



Seed

The Agrovista Amenity seed offerings, including a comprehensive range of grass and wildflower mixtures



Welcome

The aim of a seed brochure is not just to provide a list of seed mixtures, it should also offer support and guidance to help you make clear and informed choices. Our grass seed mixtures have been carefully selected to maximise the combined strength of different cultivars and species. Tolerant of the stresses associated with their intended use whilst maximising turf quality. Agrovista Amenity partners with some of the largest breeders and producers of seed in the UK and Europe, also calling upon the expertise from our colleagues in the Agrovista Seeds business to offer you a professional seed mixture range.

I would also like to take the opportunity to remind you about the **Agrovista Amenity Academy** (www.amenityacademy.co.uk), which provides weekly weather courses and incorporates overseeding weather data helping you apply at the right time, maximising germination and ensuring optimum establishment. The Agrovista Amenity Academy helps you to understand a range of different turf management topics. You also earn CPD points whilst you learn.



John Marland
Head of Amenity



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All grass cultivars in the TechniTurf and CleenCut range have been assessed and listed by the STRI. Cultivars may be exchanged for alternatives of the same or higher rating.

Areas of use

	Bowling greens	Cricket wicket	Cricket outfield	Croquet lawns	Football pitch	Golf driving range	Golf greens	Golf tees	Golf fairway	Golf rough	Hockey	Polo	Racecourse and gallops	Rugby pitch	Tennis
TT allbent	●			●			●								
TT fine fescue	●			●			●	●	●						
TT fine rye		●						●							●
TT shaded areas			●			●		●							
TT tees and fairway with rye			●		●		●	●							●
TT tees and fairway non-rye								●	●	●					
TT 4turf renovation					●						●	●		●	
TT pitch renovation					●						●	●		●	

	Bowling greens	Cricket wicket	Cricket outfield	Croquet lawns	Football pitch	Golf driving range	Golf greens	Golf tees	Golf fairway	Golf rough	Hockey	Polo	Racecourse and gallops	Rugby pitch	Tennis
CC greens	●						●								
CC fine lawns	●		●	●			●								
CC hardwearing lawns			●		●		●	●							
CC landscaping			●		●		●				●	●		●	
CC wicket		●													●
CC paddocks									●						
CC renovator					●						●	●	●	●	

Mixture formulations

The mixtures in the TechniTurf (TT) and CleenCut (CC) ranges have been specifically selected to maximise the strengths of different cultivars and species. Each species has characteristics that make it suited to particular uses. Within species, cultivars can be selected to improve specific attributes; for example, disease resistance, wear tolerance, or visual merit. Incorporating a number of cultivars ensures the quality of turf surfaces is able to remain consistent throughout the year.

Breeding goals and benefits

There are a number of goals set with regards to cultivar breeding for turf with each specific goal leading to benefits for the turf manager.

- Drought and heat tolerance can reduce irrigation costs
- Cold tolerance can improve turf appearance throughout the winter months
- Salt tolerance can improve the performance of coastal and salt affected areas
- Disease tolerance reduces the requirement for plant protection products
- Wear tolerance can result in more playing hours
- Density, leaf colour and fineness offer an improved visual appearance of the turf

Species selection

In each of our mixes we have selected cultivars which are tolerant of the dominant stresses for the use they are recommended for, in addition to selecting for overall turf quality.

Selecting the right mix for your situation will help you to manage your turf surface and reduce the affects of abiotic stresses. You can further improve your turfs ability to cope with stress factors, for example by:

- Altering the rootzone to improve drainage
- Using lighting and UV panels to relieve shade within a stadium environment
- Aerating the rootzone by hollow tining or spiking etc to relieve compaction
- Improving drainage by altering the rootzone

Key benefits

- Maximises mixture strength
- Improves aesthetic turf qualities
- Enhances resistance to abiotic and biotic stresses

Grass species



Annual ryegrass

With its ability to rapidly establish at low temperatures, annual ryegrass can be used as a nursery crop and is ideal for localised repair.

Distinguishing features:

- Germination as low as 3°C
- Rapid establishment

Scientific name	<i>Lolium multiflorum</i>
Seeds/g	500
Germination	3-7 days
Shoot density	150-250 shoots/m²
Cutting height	Not less than 15mm
Growth	Non-spreading growth habit



Browntop bent grass

This species is tolerant of wear and is well adapted to relatively low nutrient soils and dry conditions. Overfertilising, over-watering and compacted or waterlogged soil can result in displacement of the species by annual meadow grass (*Poa annua*).

Distinguishing features:

- Leaves fine, stiff and filamentous
- Young leaf folded in shoot (generally remains unfolded when mature)
- Ligule short
- Forms dense tufts
- Short rhizomes
- Leaf sheath complete, not overlapping

Scientific name	<i>Agrostis capillaris syn. tenuis</i>
Seeds/g	10,000
Germination	2-3 weeks
Shoot density	400-600 shoots/m²
Cutting height	4-12mm (good durability at 5mm)
Growth	Slow colonising short rhizomes



Chewings fescue

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.

Distinguishing features:

- Leaves fine, stiff and filamentous
- Young leaf folded in shoot (generally remains unfolded when mature)
- Ligule short
- Forms dense tufts
- No rhizomes
- Leaf sheath complete, not overlapping

Scientific name	<i>Festuca rubra commutata</i>
Seeds/g	1,000
Germination	Approx 2 weeks
Shoot density	450-800 shoots/m²
Cutting height	20-35mm (not less than 2mm)
Growth	Non-spreading growth habit



Creeping bent

Though related to browntop bent grass, this species requires more nitrogen alongside intensive management and watering. While it has high tolerance to close cutting, creeping bent can become dormant in winter.

Distinguishing features:

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

Scientific name	<i>Agrostis stolonifera</i>
Seeds/g	12,000
Germination	Approx 2 weeks
Shoot density	400-600 shoots/m²
Cutting height	3-12mm (not over 15mm)
Growth	Creeping stolons



Perennial ryegrass

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
- Underside of leaf and leaf sheath glossy with prominent keel
- Leaves and stems reddish at base
- Leaf blade folded in the shoot
- Ligule up to 2mm long
- Clear sheath/auricle

Scientific name	<i>Lolium perenne</i>
Seeds/g	600
Germination	1-2 weeks
Shoot density	200-350 shoots/m²
Cutting height	25-40mm (not less than 4mm)
Growth	Non-spreading growth habit



Rough stalked meadow grass

This species is well adapted to low light levels, making it ideal to use in shady conditions. Also adapted to wet ground and with frost tolerance, it can help improve turf quality during the winter.

Distinguishing features:

- Of uniform width, abruptly terminating in boat-shaped tip
- Leaves dark green or with bluish bloom
- No auricles
- Long (4-10 mm) pointed ligule
- Lower surface of the leaf is glossy
- Spreads by stolons

Scientific name	<i>Poa trivialis</i>
Seeds/g	4,000
Germination	3-4 weeks
Shoot density	200-350 shoots/m²
Cutting height	20-35mm (not less than 8mm)
Growth	Creeping with stolons



Sheep's and Hard fescue

Both species are highly flexible, drought tolerant and require limited nutritional inputs. They can be used in a diverse range of mixtures from moorland to golf. The species are tolerant of both close-mown and low-maintenance situations and are visually attractive if left uncut. Sheep's fescue is well adapted to cold conditions, whilst hard fescue has good heat tolerance.

Distinguishing features:

- Very fine leaved with high shoot density
- Leaves are thread like, hairless with a strongly ribbed ridged upper surface
- Leaves greyish to blue green
- Sheep's fescue characteristically forms whorls as a mature plant
- Ligule is very short
- Leaf sheaths open and overlapping

Scientific name	Sheep's fescue: <i>Festuca ovina</i> Hard fescue: <i>Festuca longifolia</i>
Seeds/g	950
Germination	2-3 weeks
Shoot density	800-1,000 shoots/m ²
Cutting height	15-35mm (not less than 5mm)
Growth	Non-spreading growth habit



Slender creeping red fescue

A low maintenance and drought tolerant species which requires low nutritional inputs. Its short rhizomes enable greater resistance to wear than non-spreading fescues. It has a fine leaf and is highly ornamental if left uncut.

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
- Ligule is very short
- Leaf sheaths open and overlapping

Scientific name	<i>Festuca rubra litoralis</i>
Seeds/g	1,000
Germination	Approx 2 weeks
Shoot density	450-800 shoots/m ²
Cutting height	20-25mm (not less than 5mm)
Growth	Creeping with short rhizomes



Smooth stalked meadow grass

A hard wearing species with a good ability to regenerate due to extensive rhizomatous growth. It is ideal for turf production, tees and sports areas, particularly when paired with the faster establishing perennial ryegrass.

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

Scientific name	<i>Poa pratensis</i>
Seeds/g	4,000
Germination	3-4 weeks
Shoot density	200-350 shoots/m ²
Cutting height	20-35mm (not less than 8mm)
Growth	Loose tufts with rhizomes



Strong creeping red fescue

With the largest seeds of the red fescues, this species establishes rapidly. 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.

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

Scientific name	<i>Festuca rubra rubra</i>
Seeds/g	800
Germination	Approx 2 weeks
Shoot density	250-450 shoots/m ²
Cutting height	20-35mm (not less than 5mm)
Growth	Long creeping rhizomes



Tall fescue

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.

Distinguishing features:

- Strongly veined upper leaf surface
- Blade rolled when young
- Large flat mature leaf
- Ligules short
- Small hairy auricles
- Purple red leaf sheath

Scientific name	<i>Festuca arundinacea</i>
Seeds/g	650
Germination	2-3 weeks
Shoot density	200 shoots/m ²
Cutting height	30-40mm (not less than 10mm)
Growth	Non-spreading growth habit

Agrovista's partnership with DLF offers a professional seed mixture range formulated and backed by the world's largest breeder and producers of grass seed.

4turf® is a new generation of tetraploid perennial ryegrass varieties, developed to be quick to establish, deep rooting and tolerant to stress. 4turf® is better able to withstand a range of stressful conditions, such as drought, cold, disease, and wear.

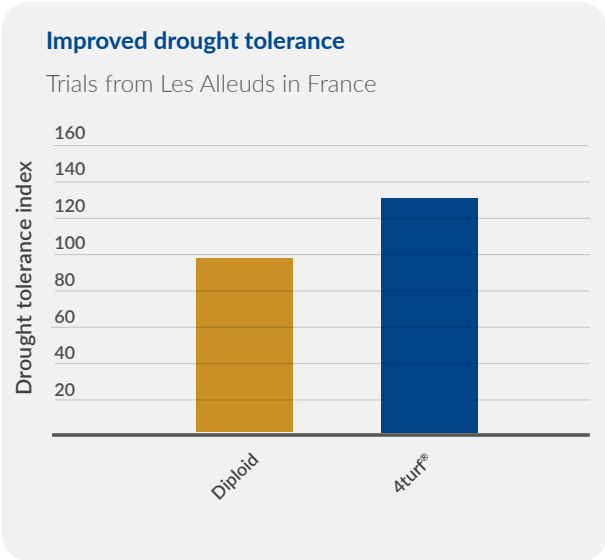
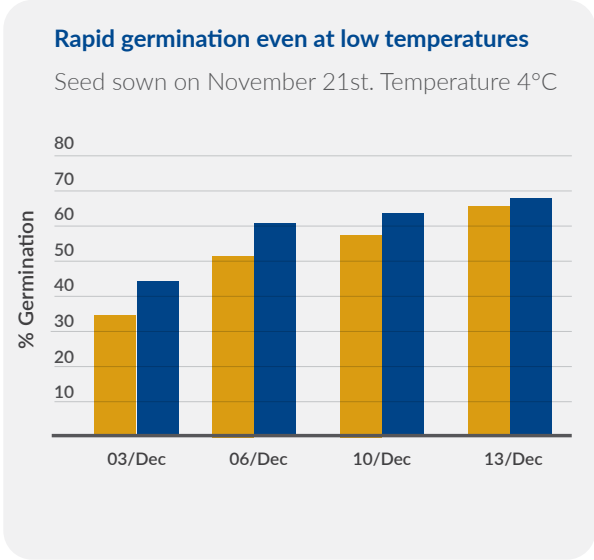
Diploid and tetraploid plants have different amounts of chromosomes in the nucleus of each plant cell. Diploid plants have two sets of chromosomes in each cell; tetraploid plants have four.

Scientific name	<i>Lolium perenne</i>
Seeds/g	550
Germination	1-2 weeks
Shoot density	150-250 shoots/m ²
Cutting height	Normal: 20-40mm (not less than 4mm)
Growth	Non-spreading growth habit



Key benefits

- Peace of mind through improved brown patch tolerance
- Improved disease resistance leading to 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



Historically, perennial ryegrasses bred for amenity use have been diploid. Tetraploid perennial ryegrasses are a technological step forward. They perform better because they have twice as many chromosomes and therefore, twice as much chloroplast in each cell. The extra chloroplast boosts chlorophyll production, creating a healthier, high-energy plant. Tetraploids are robust and hard-wearing, with improved stress tolerance and ability to recover, even in cooler temperatures.

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 an advantage for cool weather overseeding.

Drought tolerance

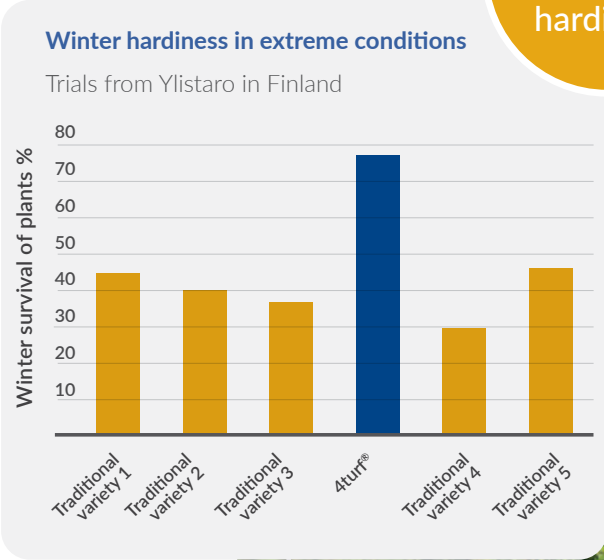
The larger root system and natural water reserves makes 4turf® more drought tolerant and quicker to recover when rain returns. Trials conducted in the Les Alleuds in France confirmed that 4turf® cultivars are significantly more drought-tolerant than diploids.

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.



Documented winter hardiness

GroMax

All TechniTurf grass seed mixtures are coated with GroMax to maximise plant development.

The GroMax coating assists seedlings by providing an energy source and plant biostimulants. In addition it enables the seedling to take advantage of existing soil nutrients by stimulating the soil's microflora, resulting in improved root growth and establishment.

- 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. GroMax 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 delays 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 by increasing cell wall strength.

Sucrose

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

TechniTurf

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TechniTurf green seed mixtures include varieties offering exceptional visual appearance that are capable of withstanding year round use.



TechniTurf allbent

This high quality three way all bent grass mixture is ideal for oversowing golf and bowling greens to deliver a sward capable of excellent turf recovery, close mowing, fine leaf, increased shoot density and disease tolerance.

Contains		Application	
20% Cleek	Browntop bentgrass	Pack size	10kg and 20kg
50% Manor	Browntop bentgrass	Sowing rate	10-15g
30% Arrowtown	Browntop bentgrass	Oversowing rate	5g/m ²
		Sowing depth	Surface contact
		Mowing height	Down to 4mm

TechniTurf fine rye

With highly rated fine perennial ryegrass cultivars, this mixture shines in providing excellent performance, speed of establishment, resistance to wear and leaf density under close mown conditions. Ideal for cricket wicket, tennis, and tees renovation.

Contains		Application	
25% Aniston	Perennial ryegrass	Pack size	10kg and 20kg
35% Chardin	Perennial ryegrass	Sowing rate	35-50g/m ²
40% Chloe	Perennial ryegrass	Oversowing rate	25-50g/m ²
		Sowing depth	12-15mm
		Mowing height	Down to 8mm

TechniTurf fine fescue

Ideal for sustainable, low input areas such as golf and bowling greens, tees, free draining fairways or where a low maintenance regime is in place. Chewing's fescue cultivars are upright in growth habit and ideal for spring sowing. The slender red creeping fescue cultivars will allow lateral growth and turf recovery with excellent drought tolerance and disease resistance.

Contains		Application	
25% Gima	Chewing's fescue	Pack size	20kg
25% Esparina	Chewing's fescue	Sowing rate	30-50g/m ²
25% Cezanne	Slender creeping red fescue	Oversowing rate	10-25g/m ²
25% Archibal	Slender creeping red fescue	Sowing depth	4-6mm
		Mowing height	Down to 5mm

TechniTurf shaded areas

Containing a blend of shade tolerant grass cultivars. Designed to deliver a high quality, fine, dense turf that can withstand wear under shaded conditions. This mix is ideal for all managed turf situations under shade especially golf tees and ornamental landscaped areas.

Contains		Application	
30% Chardin	Perennial ryegrass	Pack size	20kg
30% Highnote	Chewing's fescue	Sowing rate	35-50g/m ²
25% Archibal	Slender creeping red fescue	Oversowing rate	15-30g/m ²
10% Quatro	Sheep's fescue	Sowing depth	12-15mm
5% Sabrena	Rough stalked meadow grass	Mowing height	Down to 10mm

TechniTurf tees and fairway with rye

Combining the sustainability of the triple fescue combination and the hard wearing nature of ultra fine perennial ryegrass. This fine leaved mixture is ideal for high traffic renovations on fairways, tees, cricket outfields and driving ranges, whilst still delivering excellent visual merit under close mowing.

Contains		Application	
25% Chardin	Perennial ryegrass	Pack size	20kg
10% Chloe	Perennial ryegrass	Sowing rate	35-50g/m ²
35% Sergei	Strong creeping red fescue	Oversowing rate	15-25g/m ²
15% Highnote	Chewing's fescue	Sowing depth	4-6mm
15% Archibal	Slender creeping red fescue	Mowing height	Down to 12mm

TechniTurf tees and fairway non-rye

Comprising of three excellent cultivars of fescue species to deliver exceptional shoot density, salt tolerance and visual merit combined with fast establishment and turf recovery. Ideal for fairways, roughs, tees, low growing embankments or when a low input maintenance regime is in place.

Contains		Application	
30% Highnote	Chewing's fescue	Pack size	20kg
30% Archibal	Slender creeping red fescue	Sowing rate	30-50g/m ²
40% Rossinante	Strong creeping red fescue	Oversowing rate	10-25g/m ²
		Sowing depth	4-6mm
		Mowing height	Down to 10mm

TechniTurf pitch renovation

With a mixture of four high quality perennial ryegrass cultivars, TechniTurf pitch renovation provides excellent wear characteristics, maintains year round colour and establishes rapidly. A dedicated performer for quality winter sports constructions and renovations.

Contains		Application	
25% Columbine	Perennial ryegrass	Pack size	20kg
25% Chloe	Perennial ryegrass	Sowing rate	35-75g/m ²
25% Monroe	Perennial ryegrass	Oversowing rate	25-75g/m ²
25% Berlioz	Perennial ryegrass	Sowing depth	12-15mm
		Mowing height	Down to 15mm

TechniTurf 4turf® renovation

With a blend of the most technologically advanced ryegrass cultivars, both tetraploid and diploid. This mixture establishes quickly providing improved drought tolerance, lasting colour, nutrient efficiency and disease resistance. TechniTurf 4turf® renovation continues to provide excellent shoot density along with incredible wear tolerance, ideal for the renovation of high quality winter sports pitches such as rugby, football, and polo.

Contains		Application	
25% Tetragame	4turf® ryegrass	Pack size	20kg
30% Columbine	Perennial ryegrass	Sowing rate	25-50g/m ²
30% Berlioz	Perennial ryegrass	Oversowing rate	15-25g/m ²
15% Chloe	Perennial ryegrass	Sowing depth	12-15mm
		Mowing height	Down to 15mm

“
4turf® gives you green ground cover during the most difficult period of the year due to improved energy reserves.”

Seed needs

A guide to germination and establishment of grass seed.

There are three key factors which drive successful germination and establishment of grass seed:



Water

Water

Seeds need water to start to swell and soften, initiating the germination process. Germination then occurs when the first tiny root hairs emerge from the seed. From this point moisture continues to be a key requirement, preventing the emerging seedling from drying out before it can connect with the soil or growing medium and become established.

In the autumn there is a high chance of enough precipitation to enable young grass plants to build strong root systems during warmer periods. In the spring we are, in theory, heading towards increasing dryness. Grass plants that germinate in the spring have less time to build up resilient root systems, reducing their ability to survive the upcoming dry weather.

Oxygen

The energy for seed's to germinate comes from the respiration process in which oxygen from the air reacts with the seeds stored sugar reserves to release energy enabling cells to divide and grow. The amount of oxygen held in the pore spaces of a soil can be reduced if it is waterlogged, compacted or has a hard surface. Good soil management helps to ensure that seeds have sufficient oxygen for germination and onwards growth. Correct sowing depth also helps to ensure the seedlings have enough energy to establish.

Contains	Optimum sowing depth (mm)
Perennial ryegrass	12-15
Red fescue	4-5
Browntop bent	1-2



Oxygen

Warmth

Warmer soil temperatures increase the speed of enzyme reactions and processes such as cell division leading to faster germination and establishment. Each grass species has a slightly different range of preferred temperatures for germination.

Soils act like a storage radiator, taking time to build up heat initially but over time storing the residual solar energy. Inevitably, the soil will be much cooler in the spring than in the autumn even if air temperatures are similar because there has not been sufficient time to build up residual heat. Germination therefore tends to be slower in the spring than it would be later in the year:

Contains	Optimum sowing temperature (°C)
Perennial ryegrass	6-25
Red fescue	10-25
Browntop bent	12-30

Finding a balance

The factors which drive successful germination and establishment of grass seed tend to occur in the UK in the spring and the autumn which is why these are the key times for seed sowing.

Agrovista Amenity Academy weather reports include information on seed germination days to help you to better understand how current weather conditions will affect seed germination and establishment. You can use the Agrovista Amenity Academy weather data to help you to apply the right seed at the right time. Alongside the use of good turf management techniques this will help you to maximise germination and ensure optimum establishment.



Warmth

CleenCut

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The CleanCut range offers mixtures at a competitive price, whilst using quality STRI listed cultivars

CleenCut greens

An ideal traditional mixture for greens renovation providing rapid germination, a fine surface and excellent year-round colour. The addition of creeping red fescue further improves establishment and drought tolerance.

Contains		Application	
45% Highnote	Chewing's fescue	Pack size	10kg and 20kg
40% Arcibal	Slender creeping red fescue	Sowing rate	35g/m ²
15% Highland	Browntop bentgrass	Oversowing rate	15-25g/m ²
		Sowing depth	3-5mm
		Mowing height	Down to 4mm

CleenCut hardwearing lawns

A mixture of species ensures the production of a high quality lawn with hardwearing characteristics. The addition of Maxima, strong creeping red fescue and perennial ryegrass, ensures a dense, resilient surface which repairs easily after wear.

Contains		Application	
30% Esquire	Perennial ryegrass	Pack size	10kg and 20kg
30% Essence	Perennial ryegrass	Sowing rate	35-50g/m ²
40% Maxima	Strong creeping red fescue	Oversowing rate	20-30g/m ²
		Sowing depth	10-15mm
		Mowing height	12-20mm

CleenCut fine lawns

A mixture of fine turf species and highly rated cultivars ensures the production of a truly first-class ornamental lawn. To optimise visual merit, ensure a clean seed bed free from coarse species prior to over seeding.

Contains		Application	
25% Wagner	Chewing's fescue	Pack size	10kg and 20kg
50% Maxima	Strong creeping red fescue	Sowing rate	30-40g/m ²
20% Archibal	Slender creeping red fescue	Oversowing rate	15-25g/m ²
5% Highland	Browntop bentgrass	Sowing depth	5-10mm
		Mowing height	10-15mm

CleenCut landscaping

The mixture is ideal for use in a variety of landscape situations including, housing estates, road verges, parkland and play areas. The addition of 4turf® ryegrass (tetraploid) aids rapid establishment, low temperature germination, seasonal stress resilience and excellent wear tolerance.

Contains		Application	
30% Esquire	Perennial ryegrass	Pack size	10kg and 20kg
40% Double	4turf ryegrass	Sowing rate	35-50g/m ²
30% Maxima	Strong creeping red fescue	Oversowing rate	20-30g/m ²
		Sowing depth	5-10mm
		Mowing height	10-15mm

CleenCut wicket

The combination of these highly rated perennial ryegrass cultivars gives excellent performance regarding speed of establishment, density and resistance to wear under close mown conditions.

Contains		Application	
20% Dickens	Perennial ryegrass	Pack size	10kg and 20kg
20% Chardin	Perennial ryegrass	Sowing rate	25-75g/m²
60% Essence	Perennial ryegrass	Oversowing rate	25-60g/m²
		Sowing depth	10-15mm
		Mowing height	Down to 2mm

CleenCut paddock

A good quality, hard wearing paddock mixture, that will last for many years. The inclusion of strong creeping red fescue ensures good shoot density and minimises trampling damage in wet conditions. Cultivars lower in water soluble carbohydrate (sugar) will help to prevent the worst effects of laminitis.

Contains		Application	
30% Calvano	Inter diploid ryegrass	Pack size	10kg
15% Boyne	Inter diploid ryegrass	Sowing rate	5g/m²
30% Cavendish	Late diploid ryegrass	Oversowing rate	5g/m²
15% Maxima	Strong creeping red fescue	Sowing depth	12-15mm
10% Winnetou	Timothy	Mowing height	-

CleenCut renovator

An ideal mixture for the renovation of worn playing surfaces. Contains 4turf® tetraploid perennial ryegrass for rapid establishment. Perennial ryegrass provides a hard-wearing turf with excellent colour and disease resistance.

Contains		Application	
20% Esquire	Perennial ryegrass	Pack size	10kg and 20kg
20% Essence	Perennial ryegrass	Sowing rate	35-70g/m²
60% Double	4turf ryegrass	Oversowing rate	30-40g/m²
		Sowing depth	5-10mm
		Mowing height	15-25mm



Wildflower planning

Meadow type

First consider which type of meadow you would like to create depending on the attributes of your site and your objectives:

Wildflower meadows

- Mimic existing semi-natural habitats
- Can be established on poor soils
- Often contain grasses
- Contain only native grasses and wildflowers

Ornamental flowering meadows

- Have a long flowering period
- Can be established on sites with higher nutrient levels
- Does not usually contain grasses
- Can contain non-native or cultivated ornamental plants

Soil nutrient levels

It is important to understand the soil properties if your intention is to create a wildflower meadow. Ornamental flowering meadow mixtures can tolerate most soil types but prefer soils which can retain some moisture. Wildflower meadows containing annual wildflower species are also able to cope with slightly higher nutrient levels in the soil. Wildflower meadows containing perennial wildflower species require soils with low nutrient levels as these favour less vigorous plants and enable a greater species diversity to develop. Low levels of nitrogen and phosphorus in the soil are of particular importance for creating species diverse wildflower meadows.

Nitrogen

The amount of nitrogen in the soil is difficult to measure accurately because nitrogen is a particularly mobile nutrient with the plant available forms, nitrate (NO₃⁻) and ammonium (NH₄⁺) fluctuating considerably over short periods of time. Nitrogen levels are therefore often estimated based on known contributing factors such as soil texture and previous site use. As a guide, silt, loam and clay soils are more likely to retain nitrogen over time than sandy soils. In addition, a recent history of cultivation or fertilisation of the site is likely to result in high nitrogen levels which may need to be reduced before a species rich wildflower meadow can be established successfully.

Phosphorus

High levels of soil phosphorus promote growth of competitive grass species at the expense of wildflowers. Existing semi-natural wildflower meadows that are flower rich tend to have low soil phosphorus levels (soil index 1-2). When trying to establish a wildflower meadow at a new site, it is preferable if soil phosphorus levels are below soil index 2 (16 mg/l).

Soil moisture

It is always important that soils can supply sufficient moisture to support plant growth. This can be achieved on a variety of soil types; however, specific mixes are more suitable for soils or sites which are prone to being wet. For example, soils with a high clay content, wetland sites or pond edge sites.

Light

Most wildflower meadows and ornamental flowering meadows are located in areas which receive a good amount of sunlight. If a site is particularly shady, a specialist seed mix designed for shady conditions will be required containing species which are adapted to low light levels.



Wildflower seed sowing

Timing

In general, ornamental flowering meadow seeds are best sown in the spring. Annual wildflower meadow seeds can be sown in the autumn and perennial wildflower meadow seeds in late summer/autumn. Both types of wildflower meadow seeds can also be sown in the spring if conditions are unsuitable in the autumn, for example, if waterlogged conditions over the winter are expected.

Sowing

Use the correct sowing rate for the seed mix and sow seeds evenly either by hand or using a seed spreader or drill. Because sowing rates for wildflower seed are low, it is usually helpful to mix the seed with a carrier material such as slightly damp sand. Ensure good seed to soil contact by pressing the seeds into the soil using a roller or the back of a rake or by irrigating with a fine spray after sowing.

Keep the soil surface moist but not overly wet until the seeds have germinated and established. When supplementary irrigation is required be sure to irrigate slowly and gently to avoid disturbing the seeds.

Wildflower seed mixtures

Agrovista wildflower meadow mixture range	26
Pro Flora range	27
Colour Boost range	27



Agrovista wildflower meadow mixture range

Agrovista Amenity have developed a range of native species wildflower meadow mixtures. These are designed to mimic some of the flower rich, semi-natural habitats that exist in the UK and which are vital resources for wildlife. Our mixes are available as either 80% grass mixed with 20% wildflower or as 100% wildflower for oversowing into existing grassland areas.

Site description	Seed mixture	Available as:	
		80/20 mix	100% wildflower mix
Well-drained soils	Classic meadow wildflower mix	Yes	Yes
	Acid grassland wildflower mix	Yes	Yes
	Calcareous grassland wildflower mix	Yes	No
	Shade, hedgerow and woodland wildflower mix	Yes	Yes
Poorly drained soils	Heavy clay soils wildflower mix	Yes	No
	Floodplain meadow wildflower mix	Yes	No
	Wetland and pond edge wildflower mix	Yes	No
Higher nutrient soils	High nutrient soils annuals and perennials wildflower mix	No	Yes
	Cornfield annuals mix	No	Yes



Pro Flora range

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

Site description		UK native wildflowers	Grasses
Pro Flora 1	Cornfield annuals	20%	80%
Pro Flora 2	Acid soils		
Pro Flora 3	Damp soils		
Pro Flora 4	Calcareous soils (chalk)		
Pro Flora 5	Wet soils		
Pro Flora 6	Dry soils		
Pro Flora 7	Hedgerow and light shade		
Pro Flora 8	Legacy general purpose	10%	90%
Pro Flora 9	Heritage general purpose		
Pro Flora 10	General purpose plus annuals		
Pro Flora 11	Woodland and general shade	20%	80%
Pro Flora 12	Water margins and pond edges		
Pro Flora 13	Species rich lawns and landscape		
Pro Flora 14	Tall herb and tussock		
Pro Flora 15	Pollinator		
Pro Flora 16	Coastal		
Pro Flora 110	Economy general purpose plus annuals	5%	95%

Colour Boost range













The Colour Boost range has been designed for maximum floral impact, incorporating both wild flower and garden flowering species.

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
Poppy	100% Poppy - The epitome of remembrance and reflection

Wildflower management and aftercare













Perennial wildflower meadows: Livestock grazing

Grazing with livestock is an effective method of managing perennial wildflower meadows and grasslands because it creates uneven growth and distribution of species which leads to habitat niches. Grazing is also a good option in areas where it is difficult to utilise machinery, perhaps because it is too wet or because the ground is too rough.

Suggested grazing regime for perennial wildflower meadows											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
											
Graze if ground conditions allow		Remove livestock to allow the plants to flower					Graze with between 0.4-1 livestock units/ha				













Perennial wildflower meadows: Mowing

Mowing and removing the clippings can be used to replicate the process of hay cutting and grazing. It is important to remove clippings to avoid nutrients being returned to the soil. Soils for wildflowers are usually low in nutrients to encourage species diversity.

Suggested mowing regime for perennial wildflower meadows											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
											
Leave uncut unless growth is vigorous		Cut and collect clippings	Allow to flower and seed				Cut and collect clippings		Leave uncut unless growth is vigorous		

Annual wildflower meadows

Cornfield annuals need disturbed ground to stimulate germination of fallen seed. After flowering leave plants long enough for seeds to drop. Preferably wait until the spring before cultivating the ground to avoid leaving bare soil over winter. Cultivating the soil may stimulate growth of fallen seed but it may be necessary to supplement with further sowing in subsequent years.

Suggested management regime for annual wildflower meadows											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
											
Leave uncut until spring		Cut and collect clippings and cultivate soil	Leave soil bare to allow germination and/or sow new seed		Allow to flower and seed				Leave uncut until spring		



Visit the **Agrovista Amenity Academy** for weekly weather courses which incorporate overseeding weather data, helping you to apply at the right time, maximising germination and ensuring optimum establishment.

Learning today.
Leading tomorrow.

www.amenityacademy.co.uk

Earn **BIGGA**,
Lantra and
BASIS CPD
points as you
learn

Useful data

Metric/imperial	30
Area	30
Sports pitch dimensions	30
Sowing rates	30



Sports turf surface dimensions

Pitch	Dimensions	Area	Rate	Packs Required
Football	100 x 64m	6400m ²	25-50g/m ²	8 - 16 x 20kg
Rugby	100 x 69m	6900m ²	25-50g/m ²	8 - 16 x 20kg
Hockey	91.4 x 55m	5027m ²	25-50g/m ²	7 - 14 x 20kg
Cricket square	30 x 23m	690m ²	25-50g/m ²	1 - 2 x 20kg
Lawn tennis	23.8 x 11m	262m ²	25-50g/m ²	1 - 2 x 20kg
Bowls	40 x 40m	1600m ²	10-35g/m ²	1 - 3 x 20kg
Croquet	32 x 25.5m	816m ²	25-50g/m ²	1 - 2 x 20kg
Polo	275 x 185m	50,875m ²	25-50g/m ²	64 - 128 x 20kg
Golf green	-	500 - 600m ²	25-50g/m ²	1 x 20kg
Overseeding bent	-	1600m ²	5g/m ²	1 x 10kg
Tees	-	500 - 600m ²	25-50g/m ²	1 - 2 x 20kg
Tees for 18 holes	-	9000 - 10,800m ²	25-50g/m ²	11 - 32 x 20kg

Metric/Imperial

pounds to kilograms	divide by	2.205
kilograms to pounds	multiply by	2.205
ounces to grams	divide by	0.035
grams to ounces	multiply by 5	0.035

Area conversions

square metres to hectares	divide by	10,000
hectares to square metres	multiply by	10,000
square metres to acres	divide by	4047
acres to square metres	multiply by	4047
square metres to square feet	divide by	10.76
square feet to square metres	multiply by	10.76
square metres to square yards	divide by	1.2
square yards to square metres	multiply by	1.2
acres to hectares	divide by	2.47
hectares to acres	multiply by	2.47

Amount of grass seed required for an area at different sowing rates

	5g/m ²	10g/m ²	15g/m ²	20g/m ²	25g/m ²	30g/m ²	35g/m ²	40g/m ²	45g/m ²	50g/m ²
10m ²	50g	100g	150g	200g	250g	300g	350g	400g	450g	500g
20m ²	100g	200g	300g	400g	500g	600g	700g	800g	900g	1kg
30m ²	150g	300g	450g	600g	750g	900g	1kg	1.2kg	1.4kg	1.5kg
40m ²	200g	400g	600g	800g	1kg	1.2kg	1.4kg	1.6kg	1.8kg	2kg
50m ²	250g	500g	750g	1kg	1.2kg	1.5kg	1.8kg	2kg	2.3kg	2.5kg
100m ²	500g	1kg	1.5kg	2kg	2.5kg	3kg	3.5kg	4kg	4.5kg	5kg
200m ²	1kg	2kg	3kg	4kg	5kg	6kg	7kg	8kg	9kg	10kg
300m ²	1.5kg	3kg	4.5kg	6kg	7.5kg	9kg	10.5kg	12kg	13.5kg	15kg
400m ²	2kg	4kg	6kg	8kg	10kg	12kg	14kg	16kg	18kg	20kg
500m ²	2.5kg	5kg	7.5kg	10kg	12.5kg	15kg	17.5kg	20kg	22.5kg	25kg
600m ²	3kg	6kg	9kg	12kg	15kg	18kg	21kg	24kg	27kg	30kg
700m ²	3.5kg	7kg	10.5kg	14kg	17.5kg	21kg	24.5kg	28kg	31.5kg	35kg
800m ²	4kg	8kg	12kg	16kg	20kg	24kg	28kg	32kg	36kg	40kg
900m ²	4.5kg	9kg	13.5kg	18kg	22.5kg	27kg	31.5kg	36kg	40.5kg	45kg
1000m ²	5kg	10kg	15kg	20kg	25kg	30kg	35kg	40kg	45kg	50kg
1 acre	20.2kg	40.5kg	61kg	81kg	101kg	121kg	142kg	162kg	182kg	202kg
1 hectare	50kg	100kg	150kg	200kg	250kg	300kg	350kg	400kg	450kg	500kg

Professional amenity seed distributor

Agrovista Amenity is the main stockists for market leading seed brands including Johnsons and MM.



To request a brochure or quotation on Johnsons, MM, Masterline or Designer seed ranges email enquiries@agrovista.co.uk or contact your local Amenity Specialist.



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