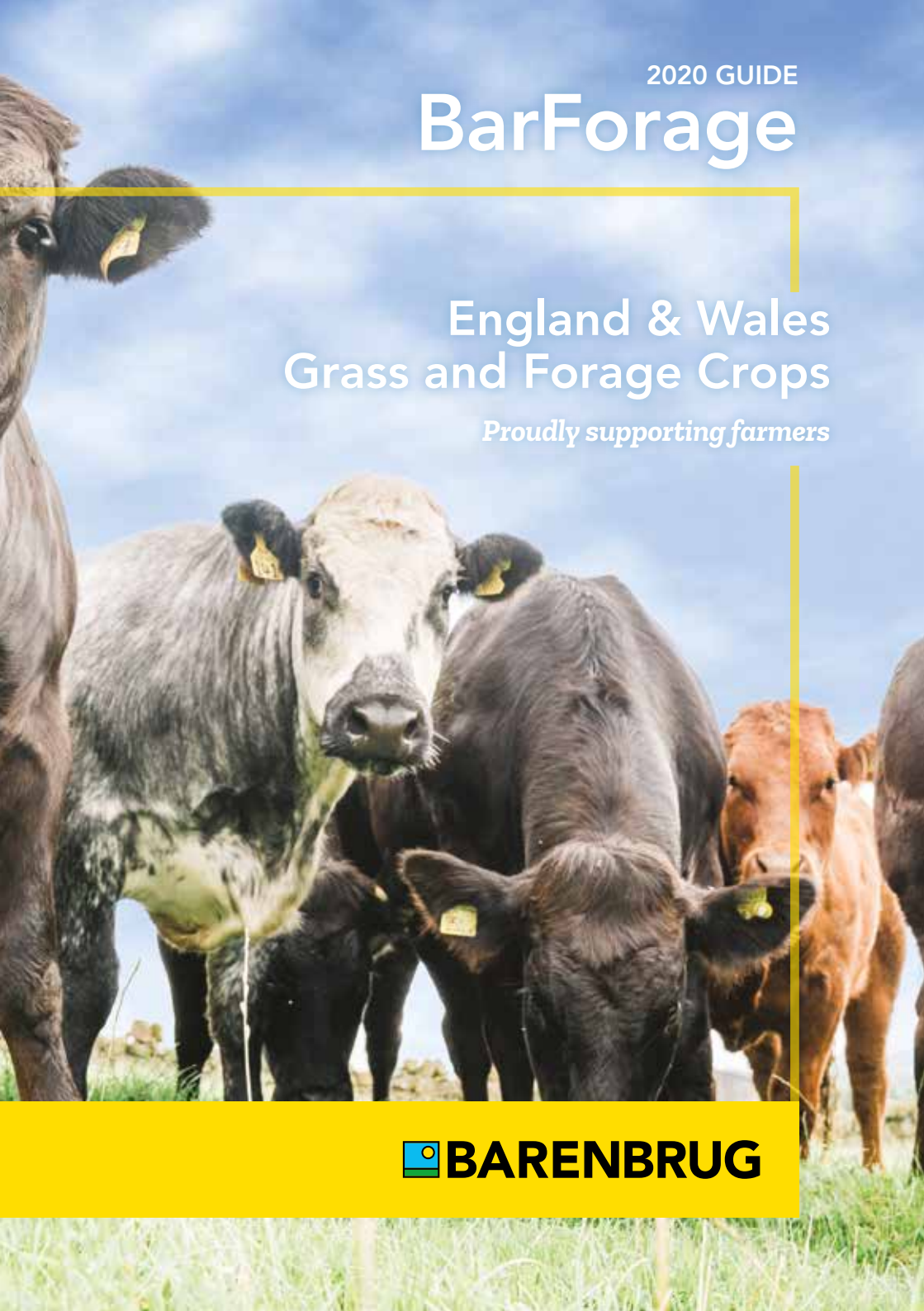
2020 GUIDE

BarForage

England & Wales Grass and Forage Crops

Proudly supporting farmers



BARENBRUG

Proudly supporting British farmers

- ☑ We breed our agricultural grasses in Britain (in partnership with AFBI)
- ☑ Our grasses are tried, tested and proven with British farmers (including at our own Cropvale Research Site)
- ☑ We have over 3,500 hectares of British farmland producing our grass seed
- ☑ All our mixtures are designed and formulated to ensure continuous improvement for British farming

Contents

Dedicated To You
Enterprise Guides

Good quality grazed grassland is the cheapest feed for ruminant livestock and is the base upon which profitable farming is built.

Around 70% of utilisable agricultural land in the UK is given over to grass – making it one of our nations' most important crops.

To help UK farmers get more from their grassland, we have created a series of enterprise and application specific guides that set out a clear and compelling case for proactively managing grassland performance, whatever the farm focus.

Recognising that market conditions have been difficult for some time, and that farmers have more forage options available to them than ever before, our guides are designed to help UK farmers make the right choices and pick the right products as they work to achieve their grassland goals.

Each guide contains useful information about grassland growth and practical advice on perfecting grassland performance and looking after leys long-term. There are also details about the different grassland management techniques, and varieties and species available to UK farmers.

Discover our Enterprise and Advice Guides and turn your grass into gold.

- ☑ **Dairy Guide**
- ☑ **Good Grass Guide**
- ☑ **Silage Guide**
- ☑ **Sheep Guide**
- ☑ **Beef Guide**
- ☑ **Forage Crops**

Looking After Leys

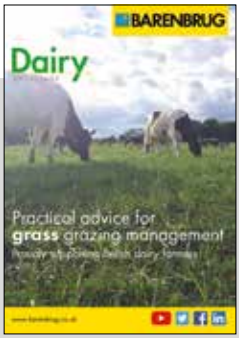
Long-term

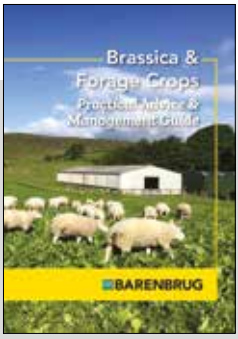
5 Indexes

Long-term it is essential to maintain swards in the best possible condition to ensure consistently good yields.

This means measuring and monitoring growth regularly and getting up close with your grass. Many fields look good at a glance and it is not until you get right up to the sward that you can spot problems. Most farms will have fields at different stages of maturity – and this variation can make it difficult to know which tasks to prioritise.

To help farmers decide where to focus their efforts, we have devised a simple field indexing system to monitor field performance, which can be employed regardless of grass type or management technique. The system is easy to use and draws on the stock conditioning method that many farmers use to grade their livestock. It provides a five-step scoring system that enables farmers to grade grass and decide what, if any, action is required to keep fields productive.





What's New For 2020

Callan Late Perennial Ryegrass (Diploid) – Heading Date 1st June

Exceptional grazing & silage yields

102% compared with controls
England & Wales Recommended Grass & Clover List
104% compared with controls
SRUC Grass & Clover list (Scotland)

- First Cut yield 111%
- Early Spring Growth 125%

Quality
- 1st Cut 70D
- 2nd Cut 72.7D
- Grazing 75.1D

(Figures from SRUC Grass & Clover Recommended List 2019-20)

Barclamp Hybrid Ryegrass (Diploid) – Heading Date 25th May

Highly productive silage yields

99% compared with controls
England & Wales Recommended Grass & Clover List
100% compared with controls
SRUC Grass & Clover list (Scotland)

Excellent quality (D-value of 72.1)
- Good persistency
- Early Spring Growth 112%
- Exceptional Ground Cover
- Latest Heading Hybrid variety in England and Wales as well as Scotland on SRUC Recommended List

Reseeding

Can you afford not too?

Why?

Reseeding can be an expensive business but, if you pay full care and attention, in the first year, the value of the improved yield and grass quality can be worth:

Over 12,500 litres of milk
Over 1000kg of lamb
Over 1200 kg of beef
Over 500% of the cost

How?

Follow the advice in the Good Grass Guide to identify the worst performing field on the farm – this is the priority for remedial work and is not necessarily the oldest field.

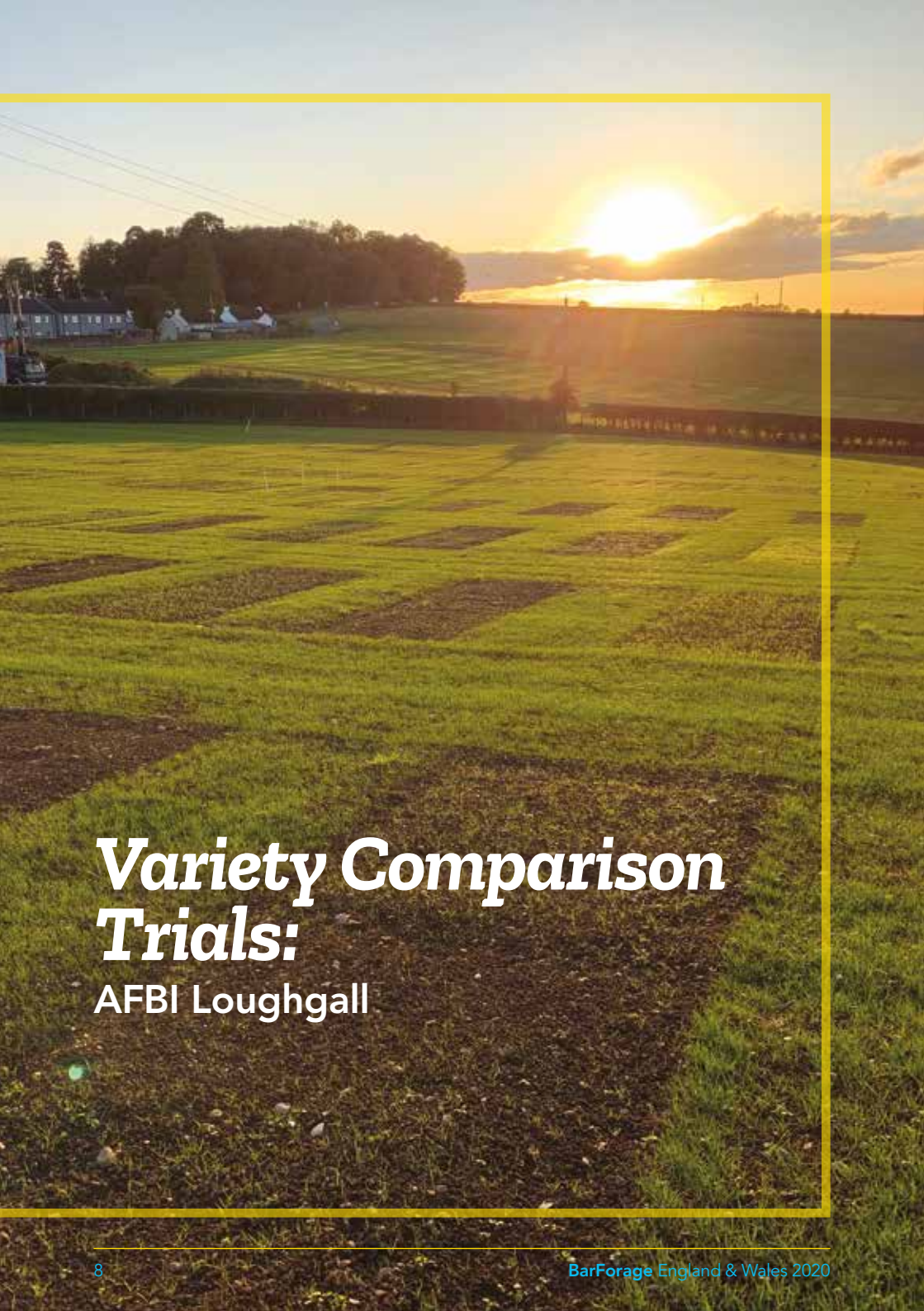
What with?

Just as a cow is not the same as another cow, one grass seed mixture is not the same as another. As with feed, you should always ask 'What's IN the bag?' and not just 'How much is an acre of grass?'.

Purity

Not all mixtures are the same

Alongside supporting the UK farming industry, we're also aiming to produce all our grass seed to the Higher Voluntary Standard (HVS), which is unique to the UK, guaranteeing a higher level of purity than European Union standards. The next time that you see a bag of grass seed, don't just look at the price – delve a little deeper.



Variety Comparison Trials:

AFBI Loughgall

As part of the development and commercialisation of the BarForage range of mixtures, in September 2017 Barenbrug established 100 grass plots at AFBI Loughgall and are running concurrent cutting and grazing trials on our varieties as well as demonstrating our BarForage mixture portfolio.

Variety comparison trials have been sown annually since 2017 at the Agri-Food and Biosciences Institute (AFBI), Loughgall. The data shown in the tables overleaf are an accumulation from an over-years data matrix from multiple trials, including both Barenbrug-marketed and competitor varieties from established UK recommended lists. The number of years of data representing each variety depends on the number of trials in which the varieties have been entered to date. Trials are evaluated over two growing seasons, and are managed either for silage (4 cut system) or simulated grazing (8-10 cut system). Spring Yield refers to the yield in t/ha DM available by the end of April; Summer Yield refers to the yield in t/ha DM available from the beginning of May until the end of September, whereas Autumn Yield refers to the yield in t/ha DM available after the beginning of October. For yield figures, 100 equals the average yield for the varieties included in the table as shown. For example, if a variety has a yield of 110, it is above average. If it has a yield of 90, it is below average. D value refers to quality and is a measurement of the percentage of the dry matter that can be digested by the animal, with a higher value indicating higher quality. The D value shown for silage refers to the average quality across cuts 1 and 2, whereas the D value for simulated grazing represents the average quality across the months of April, May, June and July. Ground cover is assessed at the end of the 1st harvest year, on a 0-9 scale of increasing density. Ratings above 6.0 for diploid and 5.0 for tetraploid ryegrasses indicate a high level of persistence.

The Science of Good Grass

The UK has the ideal climate for growing grass. Ryegrass grows best at between 5°C to 25°C – and most of the UK is between these temperatures 95% of the time.

Making up 70% of utilisable agricultural land, grass is our national crop. Like all other crops, growing grass requires careful management to maximise yields and utilisation. It is a science – but a relatively simple one to grasp once you have a basic understanding of plant as well as animal physiology.

Armed with information about how grass grows and the different species and management techniques available, it is easy for farmers to make informed choices about what kind of grass to grow; when to sow it; when to graze it; how long to graze it for; and what to do to ensure its performance long-term.

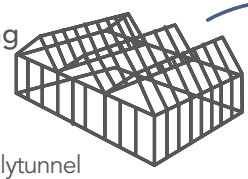
Hydroponics trials

The Story of Grass...

The breeding and commercialisation of a new grass cultivar is a long and challenging business.

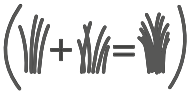
Years 1-3: The Beginning

The first stage is to decide what we want the cultivar to achieve, then work begins in the greenhouse/polytunnel with the initial cross.



Years 4-6: Selection

Field assessments and selections based on desired characteristics and selection of parental plants.



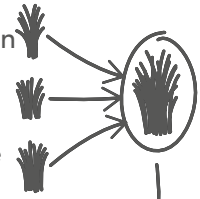
Year 7: Isolation

Crossing of parental plants to produce seed of potential new cultivar.

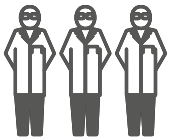
Years 8-10: Private Trials

We carry out multiple performance tests. These can take place on farms, in fields, at sports arenas, anywhere that is appropriate.

Year 11: First Multiplication



It's time to decide on the very best varieties and multiply to create pre-basic seed.



Years 12-15: Official Trials

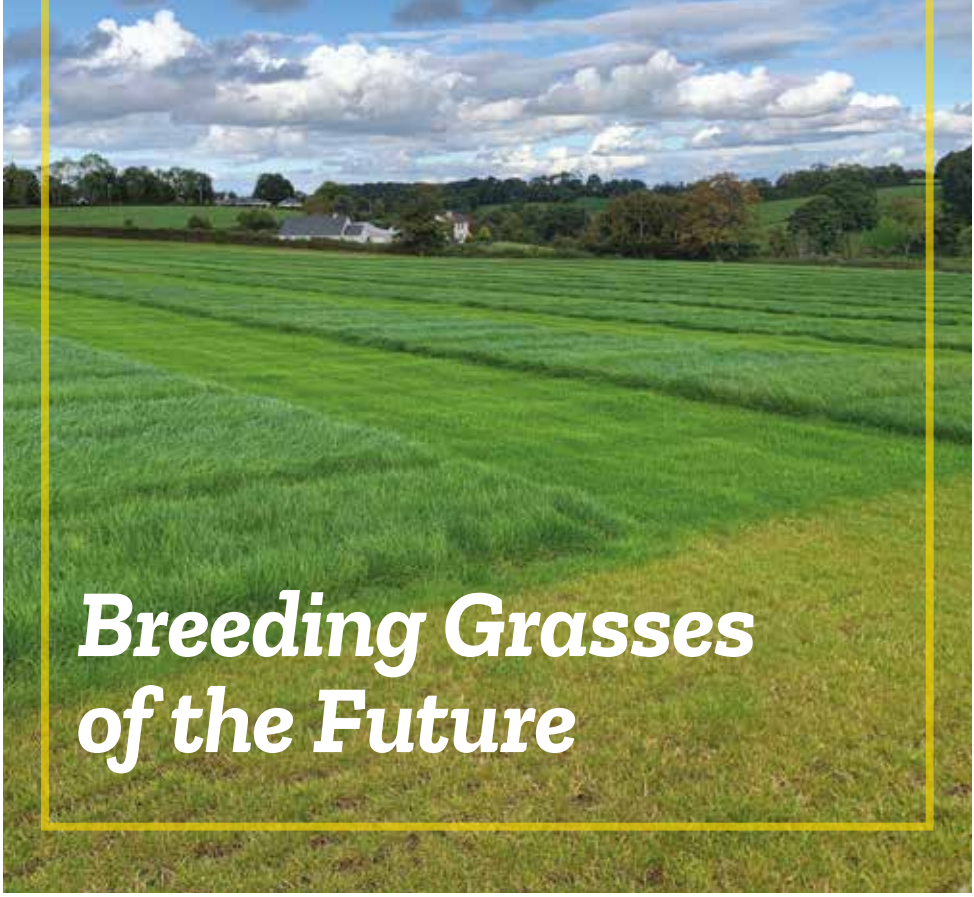
We send the chosen varieties to various official independent trials which determine if the variety's performance is sufficient to get it registered.

Year 16: Official Registration

Once registered, the seed is sown for harvest and it's commercial use.

Year 17: Process Complete

After 17 years of research and development the first grass seed goes on sale.



Breeding Grasses of the Future

A new face is now in charge at the AFBI perennial grass breeding programme at Loughgall. Dr Gillian Young takes over the programme from David Johnston, who retired in July 2018.

Gillian joined the grass breeding programme in 2016, working alongside David since then on what is a highly successful and productive programme at Loughgall. The programme, supported by the Department of Agriculture, Environment and Rural Affairs, Northern Ireland, and Barenbrug, has produced over 40 new varieties for the Barenbrug catalogue, and has many more exciting and high quality additions in the pipeline to come.

Gillian started out her career as a plant pathologist and was appointed to the post of Senior Scientific Officer at AFBI in 2009. During her tenure as plant pathologist she had the opportunity to work with the now retired AFBI potato breeder Paul Watts, before being appointed as AFBI grass breeder in 2016. "Becoming a grass breeder was a really exciting opportunity," says

Gillian, "And I relish the opportunity to produce innovative new varieties that can contribute to a better and more sustainable future for farmers across the UK".

Grass Breeding is a long process, and it can take more than 15 years to get a variety to market from the first cross, so it will be some time before Gillian's varieties are available. But in the meantime, Gillian will be hard at work selecting and testing current material coming from the programme. The future is bright, however. "Advances in new technologies such as novel NIRS-based systems and genomics are making it possible to make more rapid advances in key perennial ryegrass traits such as digestibility, yield and persistency" says Gillian. "Also, key will be putting the focus on new traits that are likely to be vitally important in the future, such as nutrient efficiency and adaptation to stress". Gillian is also particularly interested in factors that affect grass intake and is keen to look for ways to increase palatability and graze-out in swards. "The aim" she says, "is to produce nutritionally balanced, but sustainable varieties, possessing advances in important novel traits, but also well adapted for use in real-life conditions on farm".

Mixture Selector Which is right for you?

Our grass seed mixtures have been formulated carefully using species and varieties that should suit almost any circumstance in England and Wales.

We don't just put grass seed in a bag and put it on a shelf. As well as developing a range of mixtures suited to different farm management focuses we have a full support team throughout the UK and a range of tools to help you get the best from your grassland.

The make-up of each mixture and its subsequent management can have significant impacts on the longevity and levels of production you can achieve.

Deciding how long the ley will last and what it needs to deliver will help ensure you get the best mixture for your enterprise. Each mixture is formulated for a specific job, which you'll find detailed on each product page.

If you are in any doubt, contact your local supplier or one of our team who can advise you on the merits of a mixture for the requirements of the job.

Short term

Maximum yield up to 2 years

Page 16-17

Silage

Fast grass winter production option

Page 26-27

Dairy, Beef, Sheep, Silage

Long term

Mainly cutting

mid-May cut

Page 30-31

Dairy, Beef, Sheep, Silage

Intensive grazing

grassland based systems

Page 32-33

Dairy, Beef, Sheep, Silage

Medium term

Protein production

Page 18-19

Dairy, Beef, Sheep

4 cuts, 4 years

Page 20-21

Dairy, Beef, Sheep, Silage

Extended grazing

early Spring growth

Page 34-35

Dairy, Beef, Sheep, Silage

Intensive grazing

with optional cutting

Page 36-37

Dairy, Beef, Sheep, Silage

Overseeding on existing pasture

Page 23

Dairy, Beef, Sheep, Silage

Dual purpose cut and graze

mid-May cut

Page 28-29

Dairy, Beef, Sheep, Silage

Extensive grazing & cutting with clover

Page 42-43

Beef, Sheep

High D Italian

Short-term Italian

A highly productive short-term Italian ley.

HIGH D is a highly productive Italian ley, which will give exceptional crops for silage, hay or grazing from a high input system. It's ideal for growers who want to produce the maximum amount of forage possible from their own land.

HIGH D has a very long growing season; its exceptional spring growth makes it ideal for lamb finishing or early turnout. An early grazing can be followed by up to four cuts of quality silage and a late flush for grazing.

In the bag		
4.00kg	**Steel**	Italian Ryegrass (DIP)
6.00kg	**Barmultra II**	Italian Ryegrass (TET)
4.00kg	**Abys**	Italian Ryegrass (DIP)
14kg per acre. Sowing: 1,256 seeds/m²		

When to sow

Grows at temperatures as low as 3°C so the farm must be able to make use of this early growth.

When to cut

A first cut by the third week of May, following a spring grazing, will produce 70+ D value silage, with a second cut, five weeks later. The ultimate silage mixture which will yield up to 20t DM/ha in its first year under high input management. For maximum production up to six cuts a year under high N systems.

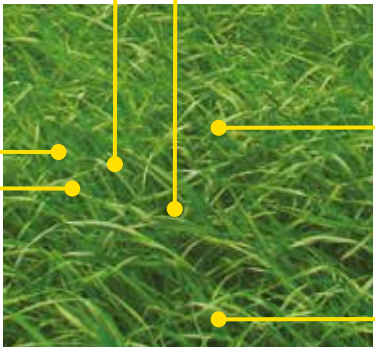
When to graze

Early grazing for turnout of ewes and lambs or finishing long keep store lambs.

HIGH D is a better option than sowing a single Italian ryegrass variety.

It will provide massive amounts of clean, quality forage throughout the year without any loss of production mid season.

HIGH D grows down to 3°C soil temperature extending the growing season for store lambs or wintering hoggs.

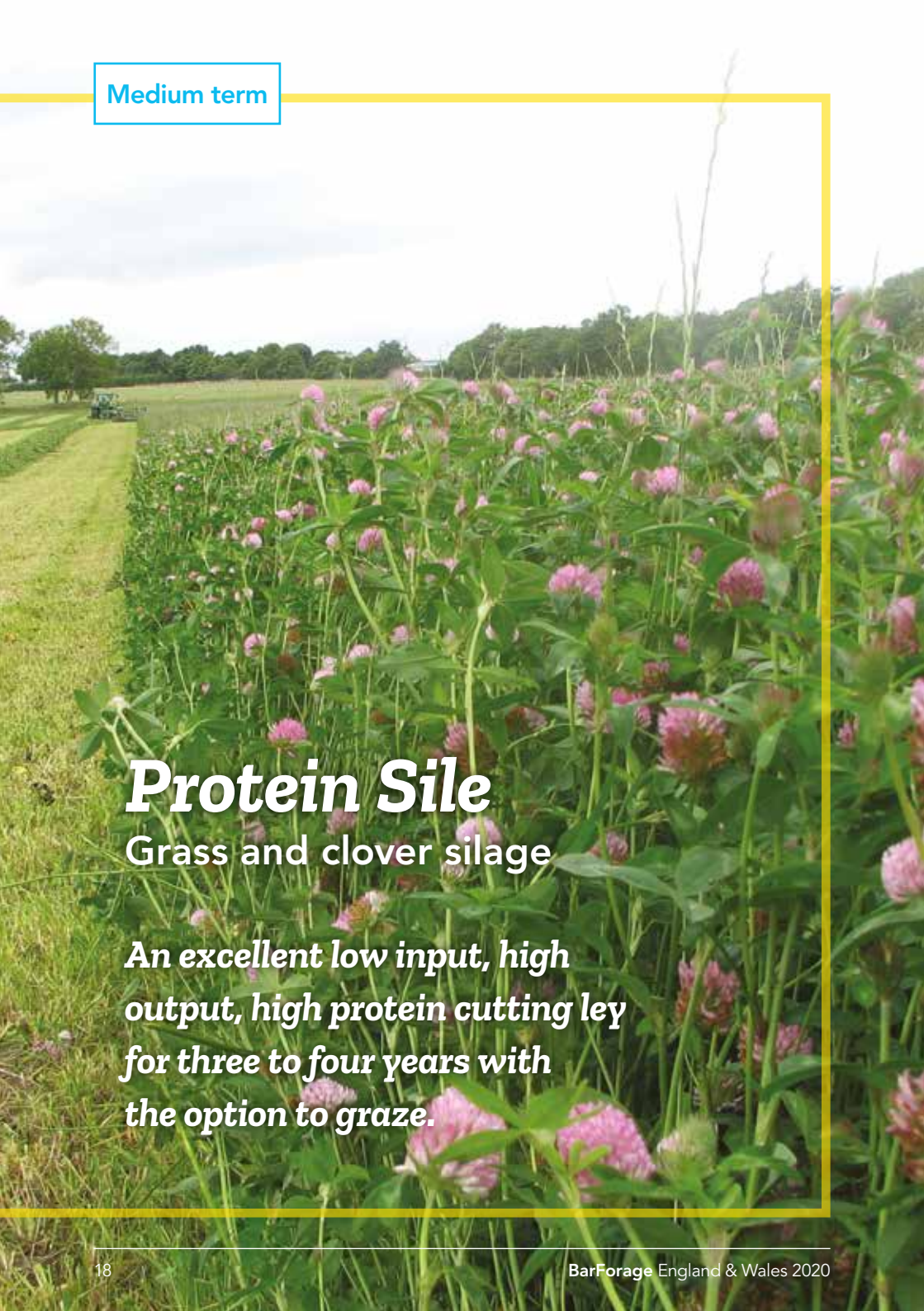


Includes three Italian ryegrasses, which perform very well compared to their rivals.

High ranking BARMULTRA II has excellent spring grazing and silage yields.

Responds very positively to high levels of fertility and will produce 20% more yield than perennial ryegrass leys.

Medium term



Protein Sile

Grass and clover silage

An excellent low input, high output, high protein cutting ley for three to four years with the option to graze.

An intensive cutting mix that will produce up to four prolific cuts of leafy, high protein forage per year, with the option to graze cattle or finish lambs (although it's not advisable for breeding sheep due to phytoestrogen production).

In the bag		
3.75kg	**Barclamp**	Hybrid Ryegrass (DIP)
3.00kg	**Kirial**	Hybrid Ryegrass (TET)
4.00kg	**Fintona**	Intermediate Perennial Ryegrass (TET)
3.00kg	**Ensign Red**	Red Clover Blend
0.25kg	**Barblanca**	Large White Clover

14kg per acre. Sowing: 1,413 seeds/m²

When to sow

PROTEIN will grow at soil temperatures of down to 5°C, enabling the growing season to be extended. Clover will germinate at 10°C.

When to cut

Three cuts of high protein forage can be taken from this highly productive mixture. Both grass and clover heading dates have been matched to ensure a consistent, quality crop of silage.

When to graze

Post-cutting grazing is ideal for finishing lambs or grazing young cattle.

Breeding sheep should avoid all red clover sources for six weeks pre-tupping until six weeks after tupping as phytoestrogens can affect the breeding cycle and conception rates.

Animals fed on red clover/grass silage will eat more and perform better than those fed on grass silage alone due to increased intakes and protein levels.

Designed for yield and persistence, combining the yield of the grasses with the additional protein from the ENSIGN RED clover blend.

Contains BARCLAMP new for 2020 with good persistency, excellent early Spring Growth of 112%, exceptional ground cover and the latest Heading Hybrid variety on SRUC Recommended List.

This mixture 'Fixes' up to 200kg/Ha of nitrogen meaning it grows with no applications of bagged nitrogen.

Trials have shown a 3% improvement in kill out percentage for lambs finished on red clover.

The high clover content will benefit from a pH of 6 or more and close attention to P and K levels.

Medium to Long term

Hybrid 4x4

4 cuts, 4 years

A highly productive mixture designed for silage.

HYBRID 4x4 is a highly productive hybrid ryegrass cutting ley, designed to last for four years and providing four cuts each year.

It's designed for a three or four year rotation system, delivering 20% higher yield than traditional perennial ryegrass mixtures. A key benefit of this mixture is that it offers multiple exits and entries for slurry/digestate application, using home produced nutrients more efficiently, saving valuable time and resources.

When to sow

Grows at temperatures as low as 5°C so the farm must be able to make use of this early growth.

When to cut

Up to four cuts per year which can take place in May, July, August and October. This is the ultimate silage mixture, yielding up to 20t DM/ha in its first year and exceeding 16t DM/ha in its second year.

In the bag		
2.00kg	**Barsilo**	Hybrid Ryegrass (DIP)
4.00kg	**Kirial**	Hybrid Ryegrass (TET)
4.00kg	**Aston Crusader**	Hybrid Ryegrass (TET)
4.00kg	**Novial**	Hybrid Ryegrass (TET)

14kg per acre. Sowing: 942 seeds/m²

HYBRID 4x4 delivers a superb silage mixture to farmers. It has a very tight heading date range and excellent resistance to disease offering strong silage production throughout the season.

Multiple exits and entries for slurry/ digestate application, using home produced nutrients more efficiently.

This mixture does not contain clover, so is inexpensive to clean up sward.

Perfect if three and four year rotation is required.

Will produce 20% more yield than perennial ryegrass leys, due to its ability to use all nutrients very efficiently via its long season growth and usage of deep rooting varieties.

Overseeding Guide

Get your grassland productive.

1 Dig a soil assessment pit to look for compaction and plant rooting structure which should go 30cm deep in PRG/ Timothy sward. Address compaction with aerators or sub-soilers as needed.

2 Soil testing (4" deep) would also be advantageous as high levels of water can leach nutrients and reduce pH significantly. Assess what plants are there – learn to identify what species you want to have e.g. PRG/Timothy. Check for weed grasses, they are usually shallow rooted and pull out very easily.
- If they make up more than 30% of the sward, harrow hard to remove them
- With a sward of more than 70% weed grasses the best option is to reseed the sward.

3 Minimise competition to new seedlings by grazing tightly with sheep or taking a silage cut. DO NOT fertilise before overseeding.

4 Control perennial weeds before seeding by spraying with a selective herbicide.

5 Use a spring tine harrow to remove any dead stalks, thatch and shallow rooted weed grasses. Make sure that the tines are working the top 1cm of the soil as this will create the seed bed for the new seeds.

6 Sow when the soil conditions are neither excessively dry nor wet and use a specialist mixture designed to establish rapidly.

7 Roll the sward to ensure good seed contact with the soil to conserve moisture.

8 Graze lightly when the seedlings are 10cm high and continue at frequent intervals until the plants are well established. All the best things start from the ground up and it's important you choose a mixture designed for the job.

Medium term

Overseeder

Restoring productivity to a long-term ley

Forage production is expensive – get your sward back into maximum, long-term productivity by over seeding.

In the bag		
6.00kg	**Barvitra**	Hybrid Ryegrass (TET)
7.00kg	**Fintona**	Intermediate Perennial Ryegrass (TET)
7.00kg	**Youpi**	Late Perennial Ryegrass (TET)

Supplied as 20kg, two acre packs.
Sowing: 709 seeds/m²

OVERSEEDER is a 100% ryegrass blend for areas of high fertility.

- Increases the proportion of productive ryegrass in the sward
- Improves the quality of the grass for better animal performance
- Improves the Nitrogen efficiency of the sward
- Repairs the damage caused by poaching of grazing swards
- Specifically designed to work best with specialist overseeding techniques
- Includes varieties which are aggressive enough to establish in an existing sward, yet easy to manage

Short-term

Barbumper

Forage Boost

Ideal solution for a catch crop, cover crop and grazing

BARBUMPER establishes quickly to provide a catch and cover crop with rapid growth even at cool temperatures offering production early spring and late into autumn, delivering extra grazing opportunities over winter.

It gives total flexibility for up to 18 months production potential and could also be established after a spring cereal harvest, or where an autumn crop has been prevented from being planted giving a short term opportunity to bring rotations back into sync.

Thanks to its ability to germinate at lower temperatures than conventional leys, it can be sown safely throughout cooler months of October and early spring, having been developed using the concept of 'germination energy'.

This concept means it will establish faster and better than other leys, even in the adverse conditions of cold, wet seed beds.

20% faster establishing than the average ryegrass

By measuring the germination rate under low temperatures of 7-10°C, and selecting those which give the best germination in the shortest time, the result is an establishment rate of over 20 percent above the average ryegrass.

Barbumper is a very flexible product that can fit into different regimes providing high output short term forage production.

It is equally at home being used as an early spring cut before being ploughed out for a spring sown crop or used as a sacrifice field for early spring grazing as a more cost effective alternative to ryegrass.

- Can assist with prevention of winter soil erosion
- It has the ability to make use of existing nutrients in the soil after previous crop soaking up N, thus decreasing winter leaching
- Can add organic matter to the soil improving its quality, structure and nutrient holding capacity
- Delivers over 18% more in the first year compared to a perennial ryegrass ley

In the bag	
50%	Westerwolds
50%	Italian Ryegrass

Sowing rate: 12-15kgs per acre
Pack size: 25kg

After Maize

Fast grass

Ideal for delivering a high quality grass crop after Maize harvest, AFTER MAIZE provides a very quick establishment and rapid growth even at cool temperatures.

AFTER MAIZE grass seed mixture gives full flexibility in the duration of the ley, with 12, 18 or 24 month production potential. AFTER MAIZE could also be established after a spring cereal harvest.

Later production = winter grazing option

Thanks to its ability to germinate at lower temperatures than conventional leys meaning it can be sown safely throughout October, AFTER MAIZE has been developed using the concept of 'germination energy'. This concept means it will establish faster and better than other leys, even in the adverse conditions of cold, wet seed beds which appear later in the year.

20% faster establishing than the average ryegrass

By measuring the germination rate under low temperatures of 7-10°C, similar to those found in the field throughout October and selecting those which give the best germination in the shortest time, the result is an establishment rate of over 20 percent above the average ryegrass. AFTER MAIZE is a very flexible product that can fit into different regimes as required.

It is equally at home being used as an early spring cut before being ploughed out for a spring-sown crop or used as a sacrifice field for early spring grazing as a more cost effective alternative to rye.

In the bag	
12.50kg	Italian Ryegrass
8.75kg	Hybrid Ryegrass
3.75kg	Intermediate Perennial Ryegrass
25kg per acre	

Early Cut & Graze

Medium-term

A top quality hybrid ryegrass based ley, designed to give excellent forage cuts with the option to graze.

An excellent cutting and grazing ley using the most persistent hybrid varieties for up to five years' production. Designed to provide excellent spring growth, enabling an early first cut.

In the bag		
3.50kg	**Novial**	Hybrid Ryegrass (TET)
3.50kg	**Aston Crusader**	Hybrid Ryegrass (TET)
3.00kg	**Moira**	Intermediate Perennial Ryegrass (DIP)
3.50kg	**Fintona**	Intermediate Perennial Ryegrass (TET)
0.50kg	**Barblanca**	White Clover

14kg per acre. Sowing: 1,356 seeds/m²

When to sow

Sow when soil temperature is above 8°C, clover will germinate at 10°C. The mixture has been designed to provide season-long production, with exceptional early spring and late summer growth.

When to cut

Produces highly digestible forage from a late May - early June first cut with the mixture averaging over 70% D value throughout the season.

When to graze

This top-quality dual purpose mixture has the ability to be grazed from early spring through to late summer.

If it's being used as cut and graze, the mixture will deliver two exceptional silage cuts and early summer grazing, making it truly flexible.

This mixture delivers maximum production by using the top yielding varieties.

BARBLANCA white clover is included for nitrogen fixation and increased protein content.

The high proportion of tetraploid varieties ensures better drought resistance and higher water soluble carbohydrate content.

FINTONA is the highest yielding perennial ryegrass ever listed in the UK with unrivalled spring grazing yields and impressive sward density for the type.

Uses all Herbage Varieties Guide recommended varieties.

Combi

Silage with grazing

Flexible, extensive, long-term ley suited to cutting and grazing.

Its blend of the best recommended intermediate and late heading ryegrasses is designed to produce a very high-yielding, flexible, dense, palatable, long-term, top class cutting mixture which will also produce quality grazing.

The high proportion of tetraploid varieties ensure better drought resistance and higher water soluble carbohydrate content.

In the bag		
2.00kg	**Moira**	Intermediate Perennial Ryegrass (DIP)
4.00kg	**Glenariff**	Intermediate Perennial Ryegrass (DIP)
3.00kg	**Fintona**	Intermediate Perennial Ryegrass (TET)
2.00kg	**Caledon**	Intermediate Perennial Ryegrass (TET)
2.00kg	**Ballintoy**	Late Perennial Ryegrass (TET)
1.00kg	**Ensign**	White Clover Blend

14kg per acre. Sowing: 1,783 seeds/m²

When to sow

Perennial ryegrass germinates at 8°C; ensure this is sown when soil temperature is above 8°C.

When to cut

COMBI combines the benefits of high quality mid-May silage production with excellent sward density. Produces exceptional silage cuts of extremely nutritious forage.

When to graze

COMBI is ideal as a top quality cutting ley that will also produce a high quality, dense, palatable grazing sward.

This mixture is a blend of top performing varieties which is designed to produce a very high yielding, flexible cutting and grazing mixture.

BALLINTOY combines excellent yield and quality under silage or grazing management with excellent spring growth and high digestibility, producing a high ME yield per Ha.

The high proportion of tetraploid varieties ensures better drought resistance and higher water soluble carbohydrate content and also gives faster recovery after grazing or cutting.

CALEDON produces excellent silage yields with high digestibility and provides quality grazing swards throughout the year.

Uses all Herbage Varieties Guide recommended varieties.

Long term

Dairy Grazer

Intensive grassland grazing

The most cost-effective feed for dairy cows available – grazed grass!

The ley has been developed to maximise the grazing period for cows, enabling an intensive, long-term grassland approach.

Developing high quality grassland, this mixture enables cows to graze from an early spring turnout and also gives faster recovery after grazing or cutting.

Benefits

- Suitable for any livestock class
- Intensive grazing
- Reduce external input costs by lowering feed requirements
- Increase grazing season
- Very long growing season

When to sow

Perennial ryegrass germinates at 8°C; ensure this is sown when the soil temperature is above 8°C.

When to graze

It gives maximum production at times of the year (March-Nov) when grass is the most valuable and will form a dense, easily managed sward.

In the bag		
2.00kg	**Caledon**	Intermediate Perennial Ryegrass (TET)
3.00kg	**Glenarm**	Late Perennial Ryegrass (DIP)
3.00kg	**Callan**	Late Perennial Ryegrass (DIP)
3.00kg	**Gosford**	Intermediate Perennial Ryegrass (DIP)
3.00kg	**Ballintoy**	Late Perennial Ryegrass (TET)
14kg per acre. Sowing: 1,713 seeds/m²		

The mixture has been formulated to provide grass ready to be grazed for an early spring turnout and grazing ability throughout the season. Livestock can enter when cover of 2,800kg DM/ha and exit at 1,700kg DM/ha.

When to cut

Although the varieties are selected for their grazing performance, DAIRY GRAZER is also capable of providing a top quality silage sward which can be utilised if grass growth exceeds the grazing animal. With proper management, swards can be closed off and cut at any time as the later heading dates of the varieties in DAIRY GRAZER minimise the risk of stemmy growth or seed heads throughout the growing season.

Contains CALLAN new for 2020 - excellent grazing yields with exceptional spring growth producing 14% more grass in early spring than comparative varieties and has an excellent first silage cut.

Contains varieties GOSFORD and BALLINTOY which give higher grazing yields, quality, digestibility and impressive spring growth producing extended quality and productivity of an all ready top class grazing mixture.

DAIRY GRAZER is a mixture that has been designed specifically to maximise the grazing period for cows.

All the varieties in the mixture deliver superior persistency results, meaning this mixture will deliver long-term quality grazing grass for dairy cows.

DAIRY GRAZER produces a very palatable high D value grass ley.

DAIRY GRAZER has excellent resilience and remains good through autumn and into the first phase of winter.

Long term

Long Season

Flexible Long-term

A perfect mixture for extended grazing.

Spring grass is extremely valuable as it replaces expensive feed or silage.

LONG SEASON has been designed to provide exceptional spring growth, the time of year when grass is most valuable.

In the bag		
2.00kg	**Moyola**	Early Perennial Ryegrass (DIP)
1.75kg	**Moira**	Intermediate Perennial Ryegrass (DIP)
1.75kg	**Gosford**	Intermediate Perennial Ryegrass (DIP)
2.00kg	**Seagoe**	Intermediate Perennial Ryegrass (TET)
2.00kg	**Callan**	Late Perennial Ryegrass (DIP)
3.00kg	**Ballintoy**	Late Perennial Ryegrass (TET)
0.50kg	**Comer**	Timothy
1.00kg	**Ensign**	White Clover Blend

14kg per acre. Sowing: 2,363 seeds/m²

When to sow

Sow when soil temperature is above 8°C; clover will germinate at 10°C. It's ideal for early turnout or lambing thanks to its exceptional spring growth.

When to cut

LONG SEASON is a mixture designed for just that, an extended grass growing season. Owing to the continual production from the mixture, there are several options available for cutting.

If early grazing is a priority on the farm, it's an ideal sward to turn stock into at the start of the year, giving other fields a chance to get started and when grass supplies become more plentiful elsewhere on the farm, the fields growing LONG SEASON can be closed off for one cut of silage and then re-grazed for the rest of the season.

Alternatively, silage can be cut throughout the year with the potential for four cuts of top quality grass, with the first cut taken in early May. LONG SEASON really opens up all the options for farmers who can utilise grass from the start of the growing season.

When to graze

Early spring grazing can be followed by two high quality silage cuts and aftermath grazing or season long grazing.

Contains CALLAN new for 2020 - excellent grazing yields with exceptional spring growth producing 14% more grass in early spring than comparative varieties and has an excellent first silage cut.

LONG SEASON is an extremely flexible, persistent, long-term ley that can be both cut and grazed as required.

Includes MOYOLA with spring growth of 122% of control varieties.

Contains GOSFORD, an Intermediate heading diploid perennial, which is already proving its worth with high silage and grazing yields combined with excellent sward density.

The inclusion of COMER Timothy increases spring growth by 34% and persistence under more extreme conditions.

The varieties are selected to give a palatable and responsive sward with excellent persistency.

Permanent

Long-term

Intensive long-term grazing mixture with cutting option.

PERMANENT is a blend of perennial ryegrass and white clover designed to give season-long production from a dense, prolific ley.

This long-term mixture gives the option of taking later cuts of top quality silage. Trials at Moorepark in Eire have shown that cows grazed on this type of ley will produce more milk - ask us to see the fascinating report.

In the bag		
3.00kg	**Glenarm**	Late Perennial Ryegrass (DIP)
4.00kg	**Callan**	Late Perennial Ryegrass (DIP)
3.00kg	**Youpi**	Late Perennial Ryegrass (TET)
3.00kg	**Ballintoy**	Late Perennial Ryegrass (TET)
1.00kg	**Ensign**	White Clover Blend

14kg per acre. Sowing: 1,860 seeds/m²

When to sow

Perennial ryegrass germinates at 8°C; ensure this is sown when soil temperature is above 8°C, clover will germinate at 10°C.

When to cut

Although a grazing mixture, there is the option of taking later cuts of top quality silage if required.

When to graze

Designed for intensive grazing between early summer and autumn, with the aim of providing balanced production from turnout to late autumn.

PERMANENT produces a dense, leafy, persistent and easily managed ley that produces highly palatable and digestible grass.

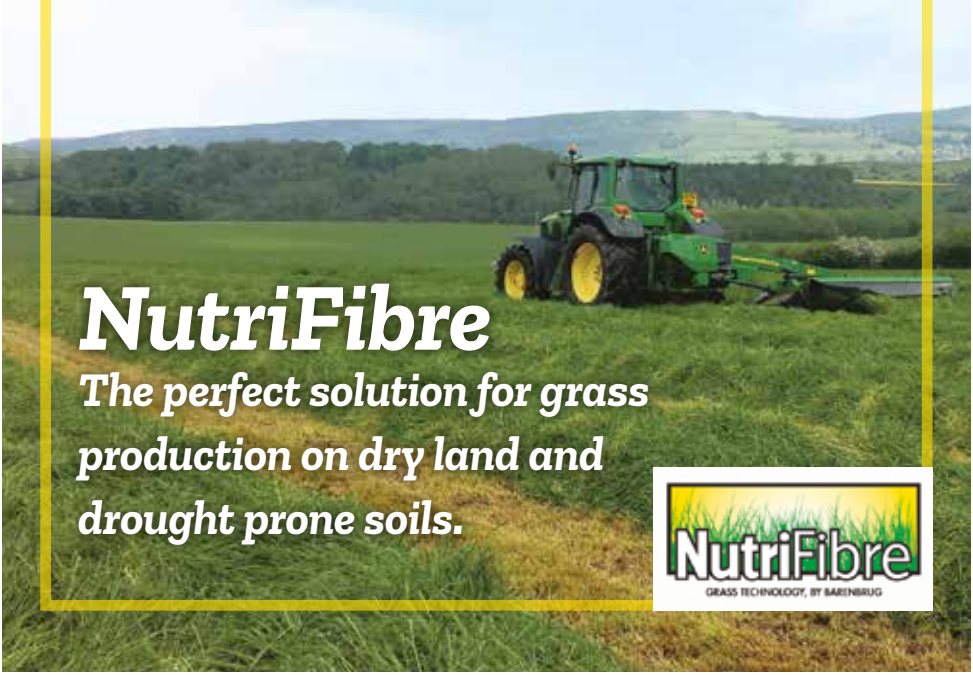
The tetraploid varieties in PERMANENT have been carefully selected to ensure higher water soluble carbohydrate content while not sacrificing sward density.

BALLINTOY produces excellent silage yields and digestibility and provides quality grazing swards throughout the year.

Contains CALLAN new for 2020 - excellent grazing yields with exceptional spring growth producing 14% more grass in early spring than comparative varieties and has an excellent first silage cut.

YOUPI provides a highly digestible sward suitable for cutting or grazing which performs best early in the season with well balanced growth for the rest of the year.

Uses all Herbage Varieties Guide recommended varieties.



Combining the Tetraploid benefits of Seagoe perennial ryegrass with Soft Leaf tall fescue. The foundation of NutriFibre is Soft Leaf tall fescue, a development stemming from the Royal Barenbrug Group's international breeding programme. NutriFibre technology combines mineral efficiency, high protein production, digestibility, effective fibre-rich cell walls and drought tolerance from its deep rooting ability of Soft Leaf tall fescue.

NutriFibre contains Soft-leaf tall fescue - grass with a strong, impressive root system and nutritious, protein rich leaves. NutriFibre offers the advantages outlined below over grasses traditionally grown by dairy farmers.

In the bag		
6.00kg	**Seagoe**	Intermediate Perennial Ryegrass (TET)
4.00kg	**Bardoux**	Tall Fescue
4.00kg	**Barelite**	Tall Fescue
14kg per acre. Sowing: 1,860 seeds/m²		

NutriFibre is:

- **High Yielding Grass** because NutriFibre is high-yielding and rich in protein
- **Drought Tolerant Grass** because NutriFibre roots deeply

2018 Trial, Cropvale Research Station						1st Cut 7th May 2019
	DM %	D	CP %	ME	Sugar %	NDF %
Barolex (12 May)	21.6	73.4	20.1	11.5	13.1	47.1
Barelite (10 May)	22.2	71.4	18.9	11.2	14.7	47.5

- **Nutrient Efficient Grass** because NutriFibre uses minerals from deeper layers in the soil
- **Effective Fibre Grass** because NutriFibre provides effective fibre giving optimal roughage in the diet

When to sow

The soil temperature should be above 12°C at the time of sowing; it is advisable to sow NutriFibre between March 1st and September 15th.
After sowing, NutriFibre puts a lot of energy into the development of its root system. This explains why NutriFibre has a slower start than other grasses in the first year. After developing a solid underground system, the grass yield is high.

Flexibility in Cutting Times

Cutting times are flexible because the quality of the feed value of NutriFibre decreases more slowly when the crop matures than with perennial ryegrass or festulolium. This makes farmers less dependent on the weather, providing a better guarantee for making successful silage.

Drought Tolerance

Soft Leaf tall fescue is tolerant to long periods of drought. During dry periods the grass is able to absorb water from deeper layers in the soil. In the coming decades the probability of dry, hot summers will increase. NutriFibre is highly tolerant to these periods of drought thanks to its deep rooting ability. Soil permitting, Soft Leaf tall fescue roots can reach depths of more than 100 cm. NutriFibre can therefore cope extremely well with periods of drought. It is ideal for dry, light land and drought prone soils as Soft Leaved Tall Fescue absorbs most water from its roots that are 20-30cm in depth compared to perennial ryegrass which absorbs most at 10cm.

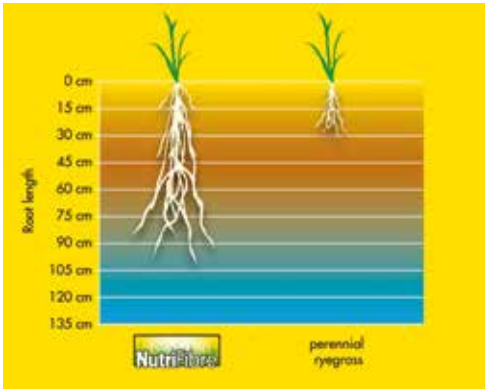


Figure 2: Difference in root length between NutriFibre and perennial ryegrass.

Resistant to Wet Periods

During extremely wet periods, NutriFibre's long roots have a draining effect. This makes for excellent drainage on fields planted with NutriFibre so the grass stays in a better condition. Thanks to NutriFibre's better capacity to survive periods of wet weather, damage to the grass is limited.

Nutrient Efficient

NutriFibre's efficient use of nutrients can help in reducing leaching, because Soft Leaf tall fescue optimally utilises fertilisers.

Effective Fibre

Leaves of Soft Leaf tall fescue stimulate rumination activity in cows. Rumination is indispensable to healthy rumen activity. Healthy cows produce more milk. Tall Fescue does not depend on flowering for high fibre content. NutriFibre can be harvested before flowering, maintaining its effective fibre. After flowering, feed value decreases in all grasses.

High Digestibility

High digestibility from cell walls with Soft Leaf tall fescue means cows get a large part of the energy from the cell walls because cell wall composition is more easily digestible than that of other grasses (Figure 4). Cell walls can be built from three different components:

- Lignin = indigestible wood dust without feed value.
- Cellulose = dairy cows only digest one-third of the cellulose.
- Hemicellulose = breaks down in eight hours enabling cows to digest it completely.

Soft Leaf tall fescue cell walls consist mostly of hemicellulose. This explains the high feed value in combination with effective fibre. All other effective fibre products such as heading grass have a lower digestible hemicellulose rate, causing a large part of the feed to fail to convert into milk.

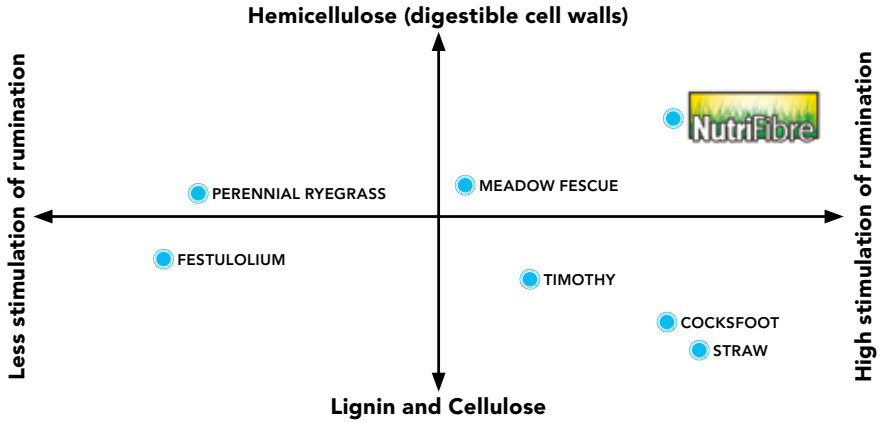


Figure 4: Difference between species in digestibility of cell walls and stimulation of rumen activity.

Barmix

Long-term

The long-term, low input, high output mixture for beef and sheep enterprises.

A highly successful, persistent, drought tolerant, high protein sward for beef and sheep production from a clover-based sward. BARMIX uses the best new cocksfoot and tall fescues to produce a highly palatable, very productive ley. As a result it produces considerably more grass than conventional ryegrass leys especially under low fertility conditions and low fertiliser usage.

In the bag		
2.50kg	**Callan**	Late Perennial Ryegrass (DIP)
3.00kg	**Ballintoy**	Late Perennial Ryegrass (TET)
2.50kg	**Bardoux**	Tall Fescue
3.00kg	**Barelite**	Tall Fescue
1.00kg	**Baraula**	Cocksfoot
1.00kg	**Comer**	Timothy
1.00kg	**Ensign**	White Clover Blend

14kg per acre. Sowing: 2,814 seeds/m²

When to sow

Sow when soil temperature is above 8°C. The mixture has been designed to deliver exceptional late winter and early spring growth. This mixture has a lower proportion of ryegrass, so will thrive on more marginal land and under a clover only or very low nitrogen system.

When to cut

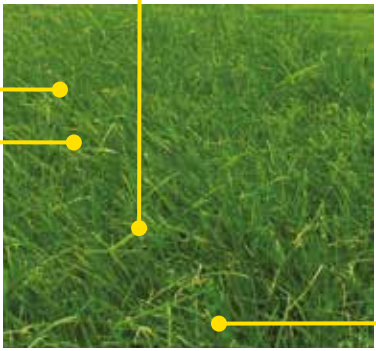
Produces exceptional silage cuts of extremely nutritious forage. BARMIX can be shut off mid season for a big bale silage cut or can be grazed all year.

When to graze

This mixture can be grazed all year. Tall fescue and cocksfoot grow very rapidly, particularly in early spring, so to maintain the sward in its optimum condition, it's strongly recommended to tightly graze the sward from late winter. This stops the grass becoming too strong, and remaining highly palatable to grazing animals or giving the best combination of quality and quantity when conserved.

This innovative mixture has been developed by us to offer an alternative mixture for beef and sheep enterprises looking for a low input, high output mixture.

BARAULA (cocksfoot), BARDOUX and BARELITE (tall fescues) are proven in on-farm grazing trials to be highly palatable due to their soft leaves.



The ryegrasses in the sward are highly productive, contributing to the total performance.

Tall fescue is a winter active species and cocksfoot grows earlier in the spring than other species, delivering that vital early bite for lambing. BARDOUX and BARELITE (tall fescues) add excellent drought tolerance due to their deep rooted, persistent nature. They are also more tolerant of waterlogged soils.

The Benefit of Including Clover

Clover provides nitrogen for soil, forage for livestock

In recent years, the prices of inputs have fluctuated drastically, making it difficult for farmers to budget from year to year. The inclusion of clover in grass leys can provide a range of benefits to enable producers to become more resilient and make more from the resources they have at home.

Generally, white clovers make for better grazing, while red clovers are best suited to silage and/or growing youngstock. Clover also serves as feed for all livestock classes, chickens, geese and birds although care should be taken with red clover and breeding sheep.

Always maintain a soil pH of at least 6.0 and P & K indices of 2 for optimal clover content and health.

The benefits of adding clover to the farm

- Clover can maintain higher quality pasture under low fertiliser.
- An established clover sward can fix up to 200kg N/ha/year dependant on species used and environmental conditions.
- White clover thrives mid-season when companion grasses are not at their optimum, improving overall digestibility and protein levels of the sward.
- The presence of clover improves grass health making it more resilient against disease and environmental stress.
- All these improvements in sward quality lead to increased intakes and therefore higher milk yields and daily liveweight gain.
- Clovers enhances the level of minerals including calcium, magnesium, cobalt and selenium - which is beneficial to livestock health.
- With clover, you can reduce bought in nitrogen AND leave residual nitrogen for a subsequent crop making the system environmentally and economically better off.
- Clover has significant potential to improve profitability from a grass based system.
- Clovers are also extensively found in wildflower and stewardship mixtures to improve soil health and promote pollinators and insects. It is also used in mixtures in sanctuaries to attract wild geese away from farmland.

Ensign
White Clover Blend

ENSIGN is a blend of white clovers, which gives better animal performance, higher milk yields and better live weight gains. It also produces a better quality sward, with fewer weeds and less disease.

In the bag		
50%	**Crusader**	White Clover
30%	**Alice**	White Clover
20%	**Barblanca**	White Clover

Pack sizes: 5kg and 25kg.
Sowing rate: Up to 1kg per acre.

It has an exceptionally long growing season and 'fixes' free nitrogen from the atmosphere for maximum production.

- By using a blend of different varieties there are always at least two that are best suited to whatever the management being applied to the sward
- Animals prefer to graze a clover/grass sward - this results in higher voluntary intakes and better animal performance
- Potential nitrogen fixation for white clover up to 150kg N/ha

Ensign Red

Red Clover Blend

ENSIGN RED is a blend of red clovers, which balances production through the growing season, while maintaining excellent persistency and disease resistance. Red clover swards managed correctly can meet the forage requirements of many farms and significantly improve protein contents and overall feed value of winter forage.

It's better suited to silage production than white clover because of a more erect growth habit and its significantly higher forage yields.

In the bag	
Discovery	Red Clover
Lemmon	Red Clover

Pack sizes: 5kg and 25kg.
Sowing rate: Up to 2.5kg per acre.

- Red clover silage has a high crude protein content of 16% to 20% and a ME content of 10 to 12MJ/kg DM
- Because red clover is high in phytoestrogen, breeding sheep should be kept off for six weeks either side of tupping
- Store/fat lambs can be fattened very effectively on red clover silage aftermaths
- Low levels of structural carbohydrate in the leaf result in higher intakes, better feed conversion and therefore improved animal performance
- Potential nitrogen fixation for red clover up to 200kg N/ha

Ensign Duet

Red & White Clover Blend

ENSIGN DUET is a unique mixture of red and white clovers, developed to meet the need for rapid nitrogen fixation to feed new leys.

Red clovers establish faster than white and are able to make nitrogen available to the ley as the white clover is establishing and brings additional benefits.

In the bag		
67%	**Ensign Red**	Red Clover Blend
33%	**Ensign**	White Clover Blend

Pack sizes: 5kg and 25kg.
Sowing rate: Up to 2.5kg per acre.

- Increased yield. Our mixture trials showed a yield increase of 5% in the first year after sowing, worth around £100.00 per hectare (£40.00/acre)
- The increase continued into the second harvest year, producing additional yields worth £75.00 per hectare (£30.00/acre)
- Increases the overall protein content of the sward; red clover's protein content is around 17% compared to grasses of around 12%
- Because red clover is high in phyto-oestrogen, breeding sheep should be kept from grazing for six weeks either side of tupping
- Red clover is excellent feed for growing and finishing stock

BarForage Herbal Leys

The BarForage range of herbal leys are designed to bring a range of benefits to forage, livestock health and soil health and fertility. As well as the contributions made by grasses and clovers, the inclusion of forage herbs like plantain and chicory will provide minerals in the sward helping to improve liveweight gains and increase milk production. As if that isn't enough, the herbs will improve soil health by feeding microbes and help build soil fertility through the conversion of soil nitrogen thus reducing the need for, or reliance on artificial fertiliser. BarForage herbal leys are also designed to improve soil structure due to the deep rooting nature of the different plant types.

With a range of mixtures to choose from, farmers now have the choice of short or long-term crops that will ultimately extend the growing season, have improved drought tolerance and will help to reduce the worm burden in livestock due to their anthelmintic properties.

The BarForage herbal ley range includes:

Bar Finisher

A blend of chicory, red clover, white clover and plantain designed specifically for grazing all classes of livestock and can be used as a herbal addition to grazing swards (see page 51).

Bar Herbal

A mixture including perennial ryegrasses, white clover, plantain and chicory. Its main purpose is to extend the shoulders of the grazing season whilst enhancing the yield and the quality of the sward. The deep rooting characteristics of the herbs and legumes will enhance the mineral content of their companion grasses due to their ability to source nutrients from deep within the soil. This will also help with soil structure and therefore increase water infiltration, resulting in extra grazing days when compared to conventional perennial ryegrass mixtures.

In the bag		
1.75kg	**Moira**	Intermediate Perennial Ryegrass (DIP)
1.75kg	**Gosford**	Intermediate Perennial Ryegrass (DIP)
2.00kg	**Seagoe**	Intermediate Perennial Ryegrass (TET)
2.00kg	**Callan**	Late Perennial Ryegrass (DIP)
3.00kg	**Ballintoy**	Late Perennial Ryegrass (TET)
0.50kg	**Comer**	Timothy
1.00kg	**Ensign**	White Clover Blend
0.75kg	**Commander**	Chicory
1.00kg	**Tonic**	Plantain

13.75kg per acre. Sowing: 2,363 seeds/m^2

Bar GS4 Graze

Designed to comply with the GS4 Stewardship Scheme. A vigorous sward with abundant legumes and herbs, suitable for productive cattle and sheep, will also provide habitat and food for invertebrates, including crop pollinators, and improve soil structure and water infiltration.

In the bag		
2.00kg	**Moyola**	Early Perennial Ryegrass (DIP)
2.00kg	**Callan**	Late Perennial Ryegrass (DIP)
0.50kg	**Comer**	Early Timothy
0.50kg	**Motim**	Late Timothy
2.00kg	**Barelite**	Tall Fescue
2.00kg	**Cosmanaut**	Meadow Fescue
2.00kg	**Baraula**	Cocksfoot
0.20kg	**Alice**	Large White Clover
0.25kg	**Crusader**	Medium White Clover
0.55kg	**Lemmon**	Red Clover
0.20kg	**S184**	Small White Clover
0.10kg	**Sanfoin**	Legume
0.10kg	**Birdsfoot Trefoil**	Legume
1.00kg	**Barvicos**	Vetch
0.20kg	**Commander**	Chicory
0.20kg	**Tonic**	Plantain
0.05kg	**Yarrow**	Herb
0.05kg	**Sheeps Parsley**	Herb
0.10kg	**Salad Burnet**	Herb

14.00kg per acre.

Short term

Prota Plus

Grass & Clover Protein

Utilisation	Sowing Period	Utilisation Period
Graze, cut or both	Spring with soils ideally at 10°C or above	Use for up to 18 months after sowing

PROTA PLUS is an exceptionally versatile mixture which can provide a number of benefits. It is an ideal break crop in any arable rotation or an exciting alternative to brassicas in livestock systems.

How it works

- BARMULTRA II provides high yields of high quality grass into the second year
- CONTEA Crimson clover is an erect type single cut annual clover, which will grow from seed to flowering in around 120 days. It should be cut before flowering for maximum quality
- LIGHTENING Persian clover is more prostrate type multi-cut annual species

In the bag		
6.00kg	**Barmultra II**	Italian Ryegrass (TET)
4.50kg	**Contea**	Crimson Clover
1.50kg	**Lightening**	Persian Clover
12kg per acre		

Animal benefits

- Suitable for any livestock class including breeding sheep
- High yields of high protein (20%), high ME (12-14MJ) silage achievable
- Very long growing season
- Can shorten finishing period and lower winter feeding requirements compared to grass only

Environmental benefits

- Requires no Nitrogen applications in the first year
- Can leave up to 50kg N/ha in the soil for subsequent crops
- Attractive to bees and other insects
- Cleaner ground conditions than traditional brassica feeding systems & no bare soil overwinter
- Aggressive root system can improve soil structure and contribute to soil organic matter

Bar Finisher
Mixture

Utilisation	Sowing Period	Utilisation Period
Graze in situ	Spring & Autumn	Spring, Summer & Autumn

BAR FINISHER is a mix of chicory, white clover, red clover and plantain with excellent animal performance potential. It produces a leafy, high quality feed over spring, summer and autumn when traditional pastures can decrease in quality.

In the bag		
1.50kg	**Ensign Red**	Red Clover Blend
1.00kg	**Ensign**	White Clover Blend
1.50kg	**Tonic**	Plantain
1.00kg	**Commander**	Chicory

Pack size 10kg (2 acres). Sowing rate: 5kg per acre.

BAR FINISHER can be used as a six month or two year crop depending on the farm system and/or grazing management approach. The clover in the mix will provide nitrogen to feed the crop, also filling space not occupied by herbs. The red clover component, alongside the herbs, will provide high quality feed through a dry season, helping to reduce risk in summer dry areas.

- Highly palatable, providing an excellent feed for high live weight gains
- Provides high quality feed through summer that recovers quickly after grazing
- High protein option for dairy farmers
- Clover provides fixed nitrogen
- High mineral content, particularly zinc, potassium and copper
- Grass can be established into the mix in autumn

Brassica and Forage Crops

Grass has to be the first priority for feeding livestock efficiently; however forage crops are a valuable tool for meeting the changing feed and energy requirements throughout the year.

Feed supply and stock performance can be manipulated through the use of different forage species. We recognise the integral role of brassicas, forage herbs and lucerne in breeding and research and we are proud to supply products specifically bred for UK systems.

Benefits of Brassica and Forage Crops

- Strategic crop in pasture renovation – makes regressing easier i.e. less weed pressures
- Means of controlling spring surplus and shifting feed from spring into summer or autumn to winter
- Breaking up insect pest cycles to help renovate pasture
- High animal performance potential
- Many options with a lot of flexibility
- Consistently high quality ME 10.5-13, proteins 16-24%.

Sowing & Utilisation Guide	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
STUBBLE TURNIP	USE	USE		SOW	SOW		SOW	SOW	USE	USE	USE	USE
FORAGE RAPE						SOW	SOW	SOW		USE	USE	USE
KALE	USE	USE	USE	SOW	SOW	SOW				USE	USE	USE
LUCERNE	USE	USE	SOW	SOW	USE	USE	USE	USE	USE	USE	USE	USE
VETCH	USE	USE	SOW	SOW	SOW	USE	USE	USE	SOW	SOW	USE	USE
PLANTAIN	USE	USE	SOW	SOW					SOW	SOW	USE	USE
CHICORY				SOW	SOW	SOW	SOW	SOW				

Discover our Forage Crops Guide for management advice

Caledonian & Thousand Head

Kale

Utilisation	Sowing Period	Utilisation Period	Days to maturity
Graze in situ & Zero Graze	Spring & Early Summer	Autumn & Winter	170-220 days

Kale is a well-proven, highly adaptable fodder crop which consistently provides very high yields of succulent green fodder. Two varieties available:

Caledonian

A high yielding kale with clubroot tolerance. Its huge yield makes it ideal for utilisation by dairy and beef cattle.

Thousand Head

A medium height kale with excellent leaf to stem ratio (greater than 50% leaf). Suitable for sheep and cattle grazing.

Potential

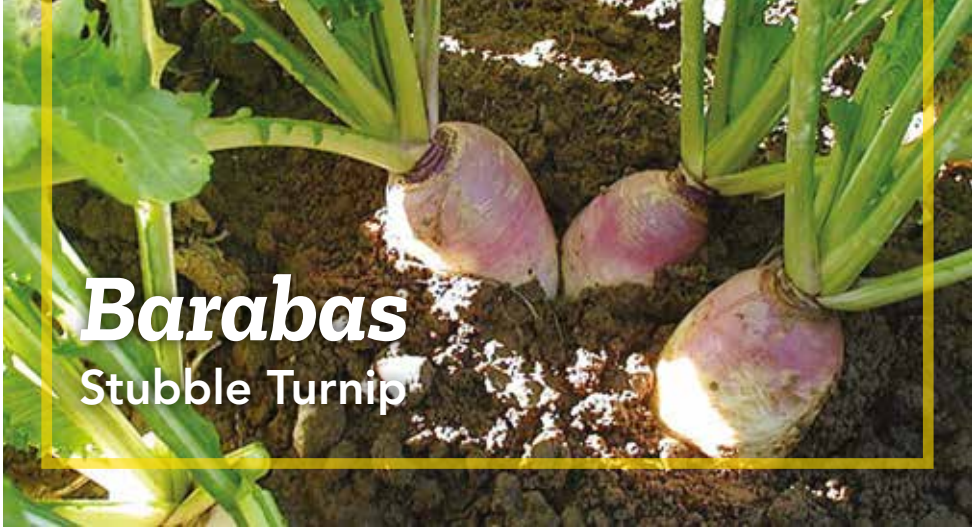
- High-yielding giant type kale with potential yield of 18,000kg DM/ha

Advantages

- Excellent tolerance to frost
- Good aphid tolerance
- Very high dry matter yields
- Good winter hardiness
- Good clubroot tolerance.

Sowing rate:
Drilled: 1–2kg/acre (2.5–5kg/ha)
Broadcast: 3kg/acre (7.5kg/ha)

Pack Sizes:
Available in pack sizes of 5kg or 25kg (untreated), 2kg (treated)



Barabas
Stubble Turnip

Utilisation	Sowing Period	Utilisation Period	Days to maturity
Graze in situ	Spring & Autumn	Summer & Winter	60-90 days

Stubble turnips have a high leaf to bulb ratio resulting in high levels of protein, and a tankard bulb shape to enhance utilisation.

BARABAS is a variety which has been very successful wherever it has been used throughout the UK and with some farmers proclaiming as the best stubble turnip variety they have encountered!

Advantages

- High leaf to bulb ratio resulting in high levels of protein
- Full-leaved late tetraploid bulbing with very good early vigour
- Proven very palatable to grazing animals with good disease resistance
- Early maturing (60-90 days) for excellent summer/winter feed.

Management advice

Plant two-thirds of the crop area in early maturing BARABAS and one-third with a late maturing variety, such as BARCOLI, at the same time (not together). This will provide a high quality summer feed that can be grazed from 60-150 days after sowing.

Sowing rate:
Spring sown at 3kg/acre (7.5kg/ha) for high leaf percentage
Autumn sown at 2kg/acre (5kg/ha) for larger bulb percentage
Pack sizes:
Available in pack sizes of 5kg or 25kg

Barcoli
Forage Rape

Utilisation	Sowing Period	Utilisation Period	Days to maturity
Graze in situ	Spring & Early Summer	Autumn & Winter	90-110 days

A multi-purpose forage rape with excellent autumn/early winter feed potential.

BARCOLI is a flexible forage option. It can be spring sown for a late summer feed behind turnips or autumn sown for winter grazing.

Advantages

- Good regrowth potential with excellent winter keeping properties
- Good aphid tolerance
- Fast growing leafy catch crop
- High protein content
- Longer lasting than stubble turnips
- Flexible sowing period
- Sheep, dairy or beef production.

Management advice

Plant two-thirds of the crop area in early maturing BARABAS and one-third in late maturing variety BARCOLI, at the same time (not together). This will provide a high quality summer feed that can be grazed from 60-150 days after sowing.

Sowing rate:
Drilled: 2.5kg/acre (6kg/ha)
Broadcast: 4kg/acre (10kg/ha)
Pack sizes:
Available in pack sizes of 10kg or 25kg

Barvicos
Vetch

Utilisation	Sowing Period	Utilisation Period	Days to maturity
Cutting/silage	Spring & Autumn	Summer & Winter	70-100 days

A common vetch, delivers a quick coverage of soil, highly productive and rich in proteins.

BARVICOS fixes large amounts of nitrogen and is high in protein. It can be used for annual forage production either alone or in a mixture with grasses. It is also ideal for green manuring

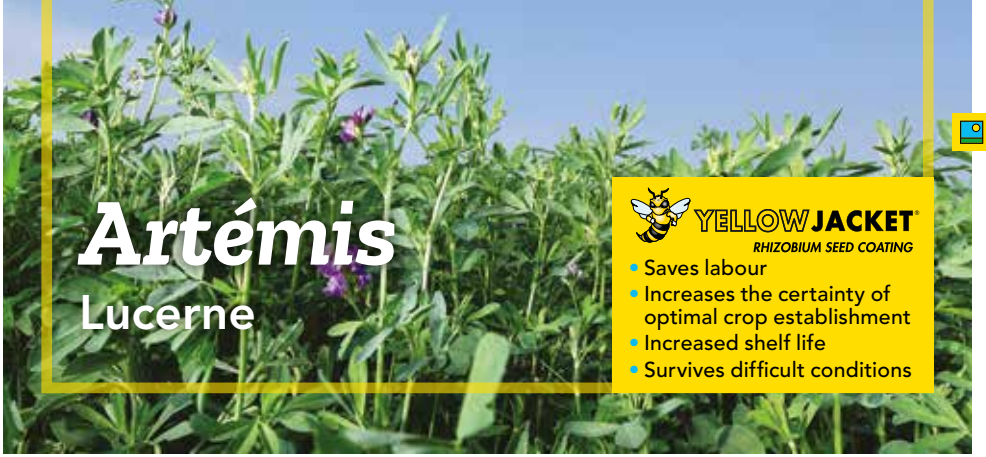
BARVICOS has vigorous growth and is winter hardy. It will establish and grow well on most soil types, helping to soak up nutrients and hold in the soil for use by spring cropping or reseeding

Vetch can be used typically 70-100 days after sowing, when 30-50% of the plants have flowered.

Advantages

- Deep rooting and improves soil structure
- Quick coverage of soil
- Highly productive and protein rich forage variety
- Can be sown both in spring and autumn
- This vetch can be sown either as monoculture or as part of mixtures with other species, such as clovers and/or annual grasses
- Good resistance to colder temperatures
- Good resistance against diseases

Sowing rate:
Sown on own: 16-20kg/acre (40-50kg/ha)
Companion plant: 8-10kg/acre
It is recommended to sow a vetch at a depth of 2-3cm
Pack Sizes:
Available in pack sizes of 25kg



Artémis
Lucerne

YELLOWJACKET
RHIZOBIUM SEED COATING

- Saves labour
- Increases the certainty of optimal crop establishment
- Increased shelf life
- Survives difficult conditions

Utilisation	Sowing Period	Utilisation Period	Days to maturity
Grazing and silage	Spring	Year-round	40 days

Lucerne is a highly nutritious forage for livestock. It combines good digestibility with high proteins providing excellent milk yields or daily live weight gains. A more mature hay crop would be more suitable for feeding young stock.

Potential

- One of the most underrated and underutilised forage crops available to livestock farmers in the UK
- To utilise lucerne, ensure a minimum of 50% flowering (50% of the tallest stems have a flower) prior to the first grazing/cutting. If the stand is weedy at establishment it can be grazed/cut ONCE if it is 15-20cm tall and then left to flower to a minimum of 50%
- >300 - 500 g/hd/d – rotationally grazed or cut
- High MJME and high protein, which is easily digested.

Advantages

- Perennial - Well managed crops can persist for up to 5 years
- Performs well in free draining, drier environments due to tap roots
- Dual purpose

Limitations

- Legume – pH 6.0 and high levels of P to establish
- Requires good management
- For more information and advice on management, please contact us for the guide

Sowing rate:
8-10kg/acre (20-25kg/ha). Drill at 5-12mm deep on normal soils or up to 25mm on light sandy soils

Pack sizes:
Available in pack sizes of 25kg

Commander
Chicory

Utilisation	Sowing Period	Utilisation Period
Graze in situ	Spring & Summer	Eight weeks post-sowing

A true perennial chicory that lasts more than one year. Commander produces significant yields of high protein forage, especially when mixed with red clover. A perennial herb, it is an excellent source of high quality feed for finishing stock.

Potential
- >300 g/hd/d – rotationally grazed
- High MJME protein and high/variable mineral content (zinc)
- Easily digested

Advantages
- Multi graze option – recovering quickly after grazing
- High dry matter production
- Persistent with thick, deep tap root, delivering drought tolerance
- Can be grown as a pure stand or sown with grass seed
- Performs better in dry conditions
- Perennial – spreads establishment cost
- Low animal health risk

Limitations
- Limited cool season DM production/ grazing
- Management in second season
- Seed head control
- Needs a nitrogen source – ideally establish with Ensign clover blends

Sowing rate:
3kg/acre (7.5kg/ha) as a straight and with clover

Pack sizes:
Available in pack sizes of 5kg or 25kg

Tonic
Plantain

Utilisation	Sowing Period	Utilisation Period	Days to maturity
Graze in situ	Spring & Autumn	Summer & Winter	60-90 days

Tonic plantain can be used to boost summer milk production and to finish lambs. Historically used in grassland mixtures it is suited to many soil types and can increase daily intakes during the summer.

Advantages

- When fresh, feed value is greater than ryegrass/clover
- Tolerates frequent grazing
- High in protein (up to 23%)
- Feed quality (at times) similar to ryegrass
- Potential for pasture species alone!
- Tap rooted herb that withstands drought and higher temperatures in the summer

Limitations

- Plantain is not as drought tolerant as chicory or red clover

Sowing rate:
2kg/acre (5kg/ha) in a grassland mixture, 8-10kg/acre (19-24kg/ha) as a special purpose crop

Pack sizes:
Available in pack sizes of 5kg or 25kg

Wildflowers

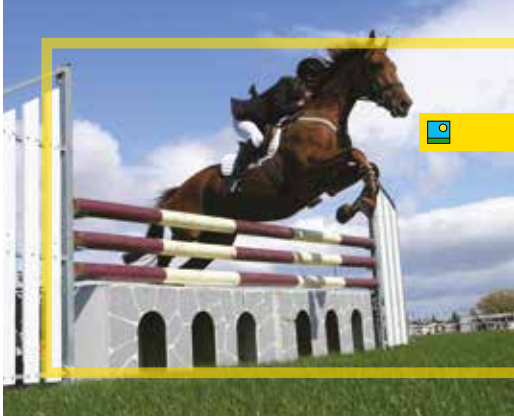
It is estimated that around 95% of British wildflower meadows were lost after the Second World War – but thankfully, we are now seeing increased interest in native wildflowers – thanks in part to environmental stewardship schemes. Establishing flower rich margins on the edges of fields can be hugely beneficial – helping farmers maintain a healthy ecosystem and attracting insects, which in turn can help to pollinate crops.

With around 1,500 different wildflowers available in the UK, it can be hard for farmers to know which wildflowers to grow. To make it easier, Barenbrug has added 21 wildflower mixtures to the range of seeds it offers.

To demonstrate the value of wildflowers, we've been trialling some of the mixtures at Cropvale, adding colour and interest to the site as well as improving its biodiversity. If you are interested in adding wildflowers to your margins, August and September are the ideal months to sow seeds. Our range of wildflowers include both annual and perennial mixtures and can be pure wildflower or mixed with grass to satisfy a range of situations and requirements.

Order your copy of Wildflowers for the full range or download it from our website.

Equestrian
Hunters Grass Seed



Young, well managed grass can provide most of a horse's feed requirement. Our mixtures are designed especially for horses. A herb mixture is also available.

GENERAL PURPOSE

Hardwearing general-purpose mixture designed to withstand the pressures of equestrian use and provide good quality grazing for horses.

- Grass varieties used have been specifically selected for roughage and low fructan content
- Produces a good, spring, dense turf
- The low fructan concentration reduces the risk of laminitis
- Strong grass plant rooting system, making the sward dense, hard-wearing and persistent
- Paddock will deliver grazing and forage production
- Yields good levels of effective roughage, ideal for a fit and healthy equine gut

In the bag	
70%	Perennial ryegrass
16%	Strong creeping red fescue
8%	Meadow fescue
6%	Timothy

10kg packs

Sows up to 0.7 acre
Repairs 1 acre

TRADITIONAL MEADOW

Formulated to recreate the nutritional characteristics of a natural habitat. The mixture is ryegrass free and uses species with a less aggressive growth habit to aid diversity.

- Swards sown with this mixture are likely to be lower in fructans than a ryegrass sward, reducing the risk of laminitis
- The healthiest pasture for your horse
- Helps prevent laminitis
- Effective fibre in your horse grass
- The optimum grass seed for your horse meadow
- Good horse pasture that can be effectively managed

In the bag	
25%	Tall fescue
25%	Strong creeping red fescue
20%	Meadow fescue
15%	Timothy
15%	Smooth-stalked meadowgrass

10kg packs

Sows up to 0.7 acre
Repairs 1 acre

THE ALL ROUNDER

A multipurpose, hard-wearing grass seed that's ideal for creating new lawns, overseeding or repairing worn patches.

- A great everyday lawn for the rough and tumble of family use
- Rapid germination and establishment
- Withstands heavy foot traffic
- Ideal for the whole family to play on and enjoy
- Attractive appearance

The mixture	
60%	Perennial ryegrass
40%	Strong creeping red fescue

Sowing 25-35g per m^2
Oversowing 15-20g per m^2

THE PERFECTIONIST

A fine and luxury traditional lawn seed mixture.

- A very fine leaved and dense lawn
- High quality and beautiful looking lawn
- Improved tolerance to common lawn diseases
- Ideal for the traditional ornamental lawn

The mixture	
40%	Strong creeping red fescue
30%	Slender creeping red fescue
30%	Chewings fescue

Sowing 25-30g per m^2
Oversowing 15-20g per m^2

THE ACTION HERO

A very hard wearing mixture that contains tough wearing grasses which is ideal for playing areas with high traffic.

- High levels of perennial ryegrass in this mixture give it substantial ability to withstand wear and tear
- This tough mixture is ideal for areas of the garden that are used frequently
- Hard wearing ryegrass specifically chosen for the job
- Gives an attractive lawn that's extremely tough

The mixture	
80%	Perennial ryegrass
20%	Strong creeping red fescue

Sowing 25-35g per m^2
Oversowing 15-20g per m^2

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Barenbrug

Grass experts since 1904

Our profession is plant breeding; selecting and developing quality varieties with the essential, unique characteristics to meet the ever-increasing demands from farmers for top quality forage grass.

From its founding days in 1904 the Royal Barenbrug Group has grown into a global seed company with breeding and research stations on six continents.

Still privately owned, our knowledge and experience of grass seed is second to none.

We specialise in plant breeding, seed production and the international marketing of forage grass, forage crops and turf grasses.

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

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

Any change will be detailed on the bag.

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

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