

Forage Seed 2020

Award winning
forage options



Make forage your 2020 priority

In times of such uncertainty around agricultural support, market access and foreign competition, livestock farmers should look first at the potential for greater homegrown feed production to build sustainability and long-term business resilience.

Forage, in its many forms, offers the opportunity for greater self-reliance by minimising the need for bought-in feeds and making a valuable contribution to cropping rotations. With a focus on nutritional value and growing more protein at home, there is much that can be done to improve livestock farming profitability.

Our Aber High Sugar Grasses are proven performers in terms of dry matter production, D-value and ME yield, boosting not only your performance from forage but your environmental credentials too. They are also a beneficial feedstock for anaerobic digesters, due to their energy yield and their value in rotations

These industry leading ryegrasses are complemented by our range of nitrogen-fixing Aber white clovers, whilst we continue to lead the way with alternative grazing species such as Puna II perennial chicory and Tonic plantain. These proven varieties underpin our progressive approach to multi-species leys, which provide valuable diversity and contribute to soil health.

Homegrown protein

We offer the first 4 – 5 year duration nitrogen-fixing red clovers with AberClaret and AberChianti, whilst modern lucerne varieties equipped to perform in our northern European conditions offer another viable alternative.

Forage brassicas are another valuable source of homegrown protein, with modern hybrids like Redstart and Swift having the versatility to bridge summer shortfalls, extend autumn grazing, or provide the basis for out-wintering.

Through collaborations with our breeding partners and ongoing work at the Germinal Research Station, we are continually improving our forage seed range. Our latest Forage Seed catalogue reflects this progression and we hope you will find the tools you need to invest in forage and build a more sustainable business.

Ben Wixey
National Agricultural Sales Manager
Germinal GB



We're Sponsoring Success

Germinal are proud to support home grown farming talent, highlighting best practice, expertise and dedication in grassland management.

For more information visit
germinal.co.uk/fwa

Nominations close 30 April 2020



[Awards.fwi.co.uk](https://awards.fwi.co.uk)

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#FWAwards

 **Germinal**

Forage at the heart of sustainable red meat production

Growing quality forage and utilising it effectively are central to Charley and Andrea Walker's drive towards sustainable and environmentally responsible red meat production.

Farming in the Scottish Borders, and inspired by their experiences in New Zealand, the couple have developed a profitable low cost approach that eliminates the need for winter housing and minimises bought-in feeds in their organic beef and sheep enterprises.

The tenanted 254ha unit supports 640 Easycare ewes and 110 Welsh Black x Angus suckler cows. The introduction of rotational grazing five years ago has boosted profitability by increasing livestock production to 405kg liveweight/ha – a 50% uplift – and routine reseeding of silage leys helps maintain forage quality. Out-wintering on deferred grazing has been another important factor in increasing overall farming efficiency and sustainability, whilst the inclusion of herbal leys in the grazing platform and a tentative introduction of holistic grazing are indicative of a strong commitment to improving soil health.

Charley and Andrea are passionate about the environment and care deeply about the image of modern agriculture with the wider public. So, whilst a profitable farming enterprise is their primary goal, they are committed to the promotion of wildlife and conservation and engage wholeheartedly in public outreach and education.

**Charley and Andrea Walker, Beef and Sheep Farmers,
Burnside Farm, Duns, Scottish Borders**

Farmers Weekly Grassland Managers of the Year 2019

Forage breeding for a sustainable future

Germinal has funded the breeding of grass and clover varieties at the Institute of Biological, Environmental and Rural Sciences (IBERS), Aberystwyth University, for 30 years and markets the Aber varieties worldwide.

The forage breeding and genetics team have an unrivalled track record of developing new genetic material with novel properties relating to quality and persistency. Through the strategic alliance with Germinal, the impact of this progressive scientific research has been translated into the commercially successful grass and clover varieties that feature strongly on UK Recommended Lists and the Irish Pasture Profit Index.

Importantly, the IBERS animal nutrition team works in close collaboration with the forage plant breeding team, particularly informing and influencing the direction of forage crop breeding. With an emphasis on quality forage and livestock performance, this collaborative approach has led to the Aber High Sugar Grass varieties.

Aber HSG varieties have elevated levels of sugar, or water soluble carbohydrate (WSC). These high sugar varieties have been scientifically proven to reduce emissions of nitrous oxide and methane and increase production of meat and milk, when fed to ruminant livestock.

Similar innovation is seen in clovers, with the first long lasting red clovers being developed and the first hybrid white clover now included in commercial mixtures.

The impact of this breeding programme on sustainable agriculture and the environment has been recognised with numerous prestigious awards from inside and outside the agricultural arena:

- Queen's Anniversary Prize in 2009
- NIAB Cup for Improvement in Quality 2003 and again in 2015
- Royal Agricultural Society of England (RASE) Award for Technology and Innovation in 2007
- The Times Higher Education Award (THE Award) Outstanding Contribution to Innovation and Technology
- British Grassland Society Innovation Award 2011
- Biotechnology and Biological Sciences Research Council (BBSRC) Innovation with Excellence Award

The breeding programme is ongoing, continually seeking more productive varieties to underpin sustainable agriculture into the future.

Aber HSG

Intermediate Diploid Perennial Ryegrass

Highlights of the current Aber range

AberZeus HSG

- 107% for total annual yield and 77.6 grazing D-value
- Outstanding for seasonal growth

AberGreen HSG

- 105% for total annual yield and 77.8 grazing D-value
- Winner of the NIAB Variety Cup 2015

Intermediate Tetraploid Perennial Ryegrass

AberSpey HSG

- Highest grazing yield of its category
- Outstanding ME yield/ha

Late Diploid Perennial Ryegrass

AberBann HSG

- Highest ME/ha of all RGCL varieties
- New into Aber HSG mixtures for 2020

AberLee HSG

- Highest grazing D-value at 78.9

Late Tetraploid Perennial Ryegrass

AberGain HSG

- Highest dry matter yield and quality combination
- Top ranking variety on the Irish Pasture Profit Index

Aber

White Clover

AberHerald

- Medium leaf size yielding 115% in third harvest year

AberSwan

- The first white clover bred with rhizomatous root characteristics
- Increased drought tolerance and persistency

AberLasting

- Medium leaf size yielding 119% in third harvest year
- New in Aber Clover Blends in 2020

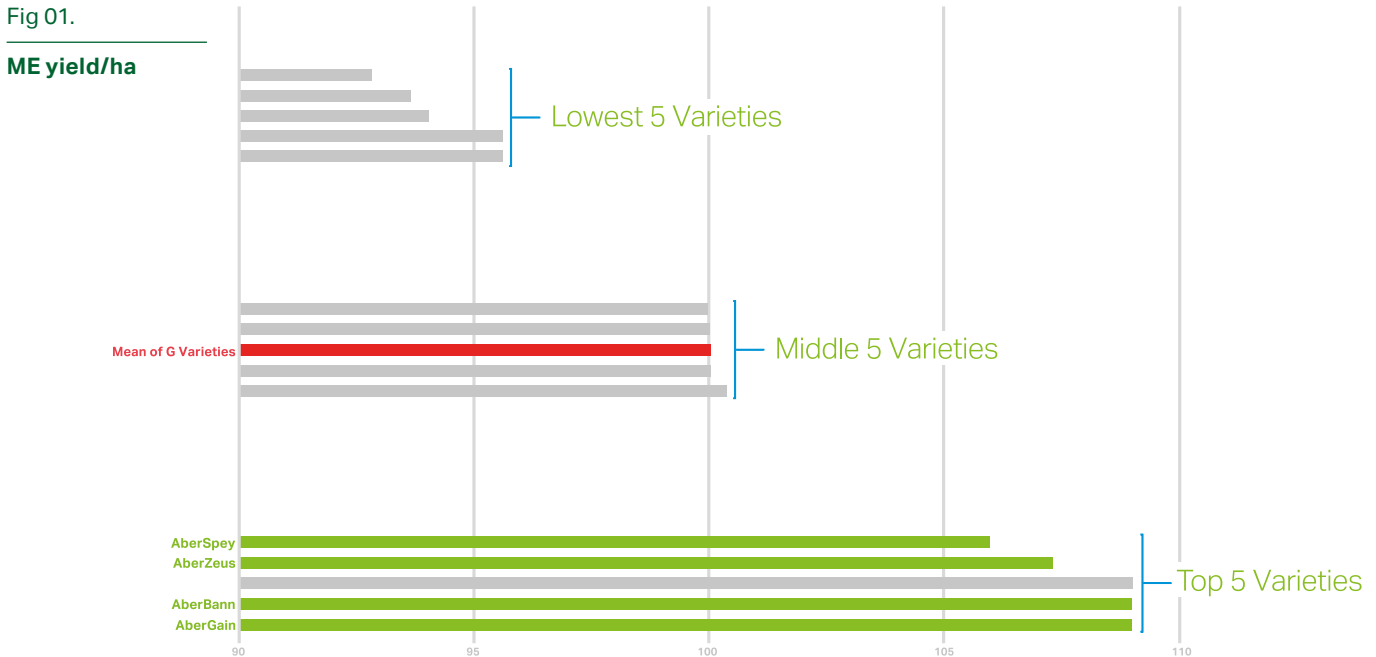
Red Clover

AberClaret and AberChianti

- Proven to perform beyond a fourth harvest year
- Ideally suited as a companion to perennial ryegrass in medium term leys



Maximising energy yield per hectare



In the independently compiled Recommended Grass & Clover List (RGCL), five of the top seven perennial ryegrass varieties for ME yield/ha are Aber High Sugar Grass (Aber HSG) varieties.

These five outstanding varieties have an average ME yield/ha of 107.2% of the average of all varieties on the RGCL. This equates to an additional 9,144 MJ/ha of ME/year.

ME (Metabolisable Energy) in a ration is a key determinant of livestock performance. An extra 1 MJ ME/kg DM equates to just under 0.2 litres of milk production or 25g of beef or lamb liveweight gain (based on a 300kg growing beef animal or 30kg store lamb).

Therefore, by selecting mixtures comprised of top-ranking Aber HSG varieties, the production potential of your swards increases by:

9,144 MJ x 0.2 litres = **+1,828 litres/ha for milk production/year**

9,144 MJ x 25g = **+228.6 kg/ha liveweight gain in growing cattle or lambs/year**



LONG TERM

Aber HSG 1 Milk and Meat Production

Aber HSG 1 Milk and Meat Production is a long-term, general purpose mixture for milk and meat production.

Ideal for grazing, the mixture also offers the potential for a heavy silage cut in late May. Ideally suited for set stocking, it can be grazed with cattle, ewes or used to finish lambs. Aber HSG 1 Milk and Meat Production produces a dense sward which will resist poaching and with good management will maintain its quality for 5 - 7 years. Puna II perennial chicory can be included for added drought tolerance and sward variety.

Fig 02.

Aber HSG 1 Milk and Meat Production:

Kg/acre	Variety	Type	Heading Date
3.0	AberZeus HSG	Perennial Ryegrass	26 May
3.0	AberWolf HSG	Perennial Ryegrass	28 May
4.0	AberGreen HSG	Perennial Ryegrass	30 May
4.0	AberGain HSG	Perennial Ryegrass (T)	03 Jun
1.0	AberDairy	White Clover Blend	
15.0			

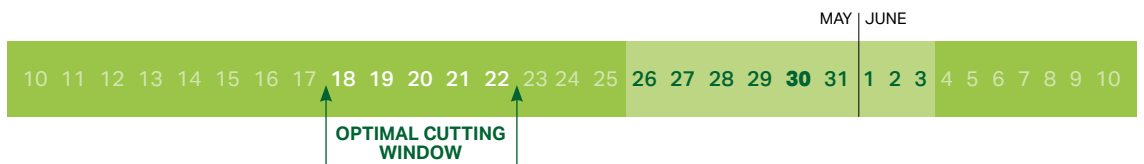
T = Tetraploid

Heading date average for Aber HSG 1 Milk and Meat Production is 30 May for central Britain. When cutting for silage, aim to cut 5 - 10 days before average heading date for optimum quality. Optimum spread of heading dates within mixtures for grazing and cutting results in better performance of the leys.

Fig 03.

Aber HSG 1 Milk and Meat Production:

Spread of heading dates



Key benefits in summary

- Combines an outstanding grazing yield and grazing D-value
- 100% Aber HSG grasses
- Correct balance of diploid and tetraploid varieties
- High palatability and increased dry matter intakes
- Reduced nitrogen losses to the environment



AVAILABLE WITH PUNA II



AVAILABLE WITHOUT CLOVER



AVAILABLE WITH TONIC PLANTAIN



AVAILABLE WITH PUNA II AND TONIC PLANTAIN


MEDIUM TERM

Aber HSG 2 Early Cut

Aber HSG 2 Early Cut is a specialist silage mixture for those aiming to cut a very high quality crop from the end of April to mid-May.

Combining the outstanding hybrid Aber High Sugar Grass AberEcho with compatible Aber perennial ryegrasses, this mixture delivers quality and yield and can persist for 3 - 4 years – twice as long as Italian ryegrass based swards. Aber HSG 2 Early Cut is a straight grass mixture that will perform under medium and high levels of nitrogen. AberClaret red clover can be included, whilst for those seeking longer lasting specialist silage mixtures we recommend Aber Red 5 HSG.

Including red clover in your cutting mixtures

The addition of red clover at 3kg/acre within the Aber HSG 2 mixtures will increase the yield and quality of your silage.

More farmers are choosing to include red clover in their cutting mixture to:

- Increase overall forage production potential
- Improve the protein content of silage
- Reduce protein losses in the clamp
- Benefit from red clover's ability to contribute over 150 kgN/ha of nitrogen through fixation
- Improve soil structure and drought tolerance

Fig 04.

Aber HSG 2 Early Cut:

Kg/acre	Variety	Type	Heading Date
4.0	AberEcho HSG	Hybrid Ryegrass (T)	16 May
5.0	AberEve HSG	Hybrid Ryegrass (T)	21 May
6.0	AberClyde HSG	Perennial Ryegrass (T)	24 May
15.0			

T = Tetraploid

Heading date average for Aber HSG 2 Early Cut is 21 May for central Britain.

When cutting for silage, aim to cut 5 - 10 days before average heading date for optimum quality.

Optimum spread of heading dates within mixtures for grazing and cutting results in better performance of the leys.

Fig 05.

Aber HSG 2 Early Cut:

Spread of heading dates



Key benefits in summary

- Hybrid Aber High Sugar Grass content
- Compatible heading date varieties
- Over twice the persistency of Italian ryegrass leys
- Suitable for combining with red clover
- Aber High Sugar Grasses enhance fermentation, especially when red clover is included
- Very high ME yield



AVAILABLE
WITH
ABERCLARET
RED CLOVER

LONG TERM



Aber HSG 2 Later Cut

Aber HSG 2 Later Cut is a specialist silage mixture for those aiming to cut a very high quality crop in mid-to-late May.

Combining the outstanding Aber High Sugar Grass AberGain with other compatible Aber HSG perennial ryegrasses, this mixture delivers quality and yield and can persist for 5 years - twice as long as Italian ryegrass based swards. Aber HSG 2 Later Cut is a straight grass mixture that will perform under medium and high levels of nitrogen. AberClaret red clover can be included, whilst for those seeking longer lasting specialist silage mixtures, we recommend Aber Red 5 HSG.

Including red clover in your cutting mixtures

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- Improve the protein content of silage
- Reduce protein losses in the clamp
- Benefit from red clover’s ability to contribute over 150 kgN/ha of nitrogen through fixation
- Improve soil structure and drought tolerance

Fig 06.

Aber HSG 2 Later Cut:

Kg/acre	Variety	Type	Heading Date
6.0	AberGain HSG	Perennial Ryegrass (T)	03 Jun
4.0	AberBite HSG	Perennial Ryegrass (T)	04 Jun
5.0	AberChoice HSG	Perennial Ryegrass	09 Jun
15.0			

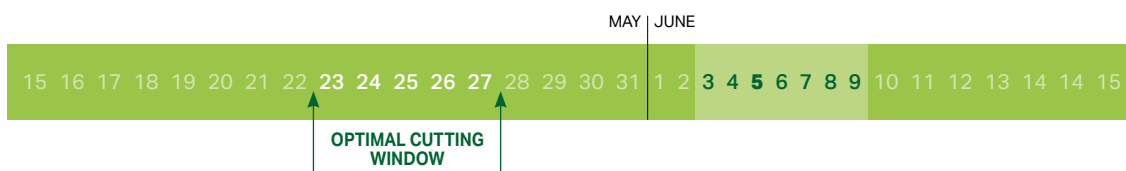
T = Tetraploid

Heading date average for Aber HSG 2 Later Cut is 5 June for central Britain. When cutting for silage, aim to cut 5 - 10 days before average heading date for optimum quality. Optimum spread of heading dates within mixtures for grazing and cutting results in better performance of the leys.

Fig 07.

Aber HSG 2 Later Cut:

Spread of heading dates



Key benefits in summary

- 100% Aber HSG content
- Compatible heading date varieties
- Over twice the persistency of Italian ryegrass leys
- Suitable for combination with red clover
- Aber High Sugar Grasses enhance fermentation, especially when red clover is included



LONG TERM



Aber HSG 2 Multi Cut

Aber HSG 2 Multi Cut is a specialist silage mixture for farmers aiming to produce large quantities of leafy high-quality silage from multiple cuts during the period of peak grass growth.

The mixture contains intermediate and late heading Aber High Sugar Grass varieties that provide abundant early season growth and maintain quality and yield throughout the season. A balance of diploid and tetraploid varieties provides the optimum combination of good ground cover, persistency, high D-value and outstanding silage yields.

Aber HSG 2 Multi Cut is suited to an early May first cut, frequent following cuts, with three cuts in the clamp by mid-to-late June. Swards will be suitable for late season grazing if required.

Fig 08.

Aber HSG 2 Multi Cut:

Kg/acre	Variety	Type	Heading Date
4.0	AberZeus HSG	Perennial Ryegrass	26 May
3.5	AberSpey HSG	Perennial Ryegrass (T)	29 May
3.5	AberAvon HSG	Perennial Ryegrass	02 June
4.0	AberGain HSG	Perennial Ryegrass (T)	03 June
15.0			

T = Tetraploid

Heading date average for Aber HSG 2 Multi Cut is 30 May for central Britain.

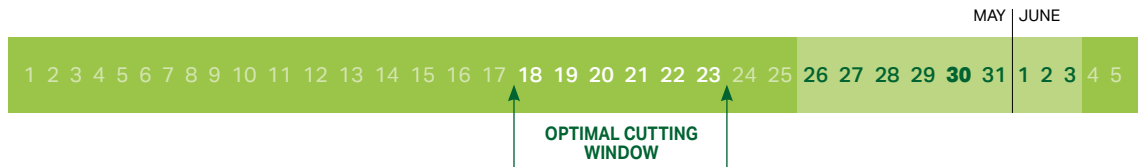
When cutting for silage, aim to cut 10 - 15 days before average heading date for optimum quality.

Optimum spread of heading dates within mixtures for grazing and cutting results in better performance of the leys.

Fig 09.

Aber HSG 2 Multi Cut:

Spread of heading dates



Key benefits in summary

- Ideal for frequent early season cutting whilst avoiding stemmy later season growth
- Very high ME yield/ha
- Combines outstanding silage performance with dense and persistent sward
- Suitable for combination with 4 - 5 year Aber red clovers
- Aber High Sugar Grass content enhances silage fermentation





Digestibility driving forage intakes

James Evans' drive to produce more litres of milk, more efficiently, is being underpinned by a focus on conserved forage.

More specifically, he has increased his use of grass silage, making bigger quantities of higher digestibility fodder through a multi-cut system. With 50-60% of ration dry matter now from forage, he's reporting lower bought-in feed costs and better all round herd performance.

The mid-Wales unit is currently home to 640 all-year-round calving Holstein Friesian milkers, which – despite a large proportion of heifers – averages over 12,200 litres/cow from three times daily milking.

Grass silage cut from Aber High Sugar Grass leys specifically formulated for multi-cut is consistently over 12.0 MJ/kg ME and 19-20% crude protein and, crucially, has high NDF digestibility. As a result, purchased feed costs have been cut by as much as 2ppl, and overall herd health and fertility are on the rise.

James Evans, Dairy Farmer, Priddbwl Mawr, Llangedwyn, Mid Wales

Aber HSG

LONG TERM

Aber HSG 3 Long Term Grazing

The biggest-selling mixture in the Aber HSG range, Aber HSG 3 Long Term Grazing is for cattle or sheep systems aiming to maximise returns from grazing, whether rotational or set stocked.

Aber HSG 3 Long Term Grazing is made up exclusively of Aber High Sugar Grass diploid perennial ryegrasses, which have the highest ratings for grazing quality and yield on the Recommended List. This mixture is unrivalled for persistency under grazing; managed well it can continue to perform for 7 to 10 years, giving you maximum yields of the highest quality grazing.



Fig 10.

Aber HSG 3 Long Term Grazing:

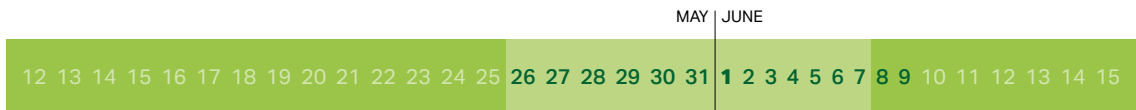
Kg/acre	Variety	Type	Heading Date
3.0	AberZeus HSG	Perennial Ryegrass	26 May
2.0	AberMagic HSG	Perennial Ryegrass	28 May
3.0	AberGreen HSG	Perennial Ryegrass	30 May
3.0	AberBann HSG	Perennial Ryegrass	06 Jun
3.0	AberLee HSG	Perennial Ryegrass	07 Jun
1.0	AberPasture	White Clover Blend	
15.0			

Heading date average for Aber HSG 3 Long Term Grazing is 1 June for central Britain. When cutting for silage, aim to cut 5 - 10 days before average heading date for optimum quality. Optimum spread of heading dates within mixtures for grazing and cutting results in better performance of the leys.

Fig 11.

Aber HSG 3 Long Term Grazing:

Spread of heading dates



Key benefits in summary

- Combines a very good grazing yield with an outstanding grazing D-value
- Outstanding autumn production for the mixture
- 100% Aber HSG diploid perennial ryegrasses
- Very persistent sward with good 'bottom'
- High palatability and dry matter intakes
- Reduced nitrogen losses to the environment
- Persists for up to 10 years



LONG TERM

Aber HSG Multi Species

High-ranking ryegrass varieties are combined with a diverse range of plant species suited to lower input systems in this long term grazing mixture.

Performance is achieved due to the complementary characteristics of different plant types, allowing leaf and root architecture to maximise the use of light, moisture and nutrients above and below ground.

Fig 12.

Aber HSG Multi Species Grazing:

T = Tetraploid

Kg/acre	Variety	Type	Heading Date
3.0	AberZeus HSG	Perennial Ryegrass	26 May
3.0	AberClyde HSG	Perennial Ryegrass (T)	24 May
3.0	AberGreen HSG	Perennial Ryegrass	30 May
1.0	Presto	Timothy	07 Jun
0.5	Puna II	Perennial Chicory	
0.75	Tonic	Plantain	
1.0	AberPasture	White Clover Blend	
1.5	AberClaret	Long Lasting Red Clover	
13.75			



AVAILABLE WITH SOIL AND ANIMAL HEALTH HERBS PACK



AVAILABLE WITHOUT RED CLOVER

This cutting version of the multi species mixture concept includes a vetch and an annual white clover to provide a boost in dry matter production in the first year.

The mixture combines high ranking ryegrass varieties and other plant species, with the different characteristics of varying plant types, allowing leaf and root architecture to maximise the use of light, moisture and nutrients above and below ground.

Fig 13.

Aber HSG Multi Species Cutting:

T = Tetraploid

Kg/acre	Variety	Type	Heading Date
3.0	AberClyde HSG	Perennial Ryegrass (T)	24 May
3.0	AberZeus HSG	Perennial Ryegrass	26 May
3.0	AberGreen HSG	Perennial Ryegrass	30 May
1.0	Presto	Timothy	07 Jun
0.75	Tonic	Plantain	
1.0	AberDairy	White Clover Blend	
1.5	AberClaret	Long Lasting Red Clover	
4.0		Vetch	
1.0	FIXatioN	Balansa Annual White Clover	
18.25			



AVAILABLE WITHOUT CLOVER

For more information on herb varieties and options
See pages 26 - 29



LONG TERM

Aber HSG 4 Dairy System

Aber HSG 4 Dairy System is a mixture for milk producers who are aiming for one or two high-quality silage cuts followed by the best possible rotational grazing.

First cut will be mid-to-late May, with the option of a second cut approximately 4 – 5 weeks later, or alternatively commence rotational grazing. The Aber HSG varieties selected for this mixture significantly outperform other grasses for grazing quality and grazing yields. This year Aber HSG 4 Dairy System is further improved by the introduction of AberBann HSG, the stand-out grass on the latest UK Recommended Lists.



Fig 14.

Aber HSG 4 Dairy System:

T = Tetraploid

Kg/acre	Variety	Type	Heading Date
2.0	AberMagic HSG	Perennial Ryegrass	28 May
3.0	AberGreen HSG	Perennial Ryegrass	30 May
3.0	AberGain HSG	Perennial Ryegrass (T)	03 Jun
2.0	AberBite HSG	Perennial Ryegrass (T)	04 Jun
2.0	AberBann HSG	Perennial Ryegrass	06 Jun
2.0	AberChoice HSG	Perennial Ryegrass	09 Jun
1.0	AberDairy	White Clover Blend	
15.0			

Heading date average for Aber HSG 4 Dairy System is 3 June for central Britain.

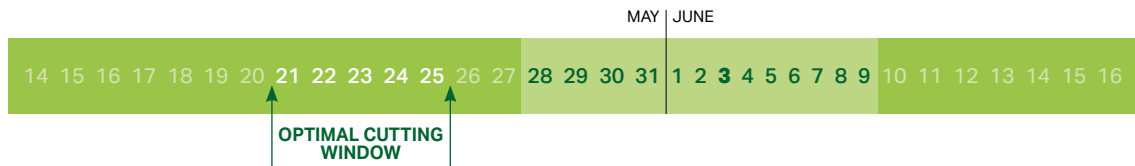
When cutting for silage, aim to cut 5 - 10 days before average heading date for optimum quality.

Optimum spread of heading dates within mixtures for grazing and cutting results in better performance of the leys.

Fig 15.

Aber HSG 4 Dairy System:

Spread of heading dates



Key benefits in summary

- Long-lasting ley with outstanding quality
- Top yields of high ME silage at first cut
- For cutting and rotational grazing
- 100% Aber HSG perennial ryegrasses
- Balance of diploid and tetraploid varieties
- High palatability and dry matter intakes
- Extended spring and autumn grazing



Forage focus pays dividends

Switching to a robotic milking system in 2015 has been a revelation for the Roberts family at Tyn Celyn near Corwen, not only reducing demands on their time but also improving overall productivity from challenging farming conditions.

With cows now inside, and yields up to 10,500 litres/cow, Hywel, his wife Rose and son John have put more focus on grassland management and silage-making, taking more cuts per season from better quality leys, increasing production from forage and reducing reliance on bought-in feeds.

Leys are based on the highest-ranking Aber High Sugar Grasses with a tight heading date range to ensure quality is maintained and with Timothy and white clover included.

Cutting three times in a season instead of two has increased fresh weight tonnage by 54 percent and improved forage quality due to shorter growing windows, with a typical grass silage ME measuring 12 MJ/kg and 13% crude protein.

Hywel and John Roberts, Dairy Farmers, Tyn Celyn, Wales



MEDIUM TERM



Aber Red 5 HSG Quality Silage

Aber Red 5 HSG Quality Silage offers a significant breakthrough in silage production, providing for the first time a mixture including 4 - 5 year persistency red clover.

Aber Red 5 HSG Quality Silage overcomes the normal restriction of red clover leys, extending the life of the red clover component beyond the normal 2 - 3 years up to 5 years with the inclusion of AberClaret.

It is also now time to rethink the grasses that are paired with red clover. AberClaret can last 5 years, so the grasses must too. Aber Red 5 HSG Quality Silage, therefore, includes intermediate and late perennial ryegrasses which will also improve silage quality, especially in the second cut.

Fig 16.

Aber Red 5 HSG Quality Silage:

Kg/acre	Variety	Type	Heading Date
2.0	AberZeus HSG	Perennial Ryegrass	26 May
3.0	AberGreen HSG	Perennial Ryegrass	30 May
4.0	AberGain HSG	Perennial Ryegrass (T)	03 Jun
1.5	AberClaret	Long Lasting Red Clover	
1.5	AberChianti	Long Lasting Red Clover	
12.0			

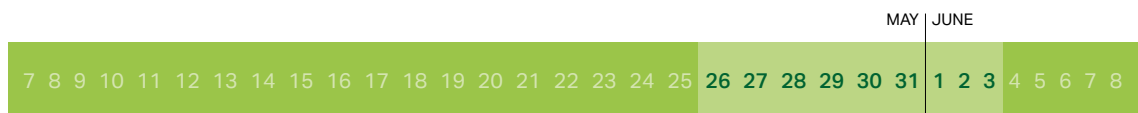
T = Tetraploid

For optimum forage quality, aim to cut red clover silage when 25% of red clover plants are in flower.

Fig 17.

Aber Red 5 HSG Quality Silage:

Spread of heading dates



Key benefits in summary

- Red clover with potential for five years' persistency
- 100% Aber HSG perennial grasses
- Balance of diploid and tetraploid varieties compatible with long-lasting red clover
- 150kgN/ha nitrogen fixed from red clover
- Reduced nitrogen losses to the environment
- Aber High Sugar Grasses enhance fermentation, especially when red clover is included

Red clover cuts need for bought-in protein

Red clover silage with 20 – 21% crude protein content contributes significantly to Ian Farrant's beef finishing ration, driving growth rates of 1.5kg/head/day without the need for supplementary rapeseed meal or soya.

It's part of a wider strategy towards low carbon beef production, which Ian and his father Jim have been developing at Underley in Worcestershire where they finish around 600 cattle annually.

Rotational grazing of high quality Aber High Sugar Grass leys, which include white clover, is also a key element of production efficiency, with growth rates of both cattle and grass being routinely monitored to ensure optimum allocation of forage.

With long lasting red clover AberClaret the mainstay, the current high protein silage leys have remained productive into a fifth harvest year.

Ian Farrant, Beef Farmer, Underley, Tenbury Wells, Worcestershire



MEDIUM / LONG TERM



AberXtend HSG Extended Grazing

Extend your grazing season without compromising persistence, grazing yield and grazing quality.

AberXtend HSG Extended Grazing is the Aber HSG mixture for livestock farmers aiming to increase yields and lengthen the grazing season. The Recommended Lists in both the UK and Ireland show how varieties such as AberDart HSG and AberGain HSG top the lists for spring and autumn performance, but there is absolutely no compromise on the other main performance criteria, with top scores for grazing D-value, ME yield and overall dry matter yields. With the appropriate management, AberXtend HSG Extended Grazing can perform to a high standard for 5 – 7 years.

Fig 18.

AberXtend HSG Extended Grazing:

Kg/acre	Variety	Type	Heading Date
5.0	AberDart HSG	Perennial Ryegrass	25 May
5.0	AberZeus HSG	Perennial Ryegrass	26 May
4.0	AberGain HSG	Perennial Ryegrass (T)	03 Jun
1.0	AberPasture	White Clover Blend	
15.0			

T = Tetraploid

Heading date average for AberXtend HSG Extended Grazing is 28 May for central Britain.

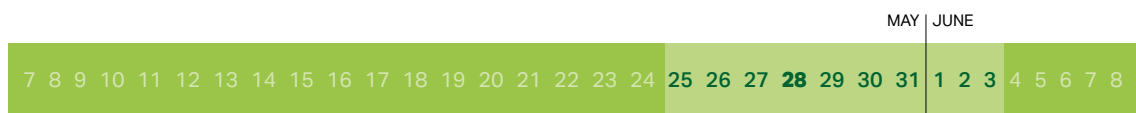
When cutting for silage, aim to cut 5 - 10 days before average heading date for optimum quality.

Optimum spread of heading dates within mixtures for grazing and cutting results in better performance of the leys.

Fig 19.

AberXtend HSG Extended Grazing:

Spread of heading dates



Key benefits in summary

- Outstanding for early grazing yield and autumn production
- The best Aber HSG perennial grasses selected for spring and autumn yield
- Outstanding season-long yield and quality
- High palatability and dry matter intakes
- Reduced nitrogen losses to the environment

Overseeding

Where a full reseed is impractical or unwarranted, short-term productivity can be improved through a number of different overseeding methods. When overseeding, it pays to use the best available varieties that have been selected specifically for the purpose.

Fig 20.

Aber HSG Long-term Overseeding:

T = Tetraploid



AVAILABLE
WITH
ABERDAIRY
WHITE CLOVER

Kg/acre	Variety	Type	Heading Date
3.0	AberClyde HSG	Perennial Ryegrass (T)	24 May
3.0	AberGain HSG	Perennial Ryegrass (T)	03 Jun
4.0	AberBite HSG	Perennial Ryegrass (T)	04 Jun
10.0			

Key benefits in summary

- 100% tetraploids for rapid establishment
- Perennial ryegrasses for persistency
- High ranking Aber HSG varieties

Fig 21.

Aber HSG Short-term Overseeding:

T = Tetraploid

Kg/acre	Variety	Type	Heading Date
5.0	AberEve HSG	Hybrid Ryegrass (T)	21 May
5.0	AberNiche	Festulolium (T)	22 May
10.0			

Key benefits in summary

- Rapid establishment
- High yielding under cutting
- New festulolium for increased rooting

Grass as a feedstock for anaerobic digestion

Anaerobic digestion (AD) is a growth area in renewable energy with increasing numbers of farm businesses involved with their own units or by growing feedstock.

The use of grass leys as a feedstock is attracting interest due to the range of advantages offered:

- Grass as a crop is relatively cheap and easy to grow in our climate and soil types
- It is cost-effective compared to other biogas fuels (see Fig. 22)
- Equipment and infrastructure to grow and handle this feedstock is already in place
- Grass can be used fresh (offering the highest rate of gas production) and would be cut and carried on a rotational basis; it can also be stored and used as silage
- Medium and long-term grass leys offer a more environmentally sustainable option than crops requiring annual cultivations
- Grass leys allow more opportunity to spread the waste products from the digesters, whether that is liquid or solid, without the need to plough back under
- Blackgrass control:
 - Medium to long-term grass leys cut three or more times a year will reduce the blackgrass seed production; by constantly cutting the ley there is little if any seed returning to the soil
 - The viability of old undisturbed blackgrass seed within soil reduces by 70% per annum, meaning after the 3 plus years of grassland, the blackgrass seed populations are reduced dramatically
 - 65% to 75% of blackgrass volunteers germinate in the autumn, so establishing your grass ley in the spring (even under-sown to a cereal crop) will help to further reduce the blackgrass populations

Fig 22.

Comparative costs of methane production:

	Estimated Fresh Weight (Tonnes/Acre/Year)	Cost £/Acre	Methane m ³ /Tonne	Methane m ³ /Acre	Cost £/m ³
Spring Barley (35%DM)	10	£480.00	108	1080	£0.44
	12	£480.00	108	1296	£0.37
Spring Triticale (35%DM)	12	£485.00	108	1296	£0.37
	14	£485.00	108	1512	£0.32
Winter Hybrid Rye (35%DM)	14	£535.00	108	1512	£0.35
	16	£535.00	108	1728	£0.31
	18	£535.00	108	1944	£0.28
Hybrid Ryegrass (25%DM)	26	£635.00	90	2340	£0.27
	28	£635.00	90	2520	£0.25
	30	£635.00	90	2700	£0.24

Aber High Sugar Grass for AD

As with the supply of feed for livestock, where well managed Aber HSG leys are the cheapest source of nutrition, Aber HSG offers great potential for biogas production.

Studies carried out at IBERS show that Aber HSG ryegrasses perform well compared to general grassland mixtures. All the Aber HSG varieties outperformed mixed grassland with the conclusion that higher water soluble carbohydrate (sugar) content in grass has a positive effect on both the yield and rate at which biogas is produced.

To help answer outstanding questions, Germinal is setting up further research at IBERS comparing Aber HSG varieties with alternative feedstocks that have a range of D-values and at varying harvest dates.

Aber High Sugar Grass varieties that have been bred for higher water soluble carbohydrate content and rank high for D-value offer the ideal combination of characteristics for an AD feedstock, whether ensiled or as a fresh crop.

Aber HSG mixtures for AD

Fig 23.

AD Short-term:

T = Tetraploid

Kg/acre	Variety	Type
4.0	AberClyde HSG	Perennial Ryegrass (T)
5.0	AberEve HSG	Hybrid Ryegrass (T)
5.0	AberNiche	Festulolium (T)
14.0		

Fig 24.

AD Medium-term:

T = Tetraploid

Kg/acre	Variety	Type
6.0	AberEve HSG	Hybrid Ryegrass (T)
8.0	AberMagic HSG	Perennial Ryegrass
14.0		

Fig 25.

AD Long-term:

T = Tetraploid

Kg/acre	Variety	Type
5.0	AberMagic HSG	Perennial Ryegrass
4.0	AberGreen HSG	Perennial Ryegrass
5.0	AberBite HSG	Perennial Ryegrass (T)
14.0		

Aber clover blends

The role of clover

The roles of white and red clovers in modern sustainable livestock farming are growing as new varieties offering higher yields and greater persistency become available.

Varieties of white clover bred at IBERS Aberystwyth University lead the way and are now, for example, achieving optimum targets of a 30 - 35% contribution to total sward dry matter under a range of management systems.

Grass and clover breeding at Aberystwyth has always maintained a strong affinity with real agricultural practice, which means selection and testing takes into account performance in the silo and in the rumen, as well as in the field under animal grazing and/or cutting regimes. This co-ordinated approach ensures the new varieties meet farmers' needs.

Aber grass and clover mixtures are offered as standard with a recommended Aber clover blend. However, specific blends of white or red clover can be requested to suit a particular farming system or requirement.

Formulated from a combination of medium and small leaf size Aber white clover varieties, which provide a blend suitable for the dairy farm where high production is required under cattle grazing and cutting regimes. Good production from early spring provides a balanced sward and good support for high yielding companion grasses.

Fig 26.

AberDairy:

%	Variety
33%	AberDai (medium leaf)
33%	AberHerald (medium leaf)
34%	AberSwan (medium - large leaf)

Aber white clover varieties provide a unique blend of small and medium leaf size clovers selected for their suitability for cattle set stocking and rotational sheep grazing.

Fig 27.

AberPasture:

%	Variety
50%	AberHerald (medium leaf)
20%	AberDai (medium leaf)
10%	AberPearl (small - medium leaf)
10%	AberLasting (small - medium leaf)
5%	AberAce (small leaf)
5%	AberVantage (small - medium leaf)

Small leaf size Aber white clover varieties combined with a medium leaf size variety provide a blend suitable for sheep systems, ranging from continuous to rotational grazing on either upland or lowland farms. Inclusion of the new hybrid white clover AberLasting, the first to be developed with rhizomatous root characteristics, gives increased persistency and drought tolerance.


Fig 28.

AberSheep:

%	Variety
25%	AberVantage (small - medium leaf)
30%	AberLasting (small - medium leaf)
30%	AberAce (small leaf)
15%	AberDai (medium leaf)

Benefits of Aber clover blends

- Boosts output of milk and meat from forage
- Improves soil structure
- Improves the quality of grazing
- Helps to maintain a balanced grass/clover sward
- Performs reliably on most soil types and under most management systems
- Tolerates moderately high applications of nitrogen fertiliser
- Reduces fertiliser requirements



Maximising output per hectare

John Martin's strategy to maximise output per hectare at his 83ha unit in County Down has been built on a combination of improved animal and plant genetics. He's focused on his 680 ewe lambing flock and now routinely produces 500kg of lamb carcase per hectare.

He's achieving these outputs by breeding more efficient ewes, with a mature liveweight down from 110kg to 80kg, and by boosting the productivity of his grassland by including the best available varieties.

Quality grazing and grass silage comes from leys predominantly reseeded with Aber High Sugar Grasses and Aber white clovers, with grass silage typically analysing at over 12MJ/kg ME with good protein content.

John's expertise in silage making has been recognised this year with first place in the Ulster Farmers' Union Beef & Lamb Silage Competition and he has received the prestigious BGS Grassland Farmer of the Year award for his overall achievements.

John Martin, Sheep and Beef Farmer, Gordonall, Greyabbey, Co Down

New generation long-term red clovers

One of red clover's traditional shortcomings is its relatively short persistence, typically remaining in the sward for just two to three years when a longer productive life would make it more compatible with medium-term leys.

Now, a new generation of red clovers is being bred at IBERS Aberystwyth University, with the first varieties AberClaret and AberChianti now on UK Descriptive Lists and commercially available in Germinal's Aber HSG mixtures.

AberClaret and AberChianti are the first of a new generation of red clovers bred and selected by plant breeders at IBERS to last 4 years and longer in a cutting sward, and to be significantly more tolerant of grazing by dairy animals. Dry matter yields in IBERS long-term trials were in excess of 14,500kg of dry matter in the fourth year and averaged over 13,500kg in each year of the trial. Over the four years, AberClaret totalled around 60tDM/ha compared with 40-45tDM/ha from the controls.

With greater persistency of red clover remaining a key objective, the latest breeding work at IBERS is focused in particular on resistance to the soil borne pathogens *Sclerotinia* and stem nematode.



Red clover breeding continues at IBERS Aberystwyth University with the development of new varieties with resistance to two of the more common disease challenges for the crop.

The leading perennial chicory for UK farmers

Puna II is the leading perennial chicory variety, selected through a long-term breeding programme in New Zealand for its nutritive value, productivity, palatability and persistency.

It is a broad-leaved perennial forage crop that can be grown in the UK as a pure stand or as a key part of mixed swards with clover, or grass and clover, for medium to long-term rotational grazing (2 - 5 year persistency). Perennial chicory should not be confused with short-lived common chicory, grown unsuccessfully previously.

Selection strategy in breeding Puna II has included tolerance to the fungal disease Sclerotinia, which causes plant death, and an erect growth habit to improve compatibility with ryegrass.

Key benefits of Puna II

- Outstanding animal performance (e.g. lamb growth rates of 300 - 400g/day)
- Yields up to 15tDM/ha in a season; crude protein up to 25%; D-value 70 - 80
- High mineral content, including zinc, potassium and copper
- Good tolerance to drought, acid soils and major pests
- Rapid regrowth after grazing
- Reduces the effect of internal parasites
- Provides high quality feed through the summer
- Does not cause bloating



Puna II perennial chicory mixtures

Fig 29.

Lamb Finisher:

Kg/acre	Variety	Type
1.00	Puna II	Perennial Chicory
2.00	AberClaret	Long Lasting Red Clover
1.25	AberChianti	Long Lasting Red Clover
1.00	Tonic	Plantain
5.25		

Key benefits in summary

- 2 - 3 years intensive finishing mixture
- Red clover can contribute up to 150kgN/ha
- Full production from May to September
- High protein forage suitable for finishing early lambs

Fig 30.

Lamb Finisher with White Clover:

Kg/acre	Variety	Type
1.00	Puna II	Perennial Chicory
1.50	AberChianti	Long Lasting Red Clover
1.00	AberClaret	Long Lasting Red Clover
1.00	Aran	White Clover
1.00	Tonic	Plantain
5.50		

Key benefits in summary

- As Lamb Finisher, but with the benefit of white clover to improve ground cover during late season
- 2 - 3 years' duration

Fig 31.

Livestock Grazer/ Beef Finisher/ Puna II HSG Medium Term Ley:

Kg/acre	Variety	Type
4.00	AberEve HSG	Hybrid Ryegrass (T)
4.00	AberWolf HSG	Perennial Ryegrass
0.75	Puna II	Perennial Chicory
1.50	Aran	White Clover
1.00	Tonic	Plantain
11.25		

T = Tetraploid

Key benefits in summary

- 3 - 4 year medium term ley
- Ideal for lambs, beef youngstock – finishing (or calves) or flushing ewes
- The grasses in this mixture offer improved grazing and ground cover in autumn

Tonic plantain

Tonic plantain is a broad leaved perennial forage herb that is an ideal companion in mixed species swards with Aber red and white clovers and Aber High Sugar Grasses.

Plantain is a coarse-rooted plant that is well adapted to a range of soil types. With similar total annual yields to Puna II perennial chicory, it has slightly better spring and autumn growth.

Tonic plantain is highly productive and provides high-quality feed that can boost liveweight gain in livestock. It is ideally suited to intensive or rotational grazing systems, with rapid regrowth post-grazing in dry summers.

Key benefits of Tonic plantain

- More milk or meat production
- Increased daily liveweight gain
- Heavier weights at weaning
- High dry matter production from early spring to late autumn
- Reduces the effects of internal parasites
- High in minerals, especially copper and selenium
- Very palatable



Herb options

Adding diversity to leys with the introduction of legumes and herbs is increasingly being recognised as a component of good agricultural practice, and it can also increase the overall performance of a sward.

Diversity will mean the sward contains plant types with different growth patterns, allowing a better use of natural resources above and below the ground. This can create greater resilience to conditions (e.g. drought tolerance) and an increase in biological activity around the roots, to the benefits of soil health.

Greater plant activity will increase the carbon capture capacity of the sward, whilst leguminous herbs will provide the added benefit of fixation, adding valuable fertility by converting atmospheric nitrogen into a valuable soil nutrient.

Fig 32.

Soil and Animal Health Herbs Pack:



AVAILABLE
WITHOUT
PUNA II
AND TONIC
PLANTAIN

Germinal offers a 1kg herb inclusion pack that includes the following:

Puna II perennial chicory	Deep rooted, drought tolerant and mineral rich
Tonic plantain	Deep rooted, drought tolerant and mineral rich
Burnet	Deep tap root. Mineral rich
Alsike clover	Nitrogen fixing legume
Sheep's Parsley	Deep rooted and mineral rich
Yarrow	Deep rooted and drought tolerant
Birdsfoot Trefoil	Mineral rich, anthelmintic properties
Black Medic	Low and prostrate nitrogen fixing legume



An effective multi-species sward will contain a balance of different plants with varying leaf and root architecture. This should increase the efficiency with which the sward captures light, water and nutrients and converts them into forage. Additional herbs can increase the diversity and further enhance the value of the sward.

Lucerne

Lucerne is a nitrogen-fixing legume, most commonly grown as a stand-alone crop for cutting and with some grazing potential.

Varieties selected for UK conditions

TIMBALE

- Excellent nutritional value (thin stemmed with good leaf retention)
- Good disease resistance
- High yielding

GALAXIE

- Exceptional yields
- Good disease resistance

GALAXIE MAX

- A blend of Timbale and Galaxie
- Two of the leading lucerne varieties with cold tolerance for northern European climates

Pre-inoculated and treated seed

Timbale, Galaxie and Galaxie Max from Germinal are pre-inoculated and treated with Seed Applied Solution (SAS Energy) :

- Unique Seed Applied Solution (SAS Energy) to improve lucerne establishment
- Multi-layered permeable coating with 100% active ingredients
- Essential minerals and trace elements specific to lucerne requirements
- Stimulates early vigour and improves root and leaf development

Optimum seed rate

- Timbale, Galaxie and Galaxie Max are sold in Precidose packs
- Precidose ensures optimum plant population and prevents problems due to overseeding or underseeding
- Easy to use; 2 Precidose packs per hectare in good conditions
- Increase to 2.3 packs/ha for later sowing or heavier conditions

Proven performance

In trials, SAS Energy treated seed drilled at Precidose rates achieved:

- **14% INCREASE IN PLANT ESTABLISHMENT**
- **6% INCREASE IN FIRST CUT DRY MATTER YIELDS**

Fig 33.

Improved development of roots and foliage is seen in the lucerne seedlings on the right as a result of Precidose seed treatment:



Sustainable protein source

Growing lucerne as a high protein cash crop has added a valuable new enterprise to Simon Gittins' farming operations in Shropshire.

The crop is cut four or five times a year, picked up with a forage wagon, dried and baled. With care taken to maintain crop integrity, a 21-25% protein feedstuff is being produced for sale into a range of markets where properties such as the scratch factor and high vitamin and mineral content provide additional value.

Drying the crop down from 75% to 12.5% moisture content is achieved on drying floors with excess heat from an anaerobic digester as well as ground-sourced heat, making the process highly energy efficient.

Simon is currently growing 80 acres of Timbale lucerne, with the acreage expected to be doubled in 2020. The current crop has performed well through its third harvest year, producing around 6t/acre of dried product, and is expected to continue into a fourth and fifth season. The main input for the crop is solid digestate, applied in the spring, primarily to provide potash.

Simon Gittins, Arable Farmer, Wykey Farms, Ruyton XI Towns, Shropshire



Grow your own protein to cut costs of production



High protein forage brassicas present a significant opportunity to drive down costs of production, yet are not grown on a large majority of livestock farms.

According to Germinal's latest Forage Use Survey, less than a third of UK livestock farmers are growing forage brassicas, with fewer still tapping into the benefits of other homegrown high protein sources, such as red clover and lucerne.

With growing uncertainty over agricultural support and the likelihood of continued commodity price volatility, livestock farmers need to reduce their reliance on bought-in feed and fertiliser and become more self-sufficient.

"Homegrown forage protein crops will reduce the need for bought-in protein, which will always be expensive and susceptible to price volatility. There are additional benefits too, such as improved soil fertility, soil structure and pest control," says Germinal GB's Ben Wixey.

"There are now many modern forage brassica varieties that offer an excellent source of protein and can boost productivity as summer catch crops, autumn grazing or even out-wintering. These brassicas also work very effectively as break crops in grassland reseeding, helping to reduce the threat of common pests such as leatherjackets and frit fly. This is more important as chemical pest control options become more restricted." Mr Wixey points out that the varying attributes and agronomy of forage proteins means farmers should make the decision on which crop to grow based on individual farm conditions and requirements.

"Look at where you can start building protein crops into a rotation, if that fits with your system. When growing any crop, it's important to pick the right field and grow it well. It's also important to know how much you are growing, to utilise it effectively and ensure you have enough of the crop to make a difference in the ration."

Planning your brassica crops

Summer/ Early Autumn

Jun - Sep

Stubble turnip

- Appin
- Vollenda

Forage rape

- Avon

Hybrid brassica

- Swift
- Redstart

Summer/ Early Autumn

Jun - Sep
Stubble turnip
Forage rape
Hybrid brassica

Regrowth Potential *

Nil

Vollenda
Avon

High

Swift
Appin
Redstart

Sowing to Grazing Period

8 Weeks

Appin
Avon

10 Weeks

Swift
Redstart

12 Weeks

Vollenda

**When do
you require
your brassica
crop?**

Autumn/ Winter

Oct - Feb

Turnip/Stubble

- Appin
- Vollenda

Hybrid brassica

- Swift
- Redstart

Kale

- Maris Kestrel
- Bittern

Swede

- Triumph

Autumn/ Winter

Oct - Feb
Stubble turnip
Hybrid brassica
Kale
Triumph
Fodder beet

Regrowth Potential *

Nil

Bittern
Vollenda
Triumph

Moderate

Maris Kestrel

High

Swift
Appin
Redstart

Winter Tolerance

Low

Vollenda

Good

Swift
Appin
Redstart

High

Maris Kestrel
Bittern
Triumph
Fodder beet

*Rate and extent of regrowth depends on weather conditions.

Forage brassica options

Maris Kestrel

Kale

Maris Kestrel is established as the leading kale variety in the UK and is suitable for all classes of stock.

Sow at 2 - 3kg/acre from May to the end of June. Feed from July to the following March.

Main uses

- Ideal for out-wintering
- Good later summer/early autumn feed for cattle or sheep
- Solution to late-season grazing deficits

Key benefits

- Outstanding leaf-to-stem ratio
- High whole plant D-value
- Vigorous early growth
- Resistant to lodging
- Good winter hardiness
- Long utilisation period

Bittern

Kale

Bittern is a medium height kale with the versatility to be used either for grazing or as a game cover crop.

Sow at 2 - 3kg/acre from May to the end of June. Feed from September to the following March.

Main uses

- Maintenance for dry cows
- Game cover
- Cattle grazing following game cover use

Key benefits

- Good leaf-to-stem ratio (44 - 48% leaf)
- Excellent palatability (high stem sugar content)
- Winter hardy with very good frost tolerance
- Added versatility due to club root resistance
- Medium height with good lodging resistance

Forage brassica options

Swift

Hybrid brassica

Swift is the first of a revolutionary range of interspecies (rape x kale) hybrids developed in New Zealand to provide a new generation of flexible and cost-effective forage crops.

Sow at 2 - 3kg/acre from May to the end of August. Feed from July to the following March.

Main uses

- High energy grazing for cattle and sheep
- Summer, autumn and winter grazing
- Ideal for out-wintering systems

Key benefits

- Fast and vigorous growth
- Winter hardiness
- Regrowth potential
- Good late-season yield potential
- High energy and good protein source

Redstart

Hybrid brassica

Redstart is from the same breeding line as Swift and offers similarly flexible and cost effective solutions to year-round quality forage supply, but with higher feed quality.

Sow at 2 - 3kg/acre from May to the end of August. Feed from July to the following March.

Main uses

- High energy grazing for cattle and sheep
- Summer, autumn and winter grazing
- Ideal where fast growth is required, such as upland situations

Key benefits

- Very rapid and vigorous growth
- Winter hardiness
- Regrowth potential
- Good late-season yield potential
- High energy and good protein source

Forage brassica options

Avon

Forage rape

Avon is a high-yielding forage rape ideally suited to finishing lambs as summer or autumn grazing.

Drill at 2.5kg/acre (or broadcast at 4kg/acre) from March to July. Feed from June to December.

Main uses

- Autumn/winter brassica for lamb finishing
- Extended grazing for cattle

Key benefits

- High leaf-to-stem ratio
- High stem digestibility, so low plant residues after grazing
- Excellent disease resistance, including mildew

Vollenda

Stubble turnip

Vollenda is a high-yielding stubble turnip offering cost effective feeding solutions in summer, autumn or winter for sheep or cattle.

Drill at 2kg/acre (or broadcast at 3kg/acre) from March to August. Feed from June to December.

Main uses

- Catch crops for overcoming summer grazing shortfalls
- Versatile autumn/winter grazing that reduces concentrate feeding period
- Valuable source of clean (worm-free) grazing for lambs

Key benefits

- Easy to establish (undersown or scratched into stubbles)
- Early vigour variety suitable for May sowing (July feeding)
- Winter hardy variety ideal for later drilling (November – January feeding)
- Good resistance to bolting

Forage brassica options

Appin

Grazing turnips

Appin is a fast growing, leafy grazing turnip providing a rapid source of palatable, easy-to-digest fodder for sheep and cattle.

Drill at 2kg/acre (or broadcast at 3kg/acre) from March to mid September. Feed from May to December.

Main uses

- Catch crops for overcoming summer grazing shortfalls
- Versatile autumn/winter grazing that reduces concentrate feeding period
- Autumn/winter brassica for worm-free lamb finishing
- Extended grazing for cattle

Key benefits

- Vigorous establishment and quick maturity
- Wide sowing window
- Multi-crowned with excellent regrowth potential
- Good root anchorage

Triumph

Swede

Triumph is a very high yielding, yellow-fleshed first crop swede, suitable as over-winter grazing for all classes of stock.

Drill from mid-May to the end of June at 250g/acre (precision drilled).
Graze from November through to March.

Main uses

- High energy winter grazing for cattle and sheep

Key benefits

- Very high dry matter yields
- Winter hardy
- Good dry rot and mildew tolerance

Brassica mixtures

Brassica mixtures are being used increasingly by livestock farmers and are an effective way of tailoring a grazing crop more precisely to specific circumstances.

Individual crops including kale, forage rape and turnips have their own strengths but also grow well in combination and, as such, offer advantages in a similar way to herbage mixtures.

- Increased forage choice for livestock
- Higher dry matter intakes
- Greater overall production per hectare

Potential advantages of brassica mixtures

Fig 34.

Winter Feed:

Kg/acre	Variety
1.00	Bittern kale
1.00	Swift hybrid brassica
2.00	

Main use

- Out-wintering for all ruminant livestock

Key features

- A winter-hardy blend of palatable fodder
- Yield potential of over 12 tonnes DM/ha

Fig 35.

Late Sown Winter Feed:

Kg/acre	Variety
0.75	Swift hybrid brassica
0.75	Redstart hybrid brassica
0.65	Appin grazing turnip
0.10	Maris Kestrel kale
2.25	

Main use

- Out-wintering for sheep or cattle

Key features

- Fast growing fodder for late sowing

Fig 36.

Summer Multigraze:

Kg/acre	Variety
0.50	Appin grazing turnip
1.00	Swift hybrid brassica
0.90	Stego rape
0.10	Maris Kestrel kale
2.50	

Main use

- Early lamb finishing
- Supplementary summer grazing for dairy or beef cattle

Key features

- A blend of fast growing grazing turnips and forage rape with the added high yield, quality and regrowth potential of Swift
- Regrowth potential

Fig 37.

Autumn Multigraze:

Kg/acre	Variety
1.25	Swift hybrid brassica
0.90	Appin grazing turnip
0.10	Maris Kestrel kale
2.25	

Main use

- Late lamb finishing
- Flushing ewes
- Improving late season grazing when grass growth is declining

Key features

- A blend that combines the winter hardiness and quality feed value of Swift for later grazing and the rapid establishment of Appin grazing turnip



Brassica break boosts milk from forage

Redstart hybrid brassica proved to be a valuable forage crop for Cheshire dairy farmer Tom Mansell, providing early spring grazing for his milkers whilst performing an important role as a break between grass leys.

Drilled into a worn out ley following a slurry application and discing the previous August – with seed and contractor costing about £50/acre – the 17 acre crop was strip grazed by a group of 80 low yielding cows from early February through into March 2019. Cows were turned onto the Redstart after a morning feed, with an electric fence being moved about three metres each day to allow around 3 – 4kgDM/head/day. At a time when forage stocks were low, the additional quality feed proved to be an important factor in maintaining milk from forage performance.

With grazing completed by the end of March, the field was drilled with triticale for wholecrop before going back into grass the following autumn.

Farming near Tarporley with his wife Sarah, Tom has a herd of 220 cows yielding just under 9,000 litres with 4,250 litres from forage.

Tom Mansell, Dairy Farmer, Tilstone Bank Farm, Tarporley, Cheshire

Leisure Amenity mixtures

Geminal supplies a wide range of amenity mixtures for equestrian, sports grounds, landscaping, turf and conservation. These mixtures bring together species to suit the different applications. All varieties are BSPB listed.

Horse Paddock

A resilient mixture providing season-long nutritional grazing and the potential for hay production. The high density of ground cover helps to resist poaching.

Allsport Ryebland

A very resilient and rapidly establishing sward suitable for all new sports pitches and for the repair of existing grounds.

Popular Hardwearing

An attractive and resilient sward that establishes quickly and is suitable for lawns, parks and sports pitches.

Emerald Multiscape

A high quality turf with high shoot density and year-round greenness, suitable for all soil types.

Low Maintenance Fineturf

A fine textured and resilient sward with good winter colour and reduced mowing requirement.

Shaded Areas

A fine leaved sward with good ground cover, suitable for dry, shaded and low nutrient areas.

Prestige Golf & Bowling Greens

A dense disease resistant sward with uniform surface that withstands close mowing and looks attractive throughout the season.

Cricket Wicket

A blend of high density, wear tolerant perennial ryegrass for a uniform, resistant surface under close mowing. This mixture also provides excellent root penetration, particularly at wicket ends and baselines.

Wildflower Conservation

Contains cornfield annuals to provide quick establishment and first year colour. Perennial species provide colour and persistency in future years.

WF1 Flowering Meadow

Rapid establishment to produce a first-year display and with perennials for longer term colour and persistency.

WFG2 Flowering Meadow

Combines the wild flora species of WF1 with ornamental grasses to provide a grassland meadow mixture suitable for acidic soils.

WFG6 Heavy Clay Soils

Varieties selected for their suitability to heavy clay soils. Extra attention is required when preparing seedbeds in heavy clay soils to ensure optimum soil moisture for a medium tilth.

WFG9 Wetland and Pond Areas

Suitable for aquatic habitats and damp low lying sites, edge of ponds, rivers and ditches. Avoid establishment when there is risk of flooding.

WF10 Cornfield Annuals

A mixture for recreating the colour of cornfield annuals, once a feature of traditional farming areas. Ideal for sowing on its own or supplementing perennial mixtures that are slower to establish.

Find out more

Should you require any more information or to request a selection of free brochures and technical guides, please visit our website:

germinal.co.uk



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The mixtures in this brochure are correct at the time of going to press and the supplies of the varieties used in the mixtures should be adequate for this season. If, however, we do run short of some, they will be replaced by the next best variety on the Recommended List.



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