRWAY	ROUGHS	PREMIER PITCH	PREMIER 4TURF - NEW	4TURF	4TURF 100	MULTI SPORT	RESCUE 100	RESCUE STADIA	PREMIER WICKET	OUTFIELD	INTENSE	WILD FLORA
	12	13	14	15	16	17	18	19	20	21	22	24	25	27	28	29	30	30	31	32	32	33/34
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**JJ = Highly Recommended**

**J = Recommended**



# DLF SELECT

**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 three world-class football tournaments (South Africa 2010, Brazil 2014 and Russia 2018), for international golf championships such as the Phoenix Open 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.



QUALITY GR		
QUALITY CATEGORY CODE		
	<b>S1</b>	10x analysis 0 other seeds
	<b>S2</b>	10x analysis 0 <i>Poa trivialis</i> Max. TR* <i>Poa annua</i> 0 coarse grasses
	<b>00</b>	Standard purity analysis 0 other seeds
	<b>00X</b>	Standard purity analysis Max. 0.5% <i>Vulpia sp.</i> 0 other seeds
	<b>A1</b>	Standard purity analysis Max. 0.5% <i>Vulpia sp.</i> Max. 0.1% other seeds Max TR* <i>Poa annua</i> 0 coarse grasses
	<b>A2</b>	Standard purity analysis Max. 0.5% <i>Vulpia sp.</i> Max. 0.2% other seeds Max. 0.1% <i>Poa annua</i> + <i>Poa trivialis</i> 0 coarse grasses
	<b>EU</b>	

\*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.



## 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.



## Separate storage

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



## Specialised cleaning lines

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



## 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.



## Analysis

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





ADES
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.



# 4salt<sup>®</sup>

by DLF



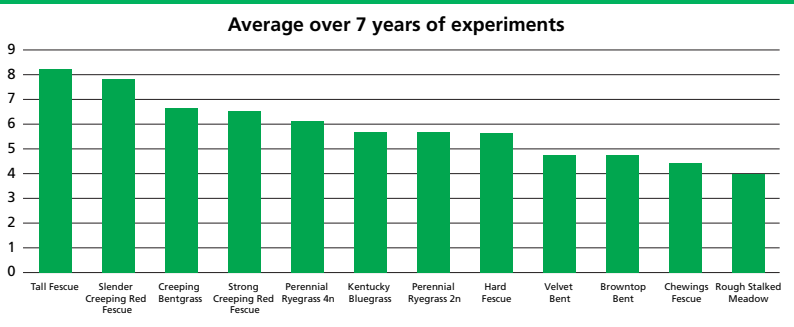
## Salt-tolerance backed by science

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.



## The science behind 4salt<sup>®</sup>

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.



# THE ENVIRONMENTAL SOLUTION

# 4turf®

by DLF

## Stronger Establishment

The larger 4turf® seeds contain more energy reserves for stronger, faster establishment and healthy plant development. 4turf® tetraploid ryegrass 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® more drought tolerant and quicker to recover when rain returns. Trials conducted in the Loire Valley in France confirmed that 4turf® cultivars are significantly more drought-tolerant than diploids.

## Excellent Colour

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

## Disease Resistance and Winter Performance

In European trials, 4turf® 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® varieties have also demonstrated great strength and tolerance to Brown Patch in recent DLF trials.



"Last year we supplemented our regular diploid perennial ryegrass programme with tetraploid ryegrasses from DLF to benefit from the lower temperature germination as part of our autumn/winter overseeding programme. The superb initial response and increased root length we achieved provided great additional strength and allowed the pitch to recover brilliantly. This undoubtedly gave the surface a real boost through the winter in terms of usability, durability and performance, which helped us get through a fixture pile-up in February 2021 where we hosted five games over a 19-day period."

**Dan Barnes**  
Head Groundsman  
Eastleigh Football Club







## The “root” to improved drought resistance

As spring and summer droughts become more common, and water becomes a more valuable resource, turf managers need to consider ways of maintaining lush green grass all summer long. The solution could well be in the form of DLF's drought-tolerant 4turf® tetraploid range.

Not all droughts are the same. More common in Northern Europe, spring droughts occur when, despite the lack of rain, water remains available in the deeper layers of soil. During a summer drought, even the deeper layers of the profile have run dry and the simultaneous higher temperatures mean the grass above ground has to be able to withstand dehydration. While summer droughts are typical of southern Europe, they are now increasingly being seen further north.

DLF's 4turf® eases the pressure on turf managers. Rooting fast and deep, tetraploid varieties like Fabian, Double, Tetrastar, Tetragame, Tetramagic, Tetradry, and Tetragreen are more likely to survive a spring drought and are better placed to stay green and playable should a summer drought follow. Years of testing at DLF's state-of-the-art root-screening facility in Denmark demonstrated how, compared to diploid ryegrasses, 4turf® has quicker root growth and develops a larger root mass in the upper layer of the soil, making it an excellent springtime seed. In summer trials, conducted in France and the Czech Republic, it also remained green when the plants were starved of water above-ground.

Its ability to withstand drought-like conditions means that 4turf® has a wide range of applications. On golf course fairways, for example, where irrigation is often not an option, overseeding with 4turf® produces a better quality summer turf. The principles could also be applied to sports facilities, parks and ornamental lawns in public locations, where turf needs to sustain more playing hours, with less time spent on watering or maintenance.





# SAFEGUARD YOUR TURF BY

CHOOSE BROWN PATCH TOLERANT VARIETIES FROM DLF

Protect your turf from fungal attack and improve quality through disease tolerance

As changing climatic conditions bring more hot and humid weather, the severity and geographic range of fungal diseases are increasing. The shift in weather patterns combined with changing management models of maintenance and plant nutrition are largely believed to be the triggers for an increase in reported instances of Brown Patch.

DLF has been conducting a screening programme for the last two years, utilising their global research network - in particular the MariboHilleslög Research facility that specialises in Rhizoctonia fungi. Samples of a highly virulent fungal isolate were taken from a European football stadium, with trials conducted to identify the varieties most tolerant to Brown Patch.

The results of the screening showed significant differences in levels of Brown Patch tolerance between more than 30 perennial ryegrass varieties. DLF were able to determine with confidence that the 4turf® varieties are significantly more tolerant to Brown Patch which correlates with the results seen in other disease trials when 4turf® species have performed strongly.

They also identified specific DLF diploid perennial ryegrass varieties that demonstrated fantastic tolerance to Brown Patch.

Using 4turf® and these specific diploid varieties provides a natural solution against Brown Patch. Choosing varieties with high Brown Patch tolerance reduces the reliance on fungicides, and gives a better quality pitch that can withstand the pressure of more playing hours. This all equates to increased peace of mind.

Reduce the risk of fungal attack and safeguard your turf with all new J Premier 4Turf mixture (see p 25) which incorporates DLF's proven Brown Patch tolerant varieties.



The benefits of

**4turf®**  
by DLF

- Peace of mind through improved Brown Patch tolerance
- 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

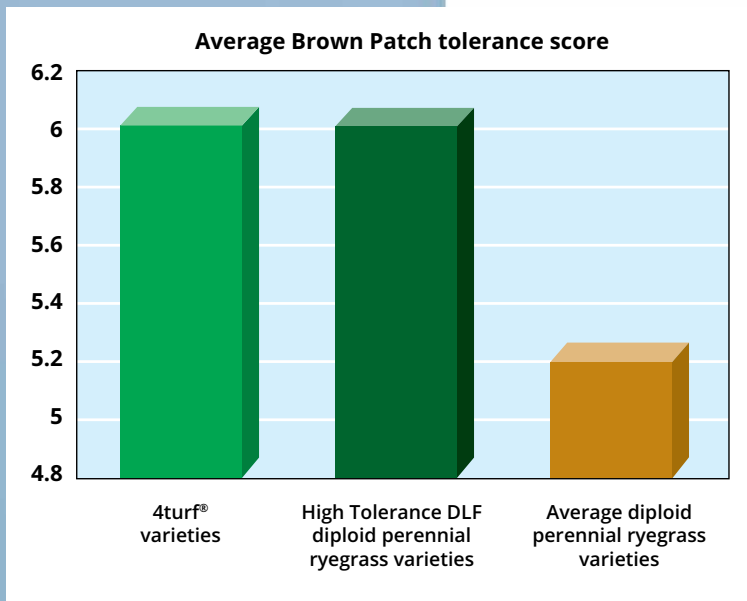
## What is Brown Patch?

Brown Patch is a turfgrass foliar disease caused by Rhizoctonia spp. The fungus can attack all cool-season turfgrasses, but is most devastating to 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. On higher cut surfaces, Brown Patch will often be diagnosed upon inspection of the individual leaf - which will display tan coloured lesions with a distinctive dark brown border. In severe cases, total loss of grass cover can result.

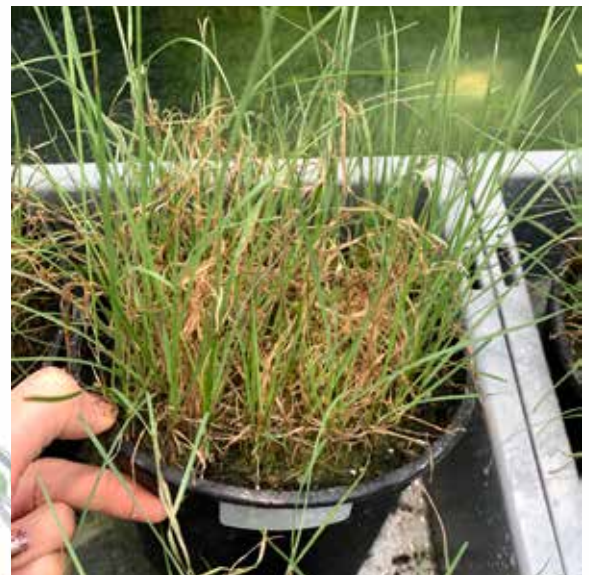


# CHOICE, NOT BY CHANCE

## Scoring of Brown Patch tolerance



High tolerance



Average tolerance



Low tolerance



# INNOVATIVE

## 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

GroMax is a dry formulation of biostimulants consisting of natural humates and humic acids, seaweed extract, a proprietary blend of natural sugars (sucrose), Vitamins (B complex and K), soluble potash and buffering agents. This coating assists the seedling's ability to take advantage of the soil's own inherent reserve of nutrients by stimulating the soil's microflora, resulting in improved root growth and establishment. It is compatible with most micro-nutrients, fertilisers and pesticides.

**Humic Acids:** Rich in auxin type substances to enhance antioxidant synthesis. This aids plant metabolism under stress conditions and gives a high carbon food source for soil micro-organisms. In turn this improves the permeability of cell wall membranes in roots to allow rapid absorption of essential nutrients.

**Seaweed Extract:** Contains high levels of cytokinins to promote cell division and lateral root growth, but delaying the ageing process of plant tissue. In addition, root growth is stimulated after damage by disease or root feeding insects, or stress caused by temperature, water or salt imbalance.

**B-Complex and K Vitamins:** These act as important catalysts to enhance and drive plant metabolism, with vitamin B1 giving help to rooting.

**Amino Acids:** The building blocks of proteins known to be essential for plant growth and metabolism.

**Potassium:** Plays a vital role in disease resistance and overall hardiness of grass plants.

**Sucrose:** Serves as a high energy food source for plant and soil micro-organisms.



# SEED COATINGS

## ProNitro

### READY TO

Now with DLF  
hydroactive water  
management  
technology



Watch the full ProNitro®  
video online

## ProNitro®

Mixture options



# ProNitro®

## GROW

## ProNitro® Seed Technology for stronger germination and faster establishment

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 to focus on improving nutrient utilisation during the early stages of plant growth for each developing seedling.

### ProNitro® replaces the need for traditional pre-seed fertilisers

The targeted nitrogen application system can reduce nitrogen leaching by up to 50% and replaces the need for seedbed fertiliser. As the fertiliser is coated directly onto the seeds, the germinating and developing seedling receives the full benefit of the additional nutrition, not the surrounding plants.

### ProNitro® has significantly improved water distribution

Our hydroactive water management technology promotes sustainable water and nutrient availability, allowing roots and shoots to grow rapidly into strong, vigorous plants.

### ProNitro® coated seed germinates with strong root development

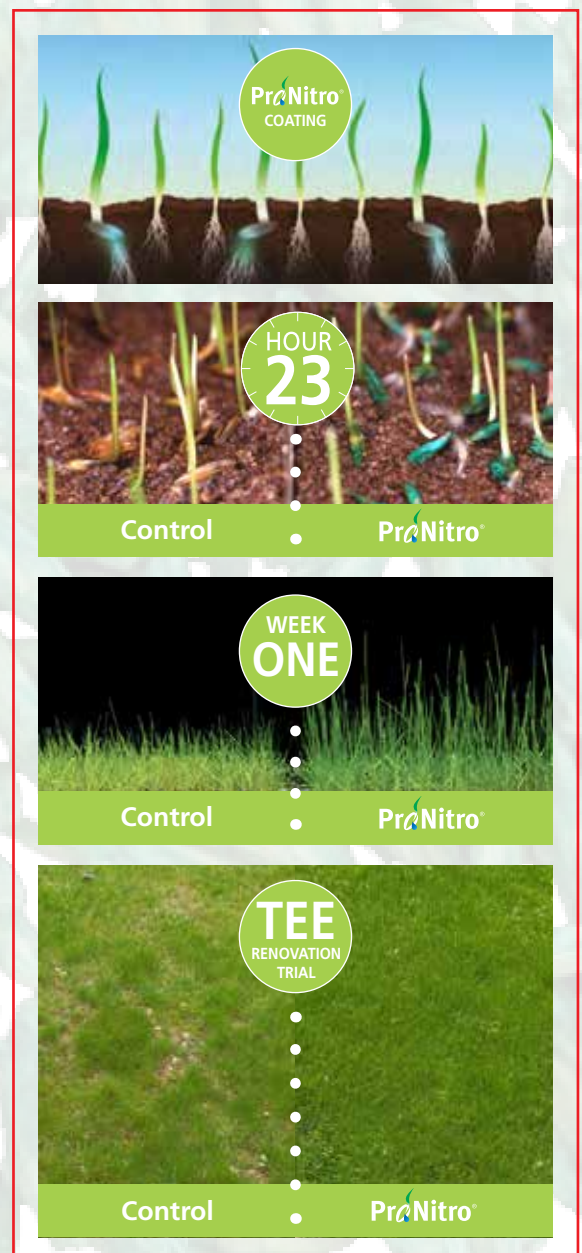
Because of improved nutrient utilisation, stronger germination and faster, more uniform, seed establishment the resulting sward has upwards of 34% more plants and a 30% increase in root length! This is particularly important when overseeding into a competitive sward.

Its greater density helps to reduce invasion by *Poa annua* and broad leaved weeds and is more stress tolerant and more capable of tolerating intensive wear.

### ProNitro® is a unique solution

All Johnsons Sports Seed mixtures contain high quality seed, but only cultivars with superior performance characteristics and high vigour are selected for ProNitro® coating. ProNitro® is good for all types of playing surfaces.

On golf greens and football pitches in low-fertility sandy soils, ProNitro® provides faster establishment. Sports fields sown with ProNitro® become playable sooner, while sod/turf growers obtain an earlier product containing less *Poa annua*.



### 🌱 Nitro FESCUE

Product formulation: **10% N**

### 🌱 Nitro TEE

Product formulation: **10% N**

### 🌱 Nitro RYE FAIRWAY

Product formulation: **10% N**

### 🌱 Nitro PREMIER PITCH

Product formulation: **10% N**

### 🌱 Nitro PREMIER WICKET

Product formulation: **10% N**

### 🌱 Nitro 4TURF

Product formulation: **10% N**

# 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, meet the needs of the most demanding players.



COVERING THE WORLD'S  
GREATEST STAGES



"Following several years of experiencing lower than expected germination and poor coverage using different brands of grass seed, I decided to try Johnsons J Green following excellent reviews. Having now used J Green for two full seasons, in addition to Johnsons J Rye Green for some particularly problematic areas, this has been a fantastic decision for our bowling surface resulting in a visibly denser, thicker and healthier sward. This continued improvement to our surface has been recognised around our county and beyond with positive feedback received and requests to use our green to host prestigious games."

**Dean Gibbons**  
Greenkeeper

**Wantage Bowling Club**



# J GREEN

## For golf and bowling greens

Incorporating top rated fine fescues and bent grass cultivars, J Green delivers fast sustainable surfaces with excellent disease resistance, density and summer colour, ideal for golf and bowling greens.



DLF Select option  
available for  
purity you can rely on

- **15% Humboldt** [Chewings Fescue] - High shoot density and excellent disease resistance for first class results  
STRI Rating **7.1**
- **15% Bogart** [Chewings Fescue] - Excellent shoot density under close mown conditions combined with visual merit and high disease resistance  
STRI Rating **7.7**
- **25% Absolom** [Slender Creeping Red Fescue] - Exceptional disease resistance and tolerance for close mown management  
STRI Rating **7.4**
- **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 **6.9**

Sowing rate	20-30g/m <sup>2</sup>
Oversowing	10-20g/m <sup>2</sup>
Mowing height	Down to 4mm





# J RYE GREEN

## For golf and bowling greens

Ideal for renovations, J 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 **7.4**
- **30% Dickens 1** [Perennial Ryegrass] -  
High disease resistance, year-round colour and strong regrowth makes this a top performer under close mown conditions  
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 **6.9**
- **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/m <sup>2</sup>
Oversowing	10-20g/m <sup>2</sup>
Mowing height	Down to 4mm

"We've been using the J Rye Green mixture ever since Johnsons launched it and it continues to deliver what we're looking for year-on-year. As the 9th largest golf resort in the World, we're playing host to over 200,000 rounds a year so need a greens mix that gives us the durability to cope with the high levels of traffic, and the versatility to cope with our changeable climate. The strength we get from the rye helps to protect the finer fescue and bent species giving us surfaces that look great and continuously play well."

**Pete Gross**  
Golf Course Manager  
**Ashbury Golf Resort**



# PREMIER GREEN

## For golf greens

A unique 60% bent, high performance renovation mixture for fast, sustainable golf greens. With fescue nurse crop for successful overseeding, J Premier Green delivers unbeatable shoot density, high wear tolerance and improved natural disease resistance.



DLF Select option  
available for  
purity you can rely on

- **20% Bogart** [Chewings Fescue] -  
Excellent shoot density under close mown conditions combined with visual merit and high disease resistance  
STRI Rating **7.7**
- **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**
- **40% Arrowtown** [Browntop Bent] -  
Exceptional shoot density and fineness of leaf to deliver maximum trueness and ball speed  
STRI Rating **7.1**
- **20% Manor** [Browntop Bent] -  
High tolerance to Fusarium and close mown wear  
STRI Rating **6.9**

Sowing rate	15-20g/m <sup>2</sup>
Oversowing	8g/m <sup>2</sup>
Mowing height	Down to 3.5mm





# J ALL BENT

## For golf greens

Setting the standard for density and visual quality, this all bent overseeding mixture delivers a sward tolerant of closer cutting and high levels of wear. With the inclusion of top-rated Arrowtown and Manor, J All Bent delivers fast, sustainable golf greens.



- **70% 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 **6.9**

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



DLF Select option  
available for  
purity you can rely on



"We have been using Johnsons Seed here at Clevedon for the past three years and have always been impressed with the mixtures and the technical support we've received. We previously had Poa dominated swards on sand-based greens, but we've seen significant improvements in our putting surfaces since we switched to overseeding with J All Bent. The combination of Arrowtown and Manor has done a fantastic job at reducing Poa annua invasion and has increased the speed of our greens, all whilst reducing the levels of inputs required."

**Richard Ponsford**  
Course Manager  
**Clevedon Golf Club**





"When I took over as Course Manager four years ago, maintaining the fescue species and low inputs on our greens was something I was keen to continue with. Once I had used up the existing seed stocks, I swapped to Johnsons J Fescue on the greens and the results have been fantastic! It has given us improved shoot density and strong colour that lasts meaning we've been able to reduce the amount of overseeding we conduct annually."

**Rob Cook**  
Course Manager  
Perranporth Golf Club



# FESCUE

## For golf fairways, tees and greens including links

100% fine fescue blend, suited to the sustainable management of fairways, tees and greens (incl. links). Top rated cultivars provide high drought and salt tolerance, resistance to disease and a sward that requires lower inputs of water and fertiliser.



**NITRO FESCUE**  
ProNitro<sup>®</sup> coated option available



DLF Select option  
available for  
purity you can rely on

- **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% 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**
- **15% Siskin** [Chewings Fescue] - Highly ranked for disease resistance, salt tolerance and visual merit even under low input management  
STRI Rating **7.0**
- **15% Humboldt** [Chewings Fescue] - High shoot density and excellent disease resistance for first class results  
STRI Rating **7.1**
- **20% Bogart** [Chewings Fescue] - Excellent shoot density under close mown conditions combined with visual merit and high disease resistance  
STRI Rating **7.7**

Sowing rate	25-35g/m <sup>2</sup>
Oversowing	10-20g/m <sup>2</sup>
Mowing height	Down to 5mm



## For golf greens, tees and fairways

A pure Slender 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.



DLF Select option  
available for  
purity you can rely on



- **40% 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**
- **30% Absolom** [Slender Creeping Red Fescue] - Exceptional disease resistance and tolerance for close mown management  
STRI Rating **7.4**

Sowing rate	25-35g/m <sup>2</sup>
Oversowing	10-25g/m <sup>2</sup>
Mowing height	Down to 5mm





"We use Johnsons mixtures in most areas around the course, including J Tee which has been our choice for overseeding and divot repairs for the last six years. The performance we get from J Tee is excellent – it gives us the quick germination we're looking for, good reliable colour and it has the hard-wearing properties we need to sustain the high levels of play. It also blends in nicely with the mixtures and strategies we're adopting across other areas of our course."

**David Byron**  
Course Manager  
**Thorndon Park Golf Club**



# J TEE

## For high-wear areas, golf tees and pathways

Featuring 4Turf® tetraploid ryegrass, J 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.



### J NITRO TEE

ProNitro® coated option available



- **20% Fabian** [Tetraploid Perennial Ryegrass] - Top rated 4turf® tetraploid ryegrass for significantly improved wear tolerance, shoot density and Brown Patch tolerance  
STRI Rating **6.3**
- **20% Tetragame** [Tetraploid Perennial Ryegrass] - 4turf® for significantly improved wear tolerance, shoot density, recovery and disease resistance - including Brown Patch  
STRI Rating **5.4**
- **20% Chardin** [Perennial Ryegrass] - High shoot density, fast recovery and a fine leaf, tolerant of close mown conditions  
STRI Rating **7.2**
- **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 1** [Rough Stalked Meadow Grass] - High tolerance for shady conditions and overall winter hardiness  
STRI Rating **-.-**



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



## For golf fairways and tees

For sustainable fairways and tees on heathland and parkland courses, J Fairway is a 100% fescue blend for improved sward quality and reduced input costs. It is top rated for visual merit under fairway management, offering high shoot density, improved drought tolerance and disease resistance.



- **NEW! 25% Esparina** [Chewings Fescue] - Highly rated for salt tolerance, excellent visual merit in dry condition and resistance to Fusarium  
STRI Rating **7.0**
- **25% Archibal** [Slender Creeping Red Fescue] - Top-ranking for close mowing, excellent visual merit and resistance to Red Thread  
STRI Rating **6.3**
- **45% Rossinante** [Strong Creeping Red Fescue] - The fastest establishment of any red fescue, delivering strong density with low inputs  
STRI Rating **6.0**
- **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



"We started using Johnsons Sports Seed about 15 years ago and the transformation of the golf course has been considerable. We use both the J Fescue and J Fairway mixtures, and thanks to them both being very hard-wearing, one of the biggest benefits for us is that we can let the course play hard and fast in summer without having to worry about losing grass coverage."

**Peter Read**  
Head Greenkeeper  
Hunstanton Golf Club





# PREMIER FAIRWAY

## For golf fairways and tees

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.



- **10% Siskin** [Chewings Fescue] - Highly ranked for disease resistance, salt tolerance and visual merit even under low input management  
STRI Rating **7.7**
- **10% Humboldt** [Chewings Fescue] - High shoot density and excellent disease resistance for first class results  
STRI Rating **7.1**
- **20% Nigella** [Slender Creeping Red Fescue] - Top-rated for fairway and close mown management, exceptional density and outstanding overall visual merit  
STRI Rating **7.8**
- **15% Absolom** [Slender Creeping Red Fescue] - Exceptional disease resistance and tolerance for close mown management  
STRI Rating **7.6**
- **25% Laverda** [Strong Creeping Red Fescue] - Improved salt tolerance, the highest shoot density of any strong CRF and top-rated for visual merit  
STRI Rating **6.2**
- **10% Quatro** [Sheeps Fescue] - Perfect for Links and sustainable management programmes due to exceptional salt tolerance, stand out disease resistance and natural year-round colour  
STRI Rating **8.3**
- **10% 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

# RYE FAIRWAY

## For golf tees, fairways and driving ranges

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



## NITRO RYE FAIRWAY

ProNitro® coated option available



- **NEW! 15% Aniston** [Perennial Ryegrass] - Highly rated perennial ryegrass for fineness of leaf, exceptional density and wear tolerance  
STRI Rating **7.6**
- **15% Fabian** [Tetraploid Perennial Ryegrass] - Top rated 4turf® tetraploid ryegrass for significantly improved wear tolerance, shoot density and Brown Patch tolerance  
STRI Rating **6.3**
- **10% Humboldt** [Chewings Fescue] - High shoot density and excellent disease resistance for first class results  
STRI Rating **7.1**
- **20% Nigella** [Slender Creeping Red Fescue] - Top-rated for fairway and close mown management, exceptional density and outstanding overall visual merit  
STRI Rating **7.8**
- **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/m <sup>2</sup>
Oversowing	15-25g/m <sup>2</sup>
Mowing height	Down to 10mm

**NEW 2022**  
FORMULATION

"When you're conducting any large-scale project, such as fairway renovations, the number one thing you want from a seed mixture is for it to get out of the ground as quickly as possible! As part of a complete reconfiguration of the site, we've used Johnsons J Rye Fairway here at Ingestre Park to re-establish the fairways with great success. We saw establishment in less than a week and, with a long list of hard-wearing cultivars, we know it will deliver the longevity of surfaces we're going to want, as we continue to move forwards with the renovation."

### Phil Helmn MG

Grow-In Superintendent

**Ingestre Park Golf Club**





# J ROUGHS

## For golf roughs and dry soils

Specifically designed for 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 to allow natural regeneration of wild flower meadow species.



- **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/m <sup>2</sup>
Oversowing	15-25g/m <sup>2</sup>
Mowing height	Down to 20mm



# SPORTS TURF MIXTURES

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® 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.



C  V E R I N G   T H E   W O R L D S  
G R E A T E S T   S T A G E S



# PREMIER PITCH

## For football and rugby stadia

Providing exceptional wear tolerance, 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.



## NITRO PREMIER PITCH

ProNitro® coated option available



DLF Select option available for purity you can rely on

- **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 **7.8**
- **25% Gildara** [Perennial Ryegrass] - Combining best in class genetic turf colour with outstanding wear tolerance, shoot density, recovery and disease resistance  
STRI Rating **7.6**
- **25% Monroe** [Perennial Ryegrass] - The top-ranked all rounder – shoot density, fine leaf, recovery, disease resistance and coverage  
STRI Rating **7.6**
- **10% Eurocordus** [Perennial Ryegrass] - For excellent shoot density and strong recovery  
STRI Rating **7.7**

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

"I've been using the Johnson's J Premier Pitch mixture for around 15 years now. Over that period, it has proven time and again its superior colour and wear tolerance over many busy seasons. The trust I have in this seed makes it my go-to product."

### Jim Buttar

Head Groundsperson  
Twickenham Stadium



# J PREMIER 4TURF

## For football and rugby stadia

The ultimate football and rugby stadium renovation mixture for rapid establishment, wear tolerance and exceptional visual merit. New for 2022, J Premier 4Turf is the first mixture of its kind to offer proven Brown Patch tolerance thanks to the combination of disease-resistant diploid and 4turf® cultivars.



DLF Select option  
available for  
purity you can rely on



- **10% Fabian** [Tetraploid Perennial Ryegrass] - Top rated 4turf® tetraploid ryegrass for significantly improved wear tolerance, shoot density and Brown Patch tolerance  
STRI Rating **6.3**
- **10% Tetragame** [Tetraploid Perennial Ryegrass] - 4turf® for significantly improved wear tolerance, shoot density, recovery and disease resistance - including Brown Patch  
STRI Rating **5.4**
- **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 **7.8**
- **20% Gildara** [Perennial Ryegrass] - Combining best in class genetic turf colour with outstanding wear tolerance, shoot density, recovery and disease resistance  
STRI Rating **7.6**
- **20% Monroe** [Perennial Ryegrass] - The top-ranked all rounder – shoot density, fine leaf, recovery, disease resistance and coverage  
STRI Rating **7.6**

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



**Chris Last**  
Head Groundsman  
Reading Football Club





## PREMIER 4TURF TRIAL AT READING F.C.

Having heard about DLF's tetraploid ryegrass, Head Groundsman at Reading Football Club, Chris Last was keen to explore what benefits the improved root and shoot density could bring to his dual-use surface. Chris had been a user of Johnsons J Premier Pitch at the ground for a number of seasons and, in early 2019, began a dialogue with the DLF technical team about the possible incorporation of tetraploids, to create a mixture with even greater resilience, even faster establishment and improved wear tolerance.

"In our view, J Premier Pitch was already a fantastic mixture and delivered a sward with the characteristics to withstand the challenges of a stadium environment" explains Chris. "Despite the difficulties of Covid, my team and I were in regular conversation with the team at DLF to explore and trial a new hybrid mixture – bringing all the benefits of J Premier Pitch combined with some highly rated tetraploid cultivars."

By June 2021, Johnsons J Premier 4Turf was formulated, with Chris using the mixture for his summer pitch renovation. "Having not previously used tetraploids before, it was interesting to see how well they thrived in our environment! We seeded, then sheeted and within just three days the tetraploids were up, without the need for excessive levels of input. We were then cutting within a week."

"As the months progressed, myself and the team at DLF have been avidly observing the sward and how it copes with the issues – particularly disease pressure – at various times of the year. July has always traditionally been a hot-spot for Brown Patch, but last year we saw nothing at all. The additional resilience of the tetraploids has meant that even during high-pressure periods for Fusarium through September and October, any small signs have not turned into full outbreaks."

He continues, "While we no longer host rugby fixtures, the demand on our pitch has been just as high with the addition of women's and under 23's football. Without question, we have retained far more overall coverage than we have in previous seasons."

Alongside disease, the J Premier 4Turf mix has also demonstrated its strength at managing shade. "The six-yard box at the South End is in shade year-round, yet this mixture established here fantastically and we'd say that coverage is 30% higher than we've achieved previously with the straight diploid mix."

Chris concludes, "Throughout the trial, we've noticed that we're watering less and both our fertiliser and fungicide rates have also reduced. With all the above in mind, plus the environmental factors we're all having to manage on a daily basis, we will undoubtedly be using this mixture again next year."



Johnsons J Premier 4Turf  
12 days after sowing.



Johnsons J Premier 4Turf  
6 weeks after sowing.



## For winter sports pitches and racecourses

4turf® tetraploid rye is top ranked for disease resistance and ensures rapid establishment even under low soil temperatures (down to 4°C). This makes the deep-rooting and high wear tolerant J 4Turf the ideal choice for autumn overseeding programmes on winter sports pitches and racecourses.



### NITRO 4TURF

ProNitro® coated option available



- **25% Fabian** [Tetraploid Perennial Ryegrass] - Top rated 4turf® tetraploid ryegrass for significantly improved wear tolerance, shoot density and Brown Patch tolerance  
STRI Rating **6.3**
- **NEW! 25% Tetrastar** [Tetraploid Perennial Ryegrass] - A recent addition to the 4turf® family, demonstrates even denser and finer leaves without compromising stress tolerance  
STRI Rating **5.6**
- **25% Berlioz 1** [Perennial Ryegrass] - Proven low temperature germination and high wear tolerance  
STRI Rating **7.2**
- **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 12mm

**4turf®**  
by DLF  
Tetraploid  
Technology

**BROWN  
PATCH  
TOLERANT**

"With few conventional tools and techniques at my disposal in the approach we take to issues such as weed and disease control, maintaining surface quality and health is crucial and begins with seed that germinates quickly and gives us high-quality, long-lasting results. We complement Johnsons J Premier Pitch with Johnsons J 4Turf, with tetraploid perennial rye, which works well for winter overseeding. This helps to give us some additional strength in high wear areas such as the goal mouths as well as a fighting chance to repair any damage or bare patches through the cooler months."

**Nigel Harvey**  
Grounds Manager  
**Forest Green Rovers**







# 4TURF 100

NEW 2022  
FORMULATION

**For football & rugby pitches, polo fields, racecourses, golf tees and pathways**

Incorporating 100% 4turf® ryegrasses, this new four cultivar blend delivers rapid renovation of worn areas on football & rugby pitches, polo fields, racecourses, golf tees & 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] - Top rated 4turf® tetraploid ryegrass for significantly improved wear tolerance, shoot density and Brown Patch tolerance  
STRI Rating **6.3**
- **25% Tetragame** [Tetraploid Perennial Ryegrass] - 4turf® for significantly improved wear tolerance, shoot density, recovery and disease resistance - including Brown Patch  
STRI Rating **5.4**
- **25% Double** [Tetraploid Perennial Ryegrass] - Rapid establishment, deep rooting and proven resistance to common sports turf diseases  
STRI Rating **4.8**
- **NEW! 25% Tetrastar** [Tetraploid Perennial Ryegrass] - A recent addition to the 4turf® family, demonstrates even denser and finer leaves without compromising stress tolerance  
STRI Rating **5.6**

Sowing rate	25-50g/m <sup>2</sup>
Oversowing	25-50g/m <sup>2</sup>
Mowing height	Down to 12mm



# J 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 **7.2**
- **50% Berlioz 1** [Perennial Ryegrass] - Proven low temperature germination and high wear tolerance  
STRI Rating **7.2**
- **25% Rossinante** [Strong Creeping Red Fescue] - The fastest establishment of any red fescue, delivering strong density with low inputs  
STRI Rating **-.-**

Sowing rate	35-50g/m <sup>2</sup>
Oversowing	25-50g/m <sup>2</sup>
Mowing height	Down to 12mm

"With the school numbers increasing and the sports field being used more, we needed to find a seed that could give us high wear tolerance, fast recovery and could cope with the close mowing for the cricket season, but then deliver a strong sward for winter sport pitches. Johnson's J Multi Sport has given us all of this thanks to its highly-rated cultivars, helping us to achieve a sward that can cope with high levels of use all year round."

**Richard Bowman**  
Grounds Manager  
**King's School Gloucester**





# J RESCUE 100

**For football & rugby pitches, polo fields, racecourses, golf tees and pathways**

The perfect choice for emergency overseeding and repairs on football and rugby pitches, golf tees, polo fields and racecourses. Offering rapid establishment in temperatures down to 3°C, J Rescue 100 delivers a fine leaf, improved sward density and strong turf colour.



- **100% Quickston** [Annual Ryegrass] - Secures quick establishment in difficult situations - the perfect nurse crop!  
STRI Rating -.-

Sowing rate	-
Oversowing	30-50g/m <sup>2</sup>
Mowing height	Down to 12mm

# J RESCUE STADIA

**For shaded areas on 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 (down to 3°C). The fine leaf, excellent disease resistance and tolerance of wear and shade make it well suited for shaded areas on both football and rugby pitches.



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

Sowing rate	35-75g/m <sup>2</sup>
Oversowing	10-75g/m <sup>2</sup>
Mowing height	Down to 12mm



# PREMIER WICKET

NEW 2022  
FORMULATION

## For cricket squares

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



## NITRO PREMIER WICKET

ProNitro<sup>®</sup> coated option available



DLF Select option  
available for  
purity you can rely on

- **10% Clementine** [Perennial Ryegrass] -  
Top-rated fine turf ryegrass bred for exceptional shoot density, fineness of leaf and cleanliness of cut  
STRI Rating **7.4**
- **30% Monroe** [Perennial Ryegrass] -  
The top-ranked all-rounder - shoot density, fine leaf, recovery, disease resistance and coverage  
STRI Rating **6.5**
- **30% Dickens 1** [Perennial Ryegrass] -  
High disease resistance, year-round colour and strong regrowth makes this a top performer under close mown conditions  
STRI Rating **6.4**
- **30% Chloe** [Perennial Ryegrass] -  
Fast establishment and high wear tolerance combine with an exceptionally fine leaf for outstanding visual merit, even under dry conditions  
STRI Rating **6.6**

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

"I've used the Johnsons J Premier Wicket mixture for over 10 years now and it has always delivered reliability and great results. It was originally used on the nets and square, but when we had the outfield renovated three years ago, we decided to use J Premier Wicket here too because of its tolerance of low mowing. We use the ProNitro<sup>®</sup> coated option which gives us dense, strong growth and fantastic recovery, either from matches or other events such as concerts that we host."

### Matt Merchant

Head Groundsman

Emirates Old Trafford





# J OUTFIELD

## For high quality cricket outfields

The rapid establishment and tolerance of high wear conditions makes J Outfield a popular choice for high quality cricket outfields. It has outstanding disease resistance and delivers a sward that requires less fertiliser than standard ryegrass mixtures.



- **25% Chardin** [Perennial Ryegrass] - High shoot density, fast recovery and a fine leaf, tolerant of close mown conditions  
STRI Rating **7.2**
- **25% Tetragame** [Tetraploid Perennial Ryegrass] - 4turf® for significantly improved wear tolerance, shoot density, recovery and disease resistance - including Brown Patch  
STRI Rating **5.4**
- **5% Wagner 1** [Chewings Fescue] - Consistency in colour throughout the seasons, good shoot density contributing to a dense sward  
STRI Rating **6.0**
- **10% Archibal** [Slender Creeping Red Fescue] - Strong visual merit under close mown conditions with tolerance to salt and high disease resistance  
STRI Rating **6.6**
- **35% Rossinante** [Strong Creeping Red Fescue] - The fastest establishment of any red fescue, delivering strong density with low inputs  
STRI Rating **6.0**

Sowing rate	35-50g/m <sup>2</sup>
Oversowing	25-50g/m <sup>2</sup>
Mowing height	Down to 10mm

# J INTENSE

## For cricket squares, tennis courts and golf tees

100% perennial ryegrass mixture for rapid establishment and high wear tolerance under close mown conditions. With high shoot density, rapid recovery from wear and exceptional disease resistance, J Intense is an ideal overseeding mix for cricket squares, tennis courts and golf tees.



- **50% Dickens 1** [Perennial Ryegrass] - High disease resistance, year-round colour and strong regrowth makes this a top performer under close mown conditions  
STRI Rating **6.4**
- **50% Chardin** [Perennial Ryegrass] - High shoot density, fast recovery and a fine leaf, tolerant of close mown conditions  
STRI Rating **6.2**

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



"A break in play triggered by the first Covid lockdown gave us a window of opportunity to conduct a full renovation on the club's nursery ground. However, we only had just under seven weeks to get the project complete, before a number of international teams used the ground as a base for three months of training. Not only did J Intense establish rapidly, which brought the ground back into play quickly, it then gave us fantastic sward strength, durability and quality that performed brilliantly throughout the season despite high levels of sustained play."

**Simon Lee**  
Head Groundsman  
The Ageas Bowl

# WILD FLOWER MIXTURES

## PROFlora



### 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	<i>Cornfield Annuals</i>	20%	80%
PRO FLORA 2	<i>Acid Soils (below pH6)</i>		
PRO FLORA 3	<i>Damp Soils</i>		
PRO FLORA 4	<i>Calcareous Soils (Chalk)</i>		
PRO FLORA 5	<i>Wet Soils</i>		
PRO FLORA 6	<i>Dry Soils</i>		
PRO FLORA 7	<i>Hedgerow &amp; Light Shade</i>		
PRO FLORA 8	<i>Legacy General Purpose</i>		
PRO FLORA 9	<i>Heritage General Purpose</i>	10%	90%
PRO FLORA 10	<i>General purpose plus Annuals</i>		
PRO FLORA 11	<i>Woodland &amp; General Shade</i>	20%	80%
PRO FLORA 12	<i>Water Margins &amp; Pond Edges</i>		
PRO FLORA 13	<i>Species Rich Lawn &amp; Landscape</i>		
PRO FLORA 14	<i>Tall Herb &amp; Tussock</i>		
PRO FLORA 15	<i>Pollinator</i>		
PRO FLORA 16	<i>Coastal</i>		
PRO FLORA 110	<i>Economy General Purpose - plus Annuals</i>	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

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

### 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™ mark is only given to plants or mixtures that support pollinating insects. Bees, butterflies, moths, hover-flies and many others visit flowers to feed on nectar and pollen; while doing so they transfer pollen and increase seed set and fruit development.

Find out more at: [rhs.org.uk/perfectforpollinators](https://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 that we know 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.



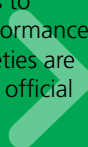
## Year 4-8

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.



## 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.





# 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.

## Year 15

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

## Year 15+

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



S A L T •

H E A T •

D R O U G H T

# GRASS SPECIES

## Perennial Ryegrass

Latin Name	<i>Lolium perenne</i>
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



### 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.

### Distinguishing features

- Leaves largely parallel-sided, but narrow to a fine tip
- Upper leaf surface dull with clear ribs
- Underside of leaf glossy with prominent keel
- Leaves and stems reddish at base
- Leaf blade folded in the shoot
- Ligule up to 2mm long
- Clear sheath/auricle

## 4turf® Tetraploid Perennial Ryegrass

Latin Name	<i>Lolium perenne</i>
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



### Properties

4turf® 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 quickly and establishing rapidly, this species is a highly suitable mixture partner for sports turf.

### Distinguishing features

- 4 sets of chromosomes
- Leaves largely parallel-sided, but narrow to a fine tip
- Upper leaf surface dull with clear ribs
- Underside of leaf glossy with prominent keel
- Leaf blade folded in the shoot
- Ligule up to 2mm long
- Clear sheath/auricle



**4turf®**  
by DLF

## Annual Ryegrass

Latin Name	<i>Lolium Multiforum</i>
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



### Properties

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

### Distinguishing features

- Germination as low as 3°C
- Rapid germination



## Chewings Fescue

Latin Name	<i>Festuca rubra commutata</i>
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 filamentous
- Young leaf folded in shoot (generally remains unfolded when mature)
- Ligule short, blunt and difficult
- Roots bunched together
- No rhizomes
- Leaf sheath complete, not overlapping



### Properties

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	<i>Festuca rubra litoralis</i>
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 (generally remains unfolded when mature)
- Ligule short, blunt & difficult to distinguish
- Short rhizomes
- Leaf sheath complete, not overlapping



### 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 rubra commutata*.

**4salt<sup>®</sup>**  
by DLF

## Sheeps and Hard Fescue

Latin Name	<i>Festuca ovina</i>
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

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	<i>Festuca arundinacea</i>
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 surface
- Blade rolled when young
- Large flat mature leaf
- Ligules 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	<i>Festuca rubra rubra</i>
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

- Leaves stiff and filamentous
- Young leaf folded in shoot (tends to remain unfolded when mature)
- Ligule short, blunt and difficult to distinguish
- Long rhizomes
- Leaf sheath complete, not overlapping



### 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.

## Smooth Stalked Meadow Grass

Latin Name	<i>Poa pratensis</i>
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

- Leaves dark green or with bluish bloom
- Of uniform width, abruptly terminating in boat-shaped tip
- Two pale parallel lines visible along midrib when leaf is held up against light
- Underside of leaf with keel
- Leaf blade folded in the shoot
- Ligule short, rounded, 1-3mm long



### Properties

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

## Rough Stalked Meadow Grass

Latin Name	<i>Poa trivialis</i>
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
- Leaves dark green or with bluish bloom



### 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	<i>Agrostis capillaris syn. tenuis</i>
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

- Leaves matt green and broadest at base, gradually narrowing to a fine tip
- Leaf with parallel venation, no keel
- Upper surface and lower surface of similar appearance
- Leaf rolled in shoot
- Ligule short, truncated, 0.5-2.0mm long
- Short rhizomes, to a lesser degree, stolons



### 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, over-fertilising, over-watering and compact/waterlogged soil will result in displacement of the species by *Poa annua*.



## Creeping Bent Grass

Latin Name	<i>Agrostis stolonifera</i>
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



### 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.

### 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
- Can root at nodes
- Numerous stolons

## Velvet Bent Grass

Latin Name	<i>Agrostis canina</i>
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



### 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.

### 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



This is a guide only, individual varieties will vary.  
For further information please visit:  
<https://www.dlf.com/customer-support/seed-variety>

5 = highest rated, 1 = lowest rated.

## QUICK REFERENCE GUIDE

		Perennial Rye Grass (diploid)	Tetraploid Rye Grass	Strong Creeping Red Fescue	Slender Creeping Red Fescue	Chewings Fescue	Hard/Sheeps Fescue	Tall Fescue	Smooth Stalked Meadow Grass	Browntop Bent
CHARACTERISTICS OF SPECIES	Establishment Vigour	4	5	3	2	2	2	3	1	2
	Leaf Texture/fineness of leaf	4	3	4	5	5	5	1	3	4
	Shoot Density	4	3	3	4	5	5	1	3	4
	Wear Tolerance	5	4	3	2	3	2	4	4	3
	Salt Tolerance	3	5	3	5	3	3	4	3	3
	Close Mown	3	2	2	4	4	3	1	3	5
	Drought Tolerance	3	5	3	4	3	4	5	3	2

# USEFUL DATA

## Sports Pitch Dimensions

	Dimensions Metres (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

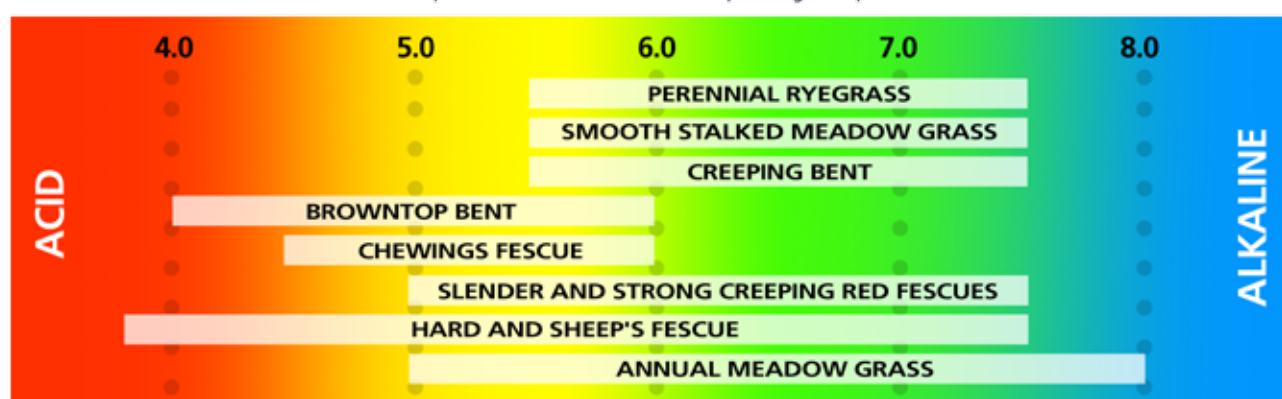
## Sowing rate and depths

Bag size	m <sup>2</sup> coverage by sowing rate			
	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	10-20	30
Red Fescue	10-20	20
Smooth Stalked Meadow Grass	5-10	-
Bents	Rootzone contact	-

## Soil pH and Turf Growth

Soil pH. Table shows most suitable pH for grass species



**BASIS**

You can claim CPD points for reading through the 2022 Johnsons Sports Seed catalogue by visiting:

[www.basis-reg.co.uk](http://www.basis-reg.co.uk)

BASIS Amenity Training Register  
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01/01/2022 – 31/05/2022  
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01/06/2022 – 31/12/2022  
AP/115641/2223/g





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# 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.



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**Cover image:** Reading F.C. - the first venue to trial the brand new Johnsons J Premier 4Turf mixture.

**Cover inset image:** J Tee shoots, 14 days after sowing.

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